WHO BENCHMARKS FOR THE TRAINING OF AYURVEDA

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Contents

Foreword

The World Health Organization (WHO) is currently implementing its 13th General Programme of Work (GPW13) to support countries in reaching all health-related Sustainable Development Goals (SDGs). GPW13 is structured around three interconnected strategic priorities: achieving universal health coverage; addressing health emergencies; and promoting healthier populations. These strategic priorities are supported by three strategic shifts: stepping up leadership; driving public health impacts in every country; and focusing global public goods on impact.
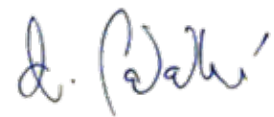
Traditional medicine has always had a role in this collective endeavour. The Declaration of Astana, renewed from the Declaration of Alma-Ata towards universal health coverage and the SDGs, reaffirms the role of traditional medicine in strengthening primary health care, a cornerstone of health systems, in pursuit of health for all. This has also been reflected in the *WHO global report on traditional and complementary medicine 2019*, in which 88% of WHO Member States acknowledge the use of traditional and complementary medicine in health care.

Taking note of the growing importance of traditional medicine in the provision of health care nationally and globally, WHO and its Member States have strived to explore ways to integrate, as appropriate, safe and evidence-based traditional and complementary medicine services within national or subnational health systems, as committed to in the Political Declaration of the High-level Meeting on Universal Health Coverage.

WHO aims to provide policy and technical guidance to Member States; promote the safe and effective use of traditional and complementary medicine through appropriate regulation of products, practices and practitioners; and support Member States in harnessing the contribution of traditional and complementary medicine to people-centred health care in implementing the *WHO Traditional Medicine Strategy 2014–2023*.

Setting norms and standards is a unique function of WHO. The normative work is driven by needs and could be translated into real impact in relevant countries through appropriate policy options. This series of benchmarks, covering various systems and interventions of traditional, complementary and integrative medicine, aims to provide a reference point to which actual practice and practitioners can be evaluated.

I am very pleased to introduce this series to policy-makers, health workers and the general public, and I firmly believe it will serve its purpose.

Zsuzsanna Jakab
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Preface

Integrated health services are essential for the World Health Organization (WHO) in the implementation of its 13th General Programme of Work, which aims to support countries in achieving universal health coverage and the health-related Sustainable Development Goals. The overarching mission for the Department of Integrated Health Services is to accelerate equitable access to good-quality health services that are integrated and people-centred, and that can be monitored and evaluated.

WHO is unique in its mandate to provide independent normative guidance. Its normative products encompass a wide range of global public health goods, including norms and standards. It is therefore the primary role of the Department of Integrated Health Services to generate and produce relevant global goods. Key to improving its work in this area is ensuring global public health goods are driven by country needs and can deliver tangible impacts at the country level.

As of 2018, when 88% of WHO Member States acknowledged the use of traditional and complementary medicine, WHO's support in evaluating the safety, quality and effectiveness of traditional and complementary medicine has continuously ranked in the top areas of need, according to the *WHO global report on traditional and complementary medicine 2019*.

WHO prioritizes normative products based on an assessment of demands. To address increasing needs and to drive impact in countries, this series of benchmarks captures the main systems and interventions of traditional, complementary and integrative medicine by setting up required norms and standards on training and practice.

These benchmarks documents have been prepared following existing WHO methodology and processes. They consider consumer protection and patient safety as core to professional practice and reflect the consensus of what the community of practitioners of traditional medicine disciplines considers to be reasonable practice in the respective discipline. They provide a reference point to which the practice and practitioners of traditional medicine can be compared and evaluated. These documents will support countries to establish appropriate legal and regulatory frameworks for the practice of traditional medicine. WHO will not only assess the quality of these normative products but also streamline systems and plans for monitoring and evaluation.

I am pleased to present this series of benchmarks and invite you to join us in measuring and documenting their impact.

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Acknowledgements

Glossary

Aṣṭāṅga āyurveda

Aṣṭāṅga āyurveda includes eight specialized domains of clinical practice. These describe in detail the principles and methods of diagnosis and treatment in the clinical domains of internal medicine (*kāya-cikitsā*); obstetrics and maternal, neonatal and paediatric health (*kaumārabhṛtya*); mental illness and diseases due to external influences invisible to the naked eye (*graha cikitsā*); diseases of the head and neck (*śālākya-tantra*); diseases requiring surgical or parasurgical interventions (*śalya-tantra*); diseases due to external toxins (*agada-tantra*); care of elderly people and regenerative medicine (*rasāyana-cikitsā*); and reproductive and sexual health (*vājīkaraṇa-cikitsā*).

Mahābhūta (basic elements)

There are five basic elements, or *mahābhūta*: space (*ākāśa*), which allows room for materials to exist; gaseous state (*vāyu*), which is the basis for motion; heat (*agni*), which allows energy exchange; liquid state (*āpa*), which allows materials to bond together; and solid state (*pṛthvī*), which allows materials to have mass.

Doṣa

Doṣa are biological factors formed as a result of the synchronized interplay between the five basic elements (*mahābhūta*) within a living system. They evolve through the processes of life and simultaneously influence its course. They are embodied in different structural elements of the body (*dhātu*) and metabolic products in a living system. The robustness of their function maintains the normal physiology of the body. Disturbance to their function is the basis for disease.

The *doṣa* are *vāta*, which maintains functional balance through the processes of motion; *pitta*, which maintains functional balance through the processes of transformation; and *kapha*, which maintains functional balance through the processes of cumulation.

Dhātu

Dhātu are structural elements of the body. The metabolic process involves functions such as providing energy, nourishment, binding/covering and shape, allowing for movement of structures, providing structure, replenishing lost tissues, and procreation. Structural elements of the body that take part in performing a set of these body functions are classified together as a specific *dhātu*.

Mala

Mala are substances of metabolism that, in normal physiology, are to be excreted naturally without further transformation (metabolism) in the body. *Mala* also have functions in the body. Solid faecal matter formed at the end of the correct digestive process supports the body functions, urine carries with it all the naturally formed internal metabolic wastes of the body, and sweat manages the external metabolic wastes of the body and maintains the health of the hair.

Prakṛti

Prakṛti is the discrete phenotype of an individual based on physical, psychological, physiological and behavioural traits, and independent of social, ethnic and geographical variables.

Pañcakarma

Pañcakarma is the five therapeutic methodologies that prepare and expel the vitiated (abnormal quality or quantity of) *doṣa* and *mala* and then re-establish normal metabolism. *Pañcakarma* includes therapeutically induced emesis (*vamana*) and purgation (*virecana*); administration of medicines through the nasal route (*nasya*); enemas using a mixture of medicinal substances, predominantly made up of herbal decoctions (*āsthāpanavasti*/*āsthāpanabasti*,[1] *kaṣāyavasti* or *nirūhavasti*); and enemas using lipid-based Ayurveda medicines (*anuvāsanavasti* or *snehavasti*). These five procedures are classified as the main (*pradhāna*) procedures (*karma*) of *pañcakarma*.

Procedures preceding the main procedure are classified as preparatory procedures (*pūrva karma*) and those following the main procedure as post-therapy procedures (*paścāt karma*). Preparatory and post-therapy procedures are also part of the processes denoted by the broad term *pañcakarma*.

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[1]   The suffixes –vasti and –basti are used interchangeably in the literature but have the same meaning. This document uses –vasti.

Introduction

Why this benchmark?

In 2010 the World Health Organization (WHO) published *Benchmarks for training in Ayurveda*. This presented what professional experts and health regulators considered to be appropriate training programmes for Ayurveda practitioners.

Various backgrounds of Ayurveda service providers were addressed inadequately in this document, however, and there is a lack of a defined career pathway for Ayurveda providers.

Based on the needs of Member States, the updated benchmarks aim to reduce the gaps by setting up required learning outcomes, contents and structures for each category and level of Ayurveda service providers, so that individual practices and providers can be compared, evaluated and accredited.

This document will join *WHO benchmarks for the practice of Ayurveda* to form an integral part of the serial benchmarks, targeting key modalities of traditional medicine intervention and contributing to the establishment of a reference toolkit for countries.

How was this benchmark prepared?

This document followed the established methodology of WHO to develop benchmarks in traditional, complementary and integrative medicine. To substantiate the update, a desk review of available information on formal licensure and established national standards and guidelines to assure good-quality health-care delivery of Ayurveda was conducted. As part of this exercise, the existing training benchmark document was also reviewed.

Data from 26 Member States, including the 16 that regulate Ayurveda practitioners, were reviewed.[2] Information from Argentina, Australia, Bahrain, Bangladesh, Brazil, Colombia, Cuba, Germany, Hungary, India, Italy, Malaysia, Mauritius, Nepal, Netherlands, Oman, Pakistan, Qatar, Serbia, Singapore, South Africa, Sri Lanka, Switzerland, the United Arab Emirates, the United Kingdom of Great Britain and Northern Ireland and the United States of America were examined. The information was collected from relevant websites of ministries of the respective Member States, and from direct communication with officials and experts associated with these Member States. We examined the relevant information on existing benchmarks, legislation, national standards and guidelines available in these countries.

From the information gathered, we did not find evidence of an existing benchmark covering the objectives holistically. We found considerable diversity of the practice, its prevalence and acceptance among the Member States. It became clear that the WHO benchmarks document should take into account this diversity and suggest regulations for practice, products and training, keeping in mind the different levels of social acceptance, community awareness and uptake, and availability of resources for practice across the Member States.

We further scoped the Google Scholar, PubMed and AYUSH research portals to identify information on existing publications for Ayurveda that would substantiate and support the development of the

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[2]   WHO global report on traditional and complementary medicine 2019. Geneva: World Health Organization; 2019 (https://apps.who.int/iris/handle/10665/312342).

Ayurveda benchmark documents. Using a combination of "safety, "quality" and "trial" along with "Ayurveda" presented more than 78 200 references. Owing to the broad nature of the enquiry, we further refined the search into two categories.

One category identified the publications related to "benchmarks", "regulations", "quality", "practice" and "training". Filtering out duplicates and those not specifically relevant to Ayurveda practice or training provided information on 884 publications. After studying their abstracts, this was narrowed down to 151 publications to be read in detail. Of these, 35 highlighted the need for a practice benchmark document for Ayurveda practice, and 61 for a benchmark document for Ayurveda training. A total of 63 and 113 publications, respectively, provided insights into the content requirements of practice and training benchmark documents. Fifty-six publications identified regulatory gaps and requirements, and 68 provided inputs on quality requirements of Ayurveda practice or training.

The second category refined the information for "Ayurveda and safety" and identified 3781 publications after exclusion of duplicates. The data were further cleaned using a combination of "medicine", "drug" or "trial" as additional filters. This provided information on 1228 publications. Another filtration added the terms "randomise/ze" or "safety" in the title or abstract of the publications. In this category, we identified and examined in detail 326 publications that were most relevant to the practice and training benchmarks of Ayurveda.

The desk review provided the required inputs to finalize the objectives and outline of contents of the updated document. The review concluded that the updated benchmark for training should address the types of training for different categories of the Ayurveda health workforce to support the various levels of practice; provide requirements on competency-based knowledge and skills; frame content and structure for different training programmes covering key elements of safety, especially safe medicine practices; and cover aspects of quality control and safety of clinical practices.

The first updated draft of the document was prepared based on the information gathered and directions identified through the desk review. This draft was presented to the expert consultation meeting for discussion. A total of 49 experts from 22 countries across the 6 WHO regions joined the expert consultation meeting. After two days of discussion on the scope, structure and content of the draft document, the meeting was concluded with consensus and advice on further improvement, which guided production of the second draft. The second draft was reviewed by invited experts who contributed to the third draft. This draft marked the conclusion of the consulting process and became the last technical version of the benchmark before formatting and printing.

What does this benchmark cover?

This document is structured in five parts:

- Background: gives a briefing on the background and objectives of the document.
- Types of training: provides training requirements for Ayurveda practitioners and associate Ayurveda service providers.
- Training and learning outcomes: presents the requirements on competency-based knowledge and skills for Ayurveda practitioners and associate Ayurveda providers.
- Content and structure of training: provides content and structures for different training programmes.

- General considerations to follow when adapting this document: describes aspects for consideration when adapting the document.

These five parts constitute a complete set of benchmarks for the training of Ayurveda.

Who is this benchmark for?

By setting norms and standards, this document helps to address the issues related to minimum training requirements for quality Ayurveda services. It offers a useful reference point to evaluate Ayurveda service providers, which will benefit policy-makers, health workers, education providers and the public in general.

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1 Background

Ayurveda is one of the oldest systems of medicine in the world *(1)*. Charaka, the author of *Charaka samhita*, one of the foundational texts for Ayurveda for more than two millennia, states that Ayurveda, or the knowledge of life, is without any beginning *(2)*.

Ayurveda is the most widely practised traditional medical system in South Asia *(3)*. The system evolved in the Indian subcontinent during the period 2000–1500 BCE. During its journey, Ayurveda has produced a vast body of empirical healing knowledge, manifested as an extensive lore of texts in the Sanskrit language *(4)*. Its conceptual paradigm is based on Indian philosophy. Ayurveda operates with its own specific concepts of anatomy, physiology and pathophysiology, allowing a holistic understanding of the dynamic processes governing health and disease *(5)*.

Health promotion and disease management are two equally important goals for Ayurveda *(2)*. According to Ayurveda, health (*svāsthya*) is a state of optimal physical, functional, responsive, mental and spiritual well-being maintained by a resilient person who, while continually interacting with the environment, society and other living beings, carries on with activities of daily living *(6)*.

Health is viewed holistically, taking into consideration the variables faced while living. It involves active effort from the individual to remain healthy *(2)*.

The diagnostic tools and methods of Ayurveda enable early detection of ill health. Treatments use multimodal interventions, including counselling, diet, medicines, procedures and surgery *(5)*.

Owing to its recognition as a comprehensive system of traditional medicine for providing holistic health-care solutions, there is a resurgence of demand for Ayurveda practice, practitioners and products in many Member States, and its use is spreading to new geographies and populations.

1.1 History of practice regulations and training in Ayurveda

The earliest form of systematic training in Ayurveda involved knowledge being transmitted personally from teacher (*guru*) to student (*śiṣya*) *(7)*. The training required a foundation in Sanskrit, Indian philosophies (*darśanas*), and the rules of reasoning and argument (*tarka*). Sanskrit was the technically refined language for discourse in knowledge. The Indian philosophies, such as *nyāya*, *vaiśeṣika*, *saṃkhyā* and *yoga darsana*, were knowledge tools for understanding reality and supporting abstract thinking *(8–12)*.

After completion of basic training in Sanskrit and Indian philosophies, students often spent more than a decade with their teacher, observing, serving, learning and practising under close supervision and direct guidance *(8, 12)*.

Around 1500 BCE, this oral tradition gave way to written documentation of teacher–student (*guru–śiṣya*) discussions and conference reports. Evidence suggests that more than 1000 years before the common era, the overall strategy of classical Ayurveda training was based on a problem-solving approach pillared upon texts, discussions, observation-based inferences and hands-on experience *(12, 13)*.

The known foundational texts of Ayurveda, such as the *Agniveśa-tantra*, *Bhela-saṃhitā*, *Kāśyapa-saṃhitā*, *Caraka-saṃhitā*, *Suśruta-saṃhitā*, *Aṣṭāṅga-saṃgraha* and *Aṣṭāṅga-hṛdaya*, are the contributions from the period between the fifteenth century BCE and the eighth century CE *(13)*.

Institutionally based training in Ayurveda was a part of the educational opportunities offered at the Taxila (Takṣaśilā) university (existent before 500 BCE and abandoned in 550 CE), the Nalanda university (fifth to thirteenth centuries), and the Vikramashila university (eighth to ninth centuries, and abandoned in the thirteenth century). The syllabus included principles (*tattva*), theory (*śastra*) and practice (*vyavahāra*). The training was supported with tools and approaches to validation, including teachings of individuals with outstanding knowledge credibility (*āptopadeśa*), direct observation (*pratyakṣa*) and inference based on observation (*anumāna*) *(13–18)*.

Today, *Caraka-saṃhitā*, *Suśruta-saṃhitā*, *Aṣṭāṅga-saṃgraha and* Aṣṭāṅga-hṛdaya are considered the basic texts of Ayurveda *(2, 6, 13, 18–20)*. Over millennia, they have been supplemented by thousands of other texts based on inventions, discoveries, observations and experiences, and reflecting international and intercultural dynamics.

Between the eighth and sixteenth centuries, knowledge and skills of Ayurveda medical science were enriched by innovation and technology. This period witnessed development of chemistry (*rasaśāstra*), new pharmaceutical technologies and processes, revised and new classification of diseases, and evolution of distinct textbooks describing medicines classified as formularies (*yoga-saṃgraha*) and materia medica (*nighaṇṭu*) (21).

The advances in chemistry saw the advent of techniques to detoxify metals and minerals, compounding mineral and herbo-mineral formulations and the knowledge of using these accordingly. This period also brought to light many important and influential clinical treaties of Ayurveda, such as *Mādhava-nidāna*, *Cakradattam*, *Śāraṅgadhara-saṃhitā* and *Bhaiṣajya-ratnāvali (22–25)*.

Developments such as the discovery of new diseases, insights into pathology (*saṃprāpti*), pharmacological and pharmaceutical innovations, and the subsequent expansion of available medicines all contributed to the advancement of knowledge during this period *(3–5)*.

The traditional system of education in Ayurveda, based on the personal relationship of a master and student, changed considerably during the encounter of Ayurveda with western biomedicine, for which the colonization of South Asia through the British Empire provides the historical context. Ayurveda education now came to be supplied through the college system, which established educational standards that had never existed in the traditional approach *(14, 15)*.

On a political and ideological level, Ayurveda started to present itself as a uniform system of medical practice, which led to the development of standardized college curricula. Ayurveda was confronted with new medical methods, insights and technologies introduced by colonial rulers. Until the end of the nineteenth century, these challenges led to the integration of traditional and new biomedical elements into Ayurvedic curricula to various degrees.

Today, examples of regional strongholds of tradition and knowledge, which have kept Ayurveda thriving and useful to the community for the past few centuries, are seen across India. Notable are the *kaviraj* tradition of Bengal *(26)* and the *aṣṭa-vaidya* tradition of Kerala *(27)*.

According to the *WHO global report on traditional and complementary medicine 2019*, 93 Member States recognized the use of Ayurveda in their country, 32 acknowledged the presence of Ayurveda providers practising in their country, 16 had frameworks to regulate Ayurveda practitioners, and 5 had health insurance coverage for Ayurveda practices *(28)*.

It is timely to consider the philosophy, language and concepts that underpin the practice of Ayurveda, to assist communication across national borders and practice boundaries, with the intention of making a valued contribution to health and well-being.

1.2 Purpose, domain and scope of training

1.2.1 Purpose of training

Ayurveda health service providers who are appropriately trained, qualified and experienced can administer necessary Ayurveda interventions, as permitted by the prevalent regulations of the Member State.

Ayurveda training programmes detailed in this document provide the framework for Member States to develop the necessary qualified and skilled human resources to provide Ayurveda health services. Based on the framework of training programmes described in this document, Member States may establish, license and regulate Ayurveda health services at the basic, advanced and specialty levels of practice in Ayurveda.

Details of different levels of Ayurveda practice are provided in Section 2 of *WHO benchmarks for the practice of Ayurveda (29)*.

The purpose of Ayurveda practice is to provide services that support maintenance and promotion of health or well-being, prevention of illness, and diagnosis and management of diseases. The purpose of the training programmes is to train appropriately qualified people to become knowledgeable, skilled and competent Ayurveda health service providers who can deliver good-quality Ayurveda health care. The objective of the Ayurveda training programmes is to make Ayurveda health service providers competent to provide Ayurveda services according to their professional qualification and level of practice.

1.2.2 Domain of training

Training in Ayurveda covers aspects of knowledge and skills required to equip an Ayurveda health service provider to function in clinical medicine, community medicine and public health settings, according to the levels of qualifications and competencies imparted through the training.

The domain of training covers all three domains of Ayurveda practice – maintenance and promotion of health or well-being, prevention of illness, and diagnosis and management of diseases. Training should be outcome-oriented and empower the Ayurveda health service provider to administer patient-centred care in the community.

Training should give basic-level Ayurveda practitioners the skills to undertake history-taking and physical examination; undertake differential diagnosis; perform diagnostic and screening tests; prepare orders and prescriptions; document patient encounters; undertake clinical questioning and use clinical evidence to arrive at logical conclusions; make referrals; work as a team with other health providers; identify medical emergencies; obtain informed consent; provide Ayurvedic interventions; and identify issues of safety and make suitable modifications.

Training should empower the practitioner with the philosophical foundations, technical doctrines and analytical methods of Ayurveda. These should support the practitioner to understand the rationale and logic behind the Ayurvedic concepts of health and ill health and apply them to arrive at appropriate decisions and actions. It may also provide them with a basic or working knowledge of the Sanskrit terminologies of Ayurveda for their technical use in understanding and communicating Ayurveda concepts.

Training should enable the Ayurveda health service provider to undertake community medicine interventions for prevention of diseases and management of community health, according to the national priorities of the Member State. It should provide them with clinical and public health communication skills, knowledge and expertise to use available equipment and technology to deliver health services. It should orient them in methods to record and report morbidity and mortality data. It should enable them to report suspected adverse drug reactions through pharmacovigilance systems. It should also empower an Ayurveda health service provider to develop the necessary attitudinal approaches of a physician, including compassion and empathy for patients, understand humane

values and the importance of ethical behaviour, and develop good communication and social interaction skills.

The extent and depth of knowledge and skills imparted are dependent on the type of training undertaken. At the advanced and specialty levels, the domain of training includes additional components of training. These provide the practitioner with the competence to make proper decisions that can positively impact community health, analyse complex pathologies, and use specific tools and methodologies to ensure preservation of health and recovery from disease. Training at this level should also give the practitioner the additional skills to manage hospital establishments.

1.2.3 Scope of training

Ayurveda practitioners, Ayurveda nurses, Ayurveda therapists, Ayurveda community health workers and Ayurveda pharmacists should be educated and skilled to the extent required to deliver their services with competence at the respective level of practice.

Training should include the necessary elements of medical training, such as clinical teaching on wards; clinical management in outpatient settings; skills in laboratory and other diagnostic techniques and use of technology for diagnosis; delivery of home-based care; skills for proper record-keeping and dissemination of knowledge through case presentations and publications; laboratory experiments, including in vitro and in vivo laboratory techniques; and use of technology to gather and analyse relevant medical information.

Different pedagogical methods and techniques are part of the scope of training in Ayurveda, and may include methodologies such as lectures, group discussions, textbooks, appropriate use of library and relevant reference documents, practical training, and experience-based training. Knowledge may be imparted using appropriate tools such as lecture-based learning, the Socratic method, case-based learning, problem-based learning, team-based learning, flipped classrooms, blended learning, e-learning, internet-assisted learning, computer-assisted learning and simulation. There is scope to provide both pre-service and in-service training.

2 Types of training

This document provides the minimum standards for training Ayurveda health service providers. Ayurveda health service providers are broadly classified as Ayurveda practitioners and associate Ayurveda service providers. Ayurveda nurses, Ayurveda therapists, Ayurveda community health workers and Ayurveda pharmacists are together classified as associate Ayurveda service providers.

Taking into consideration the degree of variance in Ayurveda training programmes prevalent in Member States, and the emerging needs for quality and safety in health-care delivery, this document describes the benchmarks or minimum standard requirements of training and professional skills for candidates to become qualified practitioners and service providers working at various levels of Ayurveda practice corresponding to the details provided in *WHO benchmarks for the practice of Ayurveda (29)*.

This document aims to promote uniform development of educational programmes and training courses for safe and rational practice of Ayurveda, and to facilitate regulatory control over the standards and quality of Ayurveda education and human resources in Member States. Eligibility for teaching, research and other academic activities are not within the purview of this document and are not dealt with in detail.

2.1 Training programmes for Ayurveda practitioners

There are three types of training for practitioners, corresponding to the service requirements of the three levels of Ayurveda practice. The three types of training comprise five categories of training programmes, depending on the prequalification requirements. Types of training programmes, their subcategories, levels of practice that can be undertaken after completing training, and the number of hours to complete the training in each category are provided in Annex 1.

2.2 Training programmes for associate Ayurveda service providers

There are four professional categories of associate Ayurveda service providers – Ayurveda therapist, Ayurveda nurse, Ayurveda community health worker and Ayurveda pharmacist.

Types of associate Ayurveda service provider training programmes, their subcategories, levels of practice that can be undertaken after completing training, and the number of hours to complete the training in each category are provided in Annex 2.

All categories of associate Ayurveda service provider may enhance their knowledge and skills and advance their careers using in-service training programmes and by undertaking training in specific skills required to deliver certain services.

All associate Ayurveda service providers work under the guidance or supervision of Ayurveda practitioners. They must not render Ayurveda clinical services independently as a practitioner. More details on this are given in Section 3.3 of *WHO benchmarks for the practice of Ayurveda (29)*.

2.2.1 Ayurveda therapists, Ayurveda nurses and Ayurveda community health workers

Ayurveda therapists, Ayurveda nurses and Ayurveda community health workers are trained and skilled associate Ayurveda service providers. They support Ayurveda practitioners, clinical establishments or

health centres to organize and administer various Ayurveda therapies according to the instructions of Ayurveda practitioners. They also support delivery of Ayurveda-based community health care according to the protocols and procedures established by the health system.

In clinical practice, Ayurveda therapists, Ayurveda nurses and Ayurveda community health workers support Ayurveda physicians to perform their duties, and support patient care, patient safety, medication management, diet administration and management of clinical records.

After completing essential training and acquiring the necessary skills and competencies, Ayurveda therapists, Ayurveda nurses and Ayurveda community health workers may assist practitioners in the administration of surgical and parasurgical procedures and specific therapies at the appropriate level of practice.

The training outcomes, skills and competencies obtained at the basic and advanced levels of practice are similar for Ayurveda therapists, Ayurveda nurses and Ayurveda community health workers.

2.2.2 Ayurveda pharmacists

Ayurveda pharmacists are trained and skilled associate Ayurveda service providers responsible for the pharmacy services of Ayurveda practices. Ayurveda pharmacists collect, prepare, store and dispense Ayurvedic health products and manage supplies, stocks and distribution of medicines and preparations. They may also be responsible for compounding primary medicinal formulations in clinical establishments and pharmacy dispensaries.

Ayurveda pharmacists may be responsible for quality control, safety and regulatory compliance and managing operations of procuring, storing, preparing, labelling, stocking, compounding and dispensing of Ayurveda medicines at all levels of clinical settings.

Ayurveda pharmacists may be responsible for management of medicines and medicinal ingredients of an addictive or harmful nature and recording and reporting of adverse reactions related to the use of Ayurveda health products, according to the regulations of the Member State.

Specialty-level training programmes for Ayurveda pharmacists are not described in this document. Ayurveda pharmacists with advanced-level training may support pharmacy services at specialty-level practices.

3 Training and learning outcomes

3.1 Practitioner training programmes

Ayurveda training programmes should make Ayurveda practitioners competent to use their knowledge and skills in Ayurveda for the promotion of health and management of diseases.

After training, Ayurveda practitioners should:

- possess professional knowledge and skills related to appropriate lifestyle interventions, the use of medicines, and application of therapeutic measures for maintenance of health and alleviation of disease;
- be able to diagnose and differentiate diseases and disorders and stage of illness according to Ayurvedic principles and clinical methods, and formulate appropriate Ayurvedic treatment plans;
- be able to develop specific treatment plans based on the patient's signs and symptoms and stage of disease condition, and impart guidance and advice in terms of Ayurvedic nutritional, dietary, lifestyle and therapeutic interventions;
- be able to review and monitor the patient's health condition and modify treatment accordingly;
- be able to review and monitor patients' health parameters in respect of patient safety, skills and available resources, and if necessary to refer the patient to an appropriate health facility considering the practical implications of such a decision on the clinical outcome.

Training should provide Ayurveda practitioners with the capacity to independently acquire additional technical knowledge about diseases not necessarily covered by the training programme. They should be able to create a database or document of personal clinical experiences and disseminate the information through case presentations and publications.

Ayurveda practitioners should be exposed to, and able to appreciate, the expertise and scope in Ayurveda for appropriate intra- and interdisciplinary referrals and collaborations with other health-care professionals. They should have a broad holistic vision of the health system and be able to analyse its scope, strengths, merits, limitations and weaknesses.

Training should provide Ayurveda practitioners with communication skills that allow them to use and apply Ayurvedic medical terminology appropriately in clinical practice and communicate effectively with patients, other health professionals, regulatory bodies, pharmaceutical suppliers, pharmaceutical manufacturers and the general public; interact and disseminate clinical observations and findings to other professionals in accordance with ethical principles and professional codes of conduct; and provide appropriate case histories, examination findings and diagnostic information when referring patients to higher health facilities and medical specialists.

The training should ensure Ayurveda practitioners develop the attitude to practise within regulatory, ethical and safety frameworks; recognize the importance of identifying key clinical issues for discussion; obtain clarification and guidance from appropriate professional resources; and be willing to continue to learn and update their knowledge and professional acumen.

Training should also encourage Ayurveda practitioners to understand and acquire new knowledge from clinical research to update their clinical competence and to remain informed about advances in medical knowledge and apply that knowledge appropriately in clinical practice.

3.1.1 Type I (basic-level) practitioner training programme

The type I (basic-level) practitioner training programme equips the trainee with the competence, knowledge and skills to practise at the basic level in Ayurveda. After successful completion of training, type I (basic-level) practitioners should be able to:

- administer well-established, safe and effective services for promotion of community health;
- deliver established modalities for prevention of noncommunicable diseases and known seasonal infections;
- use their knowledge of seasonal regimens (*ṛtucaryā*) and daily regimens (*dinacaryā*) in prevention of diseases and preservation of health;
- manage diseases at the primary health-care level;
- administer Ayurvedic interventions permissible at the basic level of practice;
- administer disease-specific Ayurvedic interventions according to public health guidelines issued by the Member State;
- administer appropriate Ayurvedic interventions to manage pain, seasonal infections and noncommunicable diseases of national priority;
- identify patients with health conditions and diseases requiring expert care or technically advanced care and refer them appropriately;
- provide antenatal and postnatal Ayurveda therapies;
- undertake activities to support mental health and well-being;
- prescribe well-established Ayurveda diet and lifestyle programmes, including yoga for health maintenance.

Type I (basic-level) practitioners should be able to identify safety issues related to Ayurveda medicines and report them through pharmacovigilance systems. They should have general information to record morbidity data, according to the WHO prevalent classification or that in use in the Member State.

They should have adequate knowledge about safety, quality and contraindications of medicines and other therapeutic devices, and common adverse events and complications resulting from the improper use of Ayurveda medicines and procedures.

They should be trained in basic life support.

They should have knowledge of legal provisions prescribed in the Member State for the practice of Ayurveda, recognition as an Ayurveda practitioner and use of Ayurveda medicines.

Training should cover the Member State's national health priorities, goals and programmes, insurance programmes and schemes supporting Ayurveda practice, and quality assurance and accreditation programmes for Ayurveda practice.

With additional specialty training, type I (basic-level) practitioners can undertake specialty care of elderly people; palliative care; yoga interventions for management of diseases; and stimulation of the vital points of the body (*marma*) as a therapeutic intervention (*marmacikitsā*).

3.1.2 Type II (advanced-level) practitioner training programme

The type II (advanced-level) practitioner training programme is intended to support the advanced level of practice in Ayurveda. In addition to the knowledge, skills and competencies imparted through type I (basic-level) training programmes, type II (advanced-level) training programmes equip Ayurveda practitioners with the skills to:

- assess, formulate and administer safe and effective community health services customized for specific public health needs;

- provide tailormade solutions for prevention and management of noncommunicable diseases and infectious diseases;

- manage diseases at the secondary or tertiary health-care level;

- offer counselling for mental health;

- diagnose and refer patients who require expert care to appropriate centres with specific expertise.

Type II (advanced-level) practitioner training programmes provide Ayurveda practitioners with the knowledge and skills to manage all diagnostic conditions and administer all Ayurvedic interventions, except those listed as competencies acquired through type III (specialty-level) practitioner training programmes (see below).

Type II (advanced-level) practitioner training programmes develop the necessary knowledge and skills to safely and effectively plan and administer Ayurvedic interventions that involve complex clinical assessments, planning and execution, such as:

- p*añcakarma*;

- care of elderly people;

- palliative care;

- rehabilitative care for musculoskeletal disorders, facial palsies, stroke and functional disabilities caused by traumatic injury;

- cauterization (*agnikarma*);

- all kinds of bloodletting (*raktamokṣaṇa*) procedures of Ayurveda, except venesection (*sirāvedha*);

- administration of medicines per urethra (*uttaravasti karma*);

- other symptom-managing skills, such as dilation of anal stricture (*parikartikā*), urethral dilation (*mūtramārgavivardhana)*, yoga for management of diseases, and stimulation of the vital points of the body (*marma*) as a therapeutic intervention (*marma-cikitsā*).

Type II (advanced-level) practitioner training programmes prepare Ayurveda practitioners to manage inpatients, patients requiring long-term care, and patients with infections and infectious diseases.

The programmes provide the skills necessary to oversee collection and management of clinical data, verify recorded morbidity data, and ensure appropriate reporting of suspected adverse drug reactions through pharmacovigilance systems. They permit practitioners to diagnose, record and report mortality, and to assess the clinical health status of people to certify them as healthy or ill.

The extensive knowledge of Ayurvedic medicines provided in type II (advanced-level) practitioner training programmes enables Ayurveda practitioners to use medicines with known toxicity at appropriate doses and in necessary clinical conditions.

Type II (advanced-level) Ayurveda practitioners should have a broad understanding of public health, its resources and priorities, and be able to plan and implement tailormade community health programmes. Training should enable them to identify epidemics of communicable and noncommunicable diseases and to intervene with well-designed Ayurveda approaches to prevent such diseases from manifesting. They should have the expertise to assess the health status of the community and improve it with Ayurveda concepts and principles.

Type II (advanced-level) Ayurveda practitioners should be competent in identifying drug–drug, herb–drug and food–drug interactions and possible adverse drug reactions of Ayurveda remedies, and to manage such cases based on Ayurveda principles and interventions.

Type II (advanced-level) practitioner training programmes may also provide orientation and skills to undertake research, scientific writing, and impact and outcome assessments in the field of Ayurveda and concepts of integrative medicine.

3.1.3 Type III (specialty-level) practitioner training programme

The type III (specialty-level) practitioner training programme is intended to support specialty-level practice in Ayurveda. Type III (specialty-level) practitioner training provides qualified advanced-level Ayurveda practitioners with additional knowledge, skills and competencies, including precise skills to manage specific health conditions or diseases or administer highly skilled interventions of Ayurveda.

This highly specialized training programme qualifies type III (specialty-level) Ayurveda practitioners with adequate knowledge and skills to undertake the unique Ayurveda interventions that have been imparted through the specific training programme.

To independently administer certain interventions, specialty Ayurveda practitioners must have successfully completed the type III (specialty-level) practitioner training programme in which explicit domain-specific Ayurveda interventions and related medical knowledge is acquired as necessary for the respective specialty of practice, as detailed in Annexes 5 and 6.

A type III (specialty-level) practitioner training programme could combine several of these skills and formulate a broader training programme covering all necessary aspects of a specific specialty of Ayurveda. These suggestions may be totally or selectively implemented by the respective Member State based on the existing rules and regulations and practical applicability. According to the prevalent expertise and extent of Ayurveda practice within the Member State, more skills and competencies may be added to the training and practice provisions for type III (specialty-level) Ayurveda practitioners.

3.2 Associate Ayurveda service provider training programmes

Associate Ayurveda service providers offer Ayurveda services in various health-care settings under the supervision of Ayurveda practitioners. Training enables associate Ayurveda service providers to understand Ayurveda practitioners' instructions and prescriptions, and the need and methods for hygiene in clinical premises, when using equipment and instruments, and during therapeutic interventions.

Associate Ayurveda service providers should have the expertise to recognize clinical hazards and risks and to take steps to prevent and manage such situations. They should be able to identify and pass information of any emergency or urgency to the staff concerned, at the right time, to facilitate appropriate remedial measures.

Training should impart knowledge of Ayurveda medical terminology to allow associate Ayurveda service providers to communicate with Ayurveda practitioners, patients and their attendants.

3.2.1 Ayurveda therapists

Ayurveda therapists are trained and skilled service providers who deliver services under the guidance, instruction or supervision of an Ayurveda practitioner and support the practitioner or clinical establishment to organize and administer Ayurveda interventions, as per their level of training and practice.

3.2.2 Ayurveda nurses

Ayurveda nurses are trained and skilled service providers who deliver services under the guidance, instruction or supervision of an Ayurveda practitioner and support the practitioner or clinical establishment to administer patient care services, including assisting the practitioner to administer specific therapies.

Ayurveda nurses support patient care by taking responsibility for patient safety, medicines management, diet administration, making and managing clinical records, caring for patients who need specialized care, and managing outpatients and inpatients.

3.2.3 Ayurveda community health workers

Ayurveda community health workers are trained and skilled service providers who work in the community as part of the health system and provide community health services. They support Ayurveda practitioners or primary health centres to deliver Ayurveda-based health-promotion, preventive and disease-management activities in the community. They play a major role in community-based actions in prevention and early detection of noncommunicable diseases and ensure access to medical care in timely manner.

Ayurveda community health workers:

- conduct home visits and administer Ayurveda interventions in home care, rehabilitative care, palliative care, antenatal and postnatal care, and care of elderly people, as prescribed by Ayurveda practitioners;
- organize community health education programmes and training sessions and provide information on personal hygiene, healthy daily routines and sexual health, according to the standards and guidelines of the health system;
- follow up and provide motivation on the Ayurveda diet and nutritional advice of Ayurveda practitioners, and communicate Ayurveda-based preventive and promotive information advised by Ayurveda practitioners or published by the health system;
- support primary health centres and Ayurveda practitioners to ensure patient compliance with treatment and advice;
- support with early detection, referral and reporting of communicable diseases, maternal and child health, family planning activities, TB and HIV care (counselling, peer and treatment support, palliative care), malaria control, and other communicable diseases control;
- undertake recordkeeping and data collection;
- undertake surveillance and education on environmental sanitation and provision of safe drinking water.

These tasks are performed in many different combinations and with different degrees of breadth and depth, according to the priorities and needs of the health system.

3.2.4 Type I (basic-level) Ayurveda therapist, nurse and community health worker training programme

The type I (basic-level) Ayurveda therapist, nurse and community health worker training programme is a combined module of training for basic-level Ayurveda therapists, Ayurveda nurses and Ayurveda community health workers.

After completion of the type I (basic-level) programme, Ayurveda therapists, Ayurveda nurses and Ayurveda community health workers can work in any of the three professional groups. The training provides the knowledge and skills for them to work in clinical settings that offer a basic level of practice.

Type I (basic-level) training programmes provide the knowledge and skills necessary for patient care, patient safety, medication management, and safe administration of Ayurvedic interventions permissible at the basic level of practice. This includes appropriate use of medical equipment and instruments, preparation of medicines, clinical data entry, recordkeeping, management of outpatient clinics, and supporting special populations, such as elderly people, children, and pregnant and postnatal women.

After training, Ayurveda therapists, nurses and community health workers should be aware of common technical Ayurveda terms in Sanskrit and local-language terms for diseases, signs, symptoms, medicines and treatments.

They should have the knowledge and ability to guide patients in the mode of administration of Ayurveda interventions and medicines. They should have knowledge of identification, dose and dosage forms of different Ayurveda medicines.

They should be knowledgeable about health interventions and national and community public health advisories relevant to the community they are serving. They should have skills for communication and disease surveillance, reporting and referral. They should be able to provide information and guidance on yoga and tobacco cessation. They should be able to support maternal and child health and family planning activities, TB and HIV counselling, malaria control, cancer screening, immunization programmes, and control of communicable and noncommunicable diseases.

Ayurveda therapists and Ayurveda nurses generally render their services in clinical settings. In basic-level clinical establishments, Ayurveda therapists administer or support Ayurveda practitioners to administer interventions permitted at the basic level of practice. Ayurveda nurses support Ayurveda practitioners in patient care, including preparation and administration of medicines, hygiene and sanitation of the clinical establishment, clinical data recording, patient safety measures, and maintaining appropriate care-related communication with patients.

Ayurveda community health workers support Ayurveda practitioners, primary health centres or community health programmes to deliver community health services and administer the health-promoting aspects of yoga.

All basic-level associate Ayurveda service providers should be trained in basic life support.

3.2.5 Type II (advanced-level) Ayurveda therapist, nurse and community health worker training programme

The type II (advanced-level) Ayurveda therapist, nurse and community health worker training programme is a combined module of training for advanced-level Ayurveda therapists, Ayurveda nurses and Ayurveda community health workers.

After completing the type II (advanced-level) training programme, associate Ayurveda service providers can work at the advanced level in any of the three professional groups. The training provides them with the knowledge and skills to work in clinical settings that offer an advanced level of practice.

Type II (advanced-level) training programmes provide advanced-level Ayurveda therapists, Ayurveda nurses and Ayurveda community health workers with the skills to support practitioners in administering all Ayurvedic interventions permissible at the advanced level, including interventions of *pañcakarma*, administration of therapies in antenatal and postnatal care, care of elderly people, rehabilitation protocols and therapies, leech therapy (*jalūkāvacaraḷa*) and thermal cautery (*agnikarma*).

Type II (advanced-level) Ayurveda therapists, Ayurveda nurses and Ayurveda community health workers support practitioners in patient care, clinical management, patient safety, clinical records and administration of medicines. They should be trained in managing hospitalized care, inpatients, patients with special clinical needs such as infectious diseases, patients requiring long-term care, surgical patients, and patients with paralysis.

They are skilled to identify safety issues related to Ayurveda medicines and have the knowledge to integrate with the pharmacovigilance system and to follow the routine processes to report to the national pharmacovigilance system. They have the knowledge required to record morbidity data according to the WHO prevalent classification or that in use in the Member State. They are able to manage clinical data in practice establishments.

They should be knowledgeable about common adulterations in drugs, be able to identify the adulterants, and be able to identify drug interactions and adverse drug reactions to support Ayurveda practitioners to reconcile prescriptions against such oversights.

They should be informed about the Ayurveda diet and its preparation, and in broad aspects of healthy diets and lifestyles.

3.2.6 Type III (specialty-level) Ayurveda nurse training programme

The type III (specialty-level) Ayurveda nurse training programme is intended to support specialty-level practice in Ayurveda. All type II (advanced-level) Ayurveda therapists, Ayurveda nurses and Ayurveda community health workers can undertake this training programme.

Type III (specialty-level) Ayurveda nurses can support the functioning of specialty-level Ayurveda practices and the practice of specialty-level Ayurveda practitioners. A qualified type III (specialty-level) Ayurveda nurse should be the preferred choice to support a specialty-level Ayurveda practice.

Type III (specialty-level) Ayurveda nurse training programmes provide qualified type II (advanced-level) nurses with additional knowledge, skills and competencies to the extent required to administer and support the specific specialty-level interventions of the programme.

Type III (specialty-level) Ayurveda nurses should be knowledgeable in good clinical practice guidelines for participating in clinical research and have knowledge of research; patient care; management of lifestyle and diet according to specific research protocols; ethical considerations of clinical care in research; processes of informed consent and subject recruitment; collection and storage of laboratory samples; filing of appropriate and relevant questionnaires; and recording and safe storage of data.

3.2.7 Type I (basic-level) Ayurveda pharmacist training programme

The type I (basic-level) Ayurveda pharmacist training programme equips the trainee to function as an Ayurveda pharmacist at different basic-level settings of Ayurveda practice.

Type I (basic-level) Ayurveda pharmacists assist in clinical and public health settings of Ayurveda practice at the basic level by managing clinical pharmacies and dispensing medicines. The training programmes provide knowledge of traditional, proprietary and research-based Ayurveda medicines, and raw materials of plant, animal and mineral origin. Training provides the skills to process and prepare Ayurveda medicines for use in clinical settings, and to identify raw materials, assess their quality and purity, and store them safely.

Type I (basic-level) Ayurveda pharmacists have the knowledge and skills to prepare Ayurvedic medicines using raw materials and make fresh medicinal preparations for immediate use in therapies in clinical settings.

They are competent to procure medicines; store and keep inventories of medicines, including details on expiry dates, scheduled medicines, and potentially toxic or harmful medicines; manage medicine stocks and financial accounts; and appropriately dispose of expired or discarded medicines.

They are competent to collect and appropriately report adverse reactions to medicines through the pharmacovigilance system. They can guide patients on safe and rational use and mode of administration of Ayurveda medicines, as advised by an Ayurveda physician. They are responsible for maintaining hygienic and hazard-free premises and practices for handling Ayurveda medicines.

3.2.8 Type II (advanced-level) Ayurveda pharmacist training programme

The type II (advanced-level) Ayurveda pharmacist training programme is intended to support advanced- and specialty-level practice in Ayurveda. All type I (basic-level) Ayurveda pharmacists can undertake this training programme.

Type II (advanced-level) Ayurveda pharmacists can perform all work related to Ayurveda medicine management at the advanced and specialist levels in Ayurveda. They can apply for, obtain and periodically update the required regulatory documents to manage stock and dispense medicines. They should be knowledgeable about and responsible for the processes and methodologies for dispensing of Ayurvedic medicines to outpatients and inpatients.

They can explain to patients the appropriate use of other substances taken with commonly prescribed medicines to enhance their benefit or absorption (*anupāna*). They have basic knowledge of and can provide information to patients about drug–drug interactions and symptoms of adverse drug reactions.

They are responsible for implementing measures to prevent medicine dispensing and dosing errors, including correct use of lookalike and soundalike medicines, in clinical practice. They can identify safety issues related to Ayurveda medicines and report them through the pharmacovigilance processes. They are skilled to analyse and address complications and adverse effects of Ayurvedic medicines.

They should have a good knowledge of the basic principles of Ayurveda pharmacology, Ayurveda pharmacopoeia, Ayurveda materia medica, Ayurveda formularies and notified essential medicines of Ayurveda (*dravyaguṇavijñāna*). They should know the methods of preparation and storage of mineral and herbo-mineral drugs (*rasaśāstra*) and Ayurveda pharmaceuticals (*bhaiṣajyakalpanā*). They should know the common Sanskrit and botanical names of Ayurvedic herbs.

They should be knowledgeable in the regulatory and quality control provisions for Ayurveda medicines and health products regarding storage, sale and distribution; labelling, packaging and advertising-related regulations for Ayurveda medicinal and health products; quality assurance and certification systems for Ayurveda products; scheduled drugs, and negative or prohibitive lists of medicinal plants, and toxic and narcotic substances and adulterants; good manufacturing practices; and good storage practices.

Type II (advanced-level) Ayurveda pharmacists can provide their services at the specialty level. They can manage research pharmacies and be responsible for the inventory of research materials and related data handling and storage as part of the research activity. They are competent to prepare research-related drugs, and to stock, dispense and destroy them as necessary. They are informed in good clinical practice guidelines in research and research ethics, and skilled in subject recruitment and consent, and collecting, recording and safe storage of data.

They are eligible to run independent Ayurveda herbal pharmacies or medical stores without association with a practitioner or practice establishment, but within the regulatory framework of the Member State.

4 Content and structure of training

The content of Ayurveda training programmes should provide Ayurveda health service providers with the necessary and appropriate knowledge, skills and competence to perform their duties at specific levels of practice. The services expected from Ayurveda health service providers at each level of practice are detailed in *WHO benchmarks for the practice of Ayurveda (29)*.

As well as providing necessary medical knowledge and skills, the training should enable Ayurveda health service providers to function as health-care workers in the community they intend to serve. Trainees should understand the importance of the domain and scope of their work with respect to the needs of communities and patients. The training should instil ethical values of medical practice and empower trainees with effective communication skills to function in clinical and community medicine establishments. The training should include essential elements of work ethics and soft skills to efficiently function in a team and use technology effectively.

Due to the diverse laws prevalent in the Member States that regulate Ayurveda practice, the training must provide knowledge and information on the most acceptable regulatory frameworks and processes for practising Ayurveda in the respective Member State.

Ayurveda clinical management is personalized, and a fit-for-all approach is not the norm in clinical practice. Nevertheless, bearing in mind the diversity and spread of Ayurveda practice across the globe, and the absence of sufficient peer-group support in many Member States for Ayurveda health service providers, the training should ideally include well-defined clinical management protocols for common clinical conditions that Ayurveda practitioners might encounter in regular practice at the basic and advanced levels of practice. This will provide confidence, latitude and time for new Ayurveda practitioners to establish their practice.

The training may provide information on laws and processes in the Member State to establish an Ayurveda practice, essentials of management skills to run a practice, and possible financial avenues to support patients with Ayurveda health services. The training may also equip trainees with the interest and skills to conduct research and gain and share new knowledge and skills.

Ayurveda health service providers function in a modern society and must be adequately knowledgeable about conventional concepts in science and medicine. This will allow them to understand and correlate their Ayurveda knowledge with the conventions of modern-day health systems and to communicate better with society, reconciling their communications effectively within the knowledge frameworks of the society. The course and content of training must reflect this perspective.

Specific syllabus and curriculum details, including language and medium of instruction, duration of training programmes, distribution of subjects over semesters or years of study, scheme of examination, and scheme of practical training and internship, may be decided by Member States according to their national priorities and prevalent education regulations and systems. The suggestions given below are directional in nature.

The suggested durations of study for all Ayurveda training programmes described here are given in Annex 3.

4.1 Ayurveda practitioner training programmes

Ayurveda practitioners play a pivotal role in the organization of Ayurveda practices at any level. Their knowledge, skills and experience-based competency are a key factor in the success of a practice. Training programmes for Ayurveda practitioners should reflect the leadership roles they need to enact in their profession.

4.1.1 Type I (basic-level) practitioner training programme

The type I (basic-level) practitioner training programme produces Ayurveda practitioners for the basic level of Ayurveda practice. Considering the large increase in requirement for trained Ayurveda practitioners, this may be the most adopted practitioner training programme across all Member States, owing to its shorter duration and flexibilities allowed for existing practitioners of other medical systems.

Type I (basic-level) training programmes are subclassified into categories I and II. Category I programmes train people with no previous medical practitioner background to become basic-level practitioners.

Medical practitioners of other systems are trained through category II programmes. These programmes involve fewer hours of training due to the assumption that trainees know the basics of conventional medicine and public health by virtue of their existing medical qualifications.

The essential difference between category I and category II training programmes is the absence of conventional medicine and common public health content in category II programmes.

Competencies in Ayurveda knowledge and skills imparted by both categories are the same, and Ayurveda practitioners who have undertaken category I or category II training are equally qualified to deliver Ayurveda services at the basic level of practice.

Eligibility to enter a type I (basic-level) Ayurveda practitioner category I training programme includes successful completion of International Standard Classification of Education (ISCED) level 3 (upper secondary education), as defined by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Type I (basic-level) practitioner category I training programmes cover the following:

- introduction to Ayurveda – history, current regulatory status, and domains and scope of practice of Ayurveda;

- working knowledge or familiarization with Sanskrit technical terminology in Ayurveda;

- in-depth knowledge of philosophical foundations of the science of Ayurveda, basic principles of Ayurveda, and doctrines of Ayurvedic conceptual foundations relating Ayurvedic concepts to a basic understanding of the natural sciences;

- structure and function of the human body – in-depth knowledge of physiology and functional anatomy based on Ayurveda; in-depth knowledge of anatomy (macroscopic and microscopic); detailed study of Ayurvedic concepts of doṣa (biological factors that maintain functional balance), dhātu (structural elements of the body), mala (excretable materials), prakṛti (discrete phenotype based on physical, psychological, physiological and behavioural traits), relative predominance and strength (sāra) of dhātu, channels of the body (srotas), and vital points of the body (marma);

- human physiology – in depth knowledge of mechanisms of the living human body from the basis of cell function at the ionic and molecular level to the integrated behaviour of the whole body and the influence of the external environment; basic principles of influence of biochemistry on human physiology and essential biochemical processes;

- laboratory methods, normal values of common laboratory parameters and significance of their variation;

- Ayurvedic knowledge on aspects related to childbirth (*garbhavijñāna*), factors influencing normal conception and fetal growth, and Ayurvedic interventions for antenatal health (*garbhiṇīparicaryā*) and postnatal health (*sūtikāparicaryā*);

- precautions and skills when working with elderly people and pregnant women;

- comparative understanding of Ayurvedic definition of health (*svāsthya*), and corresponding understanding of ill health (*roga*);

- Ayurvedic understanding of metabolism – detailed study of Ayurvedic concepts of digestive process (*āhārapāka*), evolution and transformation of structural elements of the body (*dhātu-pariṇāma*);

- metabolic process (*agni*) involving gross digestive processes that mediate selective transformations in *dhātu* (structural elements of the body);

- different stages of indigestion (*ajīrṇa*);

- initial phase of metabolic derangement (*āma*) and cascade of events leading to metabolic dysfunction; concept of inflammation and its correlation with the initial phase of metabolic derangement (*āma*);

- Ayurvedic knowledge on food (*āhāra*), food habits, time of food intake (*āhāra kāla*), quantity (*mātrā*) and quality (*guṇa*) of food, food types (*varga*), and food preparation methods (*kalpanā*) and their effect on digestion (*pācana*); basics of nutrition science; influence of food on digestion and absorption, and vice versa;

- Ayurvedic scopes in classification of humans according to *prakṛti* (discrete phenotype based on physical, psychological, physiological and behavioural traits);

- Ayurvedic knowledge of daily regimens (*dina-caryā*) and seasonal regimens (*ṛtu-caryā*) to promote health and prevent diseases;

- immunization schedules in Member States and information on vaccinations;

- conventional and universally followed clinical examination methods; Ayurveda-specific clinical examination methods, tools and parameters for clinical assessment and diagnostic methods for analysing disease (*rogaparīkṣā*); types of Ayurvedic diagnostic methods, including the 10-fold clinical examination (*daśavidhaparīkṣā*) and 8-fold clinical examination (*aṣṭavidhaparīkṣā*); Ayurvedic knowledge of the evolution of disease and disorder (*saṃprāpti*) and its stages (*ṣaḍ-kriyā-kāla*); Ayurvedic concepts of pathways of pathogenesis (*rogamārga*), signs and symptoms of vitiation of any one *doṣa* (biological factor that maintains functional balance), signs and symptoms when any two *doṣas* are vitiated (*saṃsarga*), and diagnostic criteria to recognize when all three *doṣa* are vitiated (*sannipāta*);

- methods, regulations and ethics of clinical consultation;

- five distinct attributes to diagnose a disorder or disease (*nidānapañcaka*);

- diagnosis and differential diagnosis of Ayurveda; knowledge of diagnosis and differential diagnosis of conventional medicine;

- Ayurvedic interventions that improve and worsen a disorder or disease, used as a tool for differential diagnosis (*upaśaya* and *anupaśaya*); conventional understanding of pathology of common diseases;

- Ayurveda concepts of improper indulgence of sense organs and organs of action (*asātmyendriyārthasaṃyogaḥ*), and voluntary and avoidable actions that lead to diseases (*prajñāparādha*);

- understanding diseases that fall under the eight clinical specialties of Ayurveda (*aṣṭāṅga āyurveda*) in order to refer patients to appropriately qualified clinical establishments in a timely, ethical and humane manner;

- basic information about diseases and their treatment approaches;

- preventive interventions (*nidānaparivarjana*), pacifying therapy (*śamana*), cleansing therapy (*śodhana*), and therapies involving methods of controlling and reducing of nutrition (*laṅghana*), increasing nutrition (*bṛmhaṇa*) and reducing movements (*stambhana*);

- Ayurvedic interventions permissible at the basic level of practice, and use of related and necessary medical equipment and instruments;

- knowledge of contraindications to Ayurvedic interventions according to requirements of the basic level of practice; common signs and symptoms of adverse effects of administered Ayurvedic interventions, and their counter or remedial measures;

- "do's and don'ts" (*pathya* and *apathya*), including disease- and person-specific diet modifications, physical activity and behaviour;

- mental stress, its role in disease, and Ayurvedic interventions for managing it from the perspective of well-being;

- sleep (*nidrā*) and Ayurvedic knowledge of sleep; parameters and tools for assessment and quantification of sleep; Ayurvedic interventions and medicines for sleep disturbance from the perspective of well-being;

- Ayurvedic understanding of factors responsible for vitality (*ojas*) and related health issues and their management;

- Ayurvedic knowledge of sexual health (*vājīkaraṇa*);

- Ayurvedic understanding of pain (*śūla*) and types of pain; parameters and tools for assessment and quantification of pain; Ayurvedic interventions and medicines for pain management;

- Ayurvedic knowledge of noncommunicable diseases and Ayurvedic interventions for prevention and management of selected noncommunicable diseases, according to national priorities; clinical and public health interventions and knowledge of national programmes and strategies to support them;

- Ayurvedic understanding of obesity (*sthaulya*) and emaciation (*kārśya*); understanding of obesity and emaciation as metabolic dysfunctions; Ayurvedic interventions to manage obesity and emaciation;

- seasonal regimens (*ṛtucaryā*) – Ayurvedic knowledge of seasonal infections and methods, and modalities to prevent and manage them; clinical and public health interventions of Ayurveda to prevent and manage seasonal infectious diseases;

- basics of pharmacology (*dravyaguṇa*); Ayurvedic understanding of materials (*dravya*), and their properties (*guṇa*) and actions (*karma*); knowledge of the concepts of taste (*rasa*), properties (*guṇa*), pharmacological actions (*vīrya*), changes in constitution of food after digestion (*vipāka*), and special properties of medicines (*prabhāva*);

- Ayurvedic medicines (*auṣadha*) for general practice; identity of Ayurvedic medicinal herbs and methods of appropriate storage; processes and methods to prepare different dosage forms of Ayurvedic medicines from raw materials; knowledge of regulations, acts and policies related to Ayurvedic medicines, Ayurvedic food supplements, Ayurvedic nutraceuticals, herbal supplements and herbal nutraceuticals in the Member State;

- basics of management of clinical establishments and outpatient clinics;

- infrastructure, facilities, medical equipment, materials, health products and medical devices used at the basic level of Ayurveda practice;

- patient safety:
  - WHO nine patient safety solutions *(30)*;
  - hand hygiene *(31)*;

- falls prevention;

- safety of clinical establishments;

- recognition and management of hazardous materials;

- potential risks of contamination;

- infection prevention and control measures, with special attention to appropriate training in *(32)*:

  – safe surgical and intervention processes for invasive interventions;

  – use of disposable instruments such as surgical blades and needles for invasive procedures to avoid infections;

  – safe disposal of such instruments;

  – appropriate cleaning and sterilization processes of reusable invasive instruments and equipment;

- antiseptic and disinfectant measures and careful handling of infected patients;

- special safety concerns for Ayurvedic interventions;

- medicine safety, pharmacovigilance and knowledge of adverse effects of herbal ingredients that have been documented in humans or animals (e.g. allergic reactions; cardiotoxic, hepatotoxic, nephrotoxic, irritant and purgative effects with adverse effects on the hormonal or central nervous system); medicines containing metals, minerals or poisonous substances; drug–drug, drug-herb, and drug–food interactions; medicinal/therapeutic incompatibility;

- waste management;

- fire safety;

- basic life support training;

- staff health programme – techniques and processes to prevent, contain and manage infections that might occur among staff at the clinical establishment;

- managing or supporting work at a primary health centre; engaging and working with the community;

- ethics in clinical practice;

- ethics of communication and processes of information dissemination;

- clinical data management and data safety;

- processes of referral;

- national health priorities, seasonal epidemics, disease burden, community health programmes, public health systems, public health programmes and health financing mechanisms of the Member State;

- clinical communication – communicating in community practice; reasons for and methods of communication; counselling methods and points for HIV, TB and malaria; other infectious diseases prevention, management and eradication programmes; counselling methods and facts for prevention, early detection and screening for noncommunicable diseases and assuring compliance to medical advice;

- yoga practice for maintenance of health and wellness for different healthy and patient populations; contraindications for specific yoga asanas.

Eligibility to enter a type I (basic-level) practitioner category II training programme includes successful completion of prior medical training. A person with prior medical training is a medical graduate who has completed, and is certified under, a valid university medical training programme that requires at least

3000 hours of formal training. This may (depending on the policies, regulatory frameworks, priorities and rules for medical training, regulation and practice in the Member State) include practitioners of allopathic medicine (conventional medicine or biomedicine), anthroposophic medicine, chiropractic and osteopathy, Heilpraktiker and Naturheilkunden, herbal medicine, homeopathy, Kampo medicine, Siddha medicine, Sowa Rigpa, Tibetan medicine, traditional Chinese medicine and Unani medicine.

The suggested course content of type I (basic-level) practitioner category II training programmes is the same as for type I (basic-level) practitioner category I training programmes, but excluding knowledge and skills related to conventional medicine and public health. This is the prerogative of the Member State and may be decided based on the course content of the prior medical training of the candidate.

4.1.2 Type II (advanced-level) practitioner training programme

The type II (advanced-level) practitioner training programme trains practitioners to deliver Ayurveda services at the advanced level of Ayurveda practice. Type II (advanced-level) practitioner training programmes are subcategorized into categories I and II.

Category I training programmes are for candidates with no previous Ayurveda practitioner training to become type II (advanced-level) practitioners. Category II training programmes are for type I (basic-level) practitioners to train further and progress to become type II (advanced-level) practitioners.

The course content of the type II (advanced-level) practitioner category I training programme includes everything from the type I (basic-level) practitioner training programme, supplemented with additional content to facilitate advanced-level practice.

The type II (advanced-level) practitioner category II training programme deals only with the additional content specific for advanced-level practice, because the rest of the course content has been imparted during type I (basic-level) practitioner training.

Competencies in Ayurveda knowledge and skills imparted by both categories are the same, and practitioners from both programmes are equally qualified to deliver Ayurveda services at the advanced level of practice.

Eligibility to enter a type II (advanced-level) practitioner category I training programme includes successful completion of International Standard Classification of Education (ISCED) level 3 (upper secondary education), as defined by UNESCO.

In addition to the course content of type I (basic-level) practitioner category I training programmes, type II (advanced-level) practitioner training programmes may include the following:

- different methods of gaining knowledge – direct observation (*pratyakṣa*), inference based on observation (*anumāna*), teachings of individuals with outstanding knowledge credibility (*āptopadeśa*), and rationale and processes used in Ayurvedic analysis of clinical information and synthesis of clinical decisions (*yukti*);

- normal patterns in diagnostic imaging, including ultrasonography of internal organs and structures, and significance of variations; normal patterns in invasive imaging techniques (-scopies), and significance of variations; normal patterns in tissue sampling methods, and significance of variations; microbiological tests and ability to discern infectious diseases; normal ranges in immunological laboratory reports, and significance of variations; normal findings in cellular and molecular biology laboratory reports, and significance of variations;

- Ayurvedic knowledge of life (*āyu*), lifespan, stages of life, concepts of aging, changes of old age, death and signs of imminent death;

- diseases falling under the specialties of eightfold Ayurveda (*aṣṭāṅga āyurveda*) to manage patients with effective Ayurvedic interventions; skills to identify patients who require specialty care and refer them to appropriately qualified clinical establishments in a timely, ethical and humane manner;

- clinical methods and interventions of the eight specialties of Ayurveda (*aṣṭāṅga āyurveda*);

- Ayurvedic management of paediatric illnesses;

- Ayurvedic knowledge of care of elderly people, promotion of health in elderly people, prevention of diseases related to aging, and management of health issues related to old age (*jarācikitsā*); regenerative and rejuvenative medicine (*rasāyanacikitsā*) of Ayurveda; Ayurvedic interventions for elderly people; methods and precautions for administration of Ayurveda interventions in elderly people; changes in medication and doses for elderly people;

- palliative care;

- influence of the discrete phenotype based on the *prakṛti* and relative predominance and strength (*sāra*) of the *dhātu* (structural elements of the body) in assessing and predicting dimensions of health and illness; mutual influences on personal choices, lifestyle, health outcomes, food, sleep and sex; genomic basis of *prakṛti*; influence of *prakṛti* on disease;

- correlating daily regimen (*dinacaryā*) and seasonal regimen (*ṛtucaryā*) to the seasonal and circadian variations of *dosha*, *prakṛti*, metabolism (*agni*), and quality/properties (*guṇa*) and taste (*rasa*) of food; conceptual understanding of how these are related to communicable and noncommunicable diseases;

- clinical counselling, including psychological counselling (*satvāvajayacikitsā*);

- rationale and process to identify patterns of involvement of *doṣa* and *dhātu*, and methods to understand other disease-related changes from the Ayurvedic perspective of evolution of disease and disorder (*saṃprāpti*);

- diseases and their general treatment approaches;

- identifying critically ill patients or diseases that might require critical or emergency care in order to refer patients to appropriately qualified clinical establishments in a timely, ethical and humane manner;

- Ayurvedic interventions permissible at the advanced level of practice, and use of related and necessary medical equipment and instruments; contraindications to Ayurvedic interventions, according to requirements at the advanced level of practice; common signs and symptoms of adverse effects of administered Ayurvedic interventions, and counter/remedial measures;

- administration of *pañcakarma* and related knowledge of indications, processes, medicines, clinical decision processes, planning, precautions, contraindications, preparation of patients and interventions for post-*pañcakarma* recovery; related diet; concurrent medicines; observable parameters of clinical endpoints; "do's and don'ts"; common adverse effects; related materials and equipment;

- administration of:

    - infusion of powdered medicinal herbs through the nasal canal for medicinal benefits (*pradhamananasya*);

    - leech therapy (*jalaukāvacaraṇa*);

    - bloodletting by making numerous cutaneous wounds with a sharp needle (*pracchāna*);

    - bloodletting by applying vacuum suction over surgically inflicted cutaneous wounds (*alābu/śṛṅga*);

    - thermal cautery (*agnikarma*);

    - infusion of liquid medicines into urinary bladder or uterus for medical benefits (*uttaravasti karma*) (NB: uterine infusion is permitted only at the specialty level of practice);

    - retaining specially prepared medications in the eye for a specified period (*tarpana* and *puṭapāka*);

- dilation in anal stricture (*parikartikā*);
- urethral dilation and meatotomy (*mūtramārgavivardhana*);

- mechanisms and pathways of sleep (*nidrā*); introduction to pharmacology of sleep medications; Ayurvedic interventions and Ayurveda medicines for sleep disturbances; insomnia; excessive sleep and narcolepsy;

- Ayurvedic understanding of and interventions for management of fatigue (*klama*);

- Ayurvedic interventions to improve sexual and reproductive health; management of disorders related to reproductive health;

- Ayurvedic rehabilitation methods and interventions for musculoskeletal diseases;

- Ayurvedic management of facial palsies (*ardita*) and cerebrovascular stroke (*pakṣāghāta*); Ayurvedic rehabilitative care for facial palsies and cerebrovascular stroke;

- basics of management of advanced-level clinical establishments; management of outpatient clinics and clinical hospital wards; management of inpatients;

- management of patients requiring long-term care, elderly people, pregnant women, and children; management of patients with infections and infectious diseases;

- infrastructure, facilities, medical equipment, materials, health products and medical devices used at the advanced level of Ayurveda practice;

- basics of managing and supporting work at the primary, secondary and tertiary tiers of the health system; basics of engaging and working with the community at all three tiers of clinical practice;

- recording and reporting death;

- knowledge of yoga practices for management of diseases;

- stimulation of vital points of the body (*marma*) as a therapeutic intervention (*marmacikitsā*) and related precautions.

Type II (advanced-level) practitioner category II training programmes are for existing type I (basic-level) practitioners. Type I (basic-level) practitioners can take this training in-career and advance to become type II (advanced-level) practitioners. The course does not include the content of the type I (basic-level) practitioner training programme, in order to avoid repetition.

4.1.3 Type III (specialty-level) practitioner training programme

The type III (specialty-level) practitioner training programme prepares practitioners to deliver Ayurveda services at the specialty level of Ayurveda practice. This training provides opportunity for type II (advanced-level) practitioners to train further and progress to become type III (specialty-level) practitioners.

The syllabus and curriculum of the type III (specialty-level) practitioner training programme provides specialty-level knowledge, skills and competencies for practitioners to undertake skilled interventions or provide specific clinical management for certain health conditions (see Section 3.1.3).

Type III (specialty-level) practitioner training can be tailormade to support the requirements of expertise in the practice environment. To develop such training, it is suggested to use the skill sets given in Section 3.1.3 to manage unique clinical situations or specific health interventions.

These training programmes may address a specific skill set or a logical combination of them, and accordingly they vary in duration and content. A type III (specialty-level) practitioner training programme may be 100% practice-oriented, or research-oriented with hands-on supervised practice with senior faculty as the mode of training. There is considerable freedom for the academic authority to decide on the syllabus, curriculum and duration of the training programme. Where appropriate and

practical, a type II (advanced-level) practitioner may have the provision to take this training in-career and advance to become a specialist in a specific area of Ayurveda.

4.2 Associate Ayurveda service provider training programmes

4.2.1 Type I (basic-level) Ayurveda therapist, nurse and community health worker training programme

Eligibility to enter a type I (basic-level) Ayurveda therapist, nurse and community health worker training programme includes successful completion of International Standard Classification of Education (ISCED) level 3 (upper secondary education), as defined by UNESCO.

Type I (basic-level) Ayurveda therapist, nurse and community health worker training programmes cover the following:

- introduction to basics of Ayurveda – scope and domains of practice in Ayurveda;
- familiarization with commonly used Ayurveda technical terminology in Sanskrit, the local language and the regional dialect for diseases, signs, symptoms, medicines and treatments;
- basic understanding of structure and function of human body, organs and organ systems;
- skills to administer or support all Ayurvedic interventions permitted at the basic level of practice;
- infection prevention and control measures; Special attention should be given to provide appropriate training in *(32)*:
    - safe surgical and intervention processes for invasive interventions;
    - use of disposable instruments such as surgical blades and needles for invasive procedures to avoid infection;
    - safe disposal of such instruments;
    - appropriate cleaning and sterilization processes of reusable invasive instruments and equipment;
- adverse effects of Ayurvedic interventions and medicines, and their common signs and symptoms;
- management of outpatient clinics;
- management of patients in special categories, such as elderly people, children, and pregnant and postnatal women;
- Ayurvedic therapies used in antenatal and postnatal care;
- patient safety, medicine safety, hygiene and sanitation of the clinical premises, and basic life support training;
- processes involved in referral;
- communication within the clinical establishment;
- clinical data – recording, storage and confidentiality;
- basics of working in and managing primary health centres; met
- communication as a community health worker;
- yoga practices for maintenance of health and wellness for healthy people;
- collection, handling and storage of laboratory samples – blood, urine, stool and sputum;
- general indications on nutrition modalities, self-health care and prevention (daily regimen, *dinacaryā*);
- Ayurvedic food preparations – types, ingredients and methods of preparation;

- identifying common raw medicinal ingredients used at the basic level of practice;

- basic information on common medicines used at the basic level of practice, and their modes of administration;

- skills to prepare routinely used Ayurvedic medicines for therapies;

- pharmacovigilance – basic principles, reporting processes and responsibilities;

- knowledge of staff health programme – techniques and processes to prevent, contain and manage infections that might occur among staff in the clinical establishment;

- basics on engaging and working with the community;

- disease surveillance in the community – communicable and noncommunicable diseases;

- tobacco cessation counselling and support;

- TB and HIV counselling – adherence of medicines and medical advice;

- mosquito-borne diseases (e.g. malaria, dengue, chikungunya, filariasis) and control measures.

4.2.2 Type II (advanced-level) Ayurveda therapist, nurse and community health worker training programme

This training programme is for qualified type I (basic-level) associate Ayurveda service providers. The training covers the following:

- Ayurvedic interventions permissible at the advanced level of practice, and use of related and necessary medical equipment and instruments;

- assisting with:
  - *pañcakarma*;
  - care of elderly people;
  - palliative care;
  - rehabilitation protocols and therapies for stroke, musculoskeletal disorders and facial palsy;

- *a*ppropriate training in:
  - infusing powdered medicinal herbs through the nasal canal for medicinal benefits (*pradhamananasya*);
  - leech therapy (*jalaukāvacaraṇa*);
  - bloodletting by making numerous cutaneous wounds with a sharp needle (*pracchāna*);
  - bloodletting by applying vacuum suction over surgically inflicted cutaneous wounds (*alābu*/ *śṛṅga*);
  - thermal cautery (*agnikarma*);
  - infusing liquid medicines into the urinary bladder or uterus for medical benefits (*uttaravasti karma*)(NB: uterine infusion is permitted only at the specialty level of practice);
  - retaining specially prepared medications in the eye for a specified period (*tarpana* and *puṭapāka*);
  - management of dilation in anal stricture (*parikartikā*);
  - urethral dilation and meatotomy (*mūtramārgavivardhana*);
  - counselling, including psychological counselling (*satvāvajayacikitsā*);

- concept of *prakṛti* and training to fill questionnaires regarding *prakṛti*;

- advanced-level yoga practices for management of diseases;

- managing hospitalized care;

- infrastructure, facilities, medical equipment, materials, health products and medical devices used at the advanced level of Ayurveda practice;

- care of patients with special needs, such as people with infections or infectious diseases, patients requiring long-term care, and patients with paralysis;

- safety issues of Ayurveda medicines;

- processes of pharmacovigilance;

- recording and management of clinical data;

- recording of morbidity data according to WHO prevalent classification or that in use in the Member State;

- common drug adulterants, drug interactions, adverse drug reactions and related signs and symptoms;

- broad introduction to nutrition.

4.2.3 Type III (specialty-level) Ayurveda nurse training programme

This training programme is for qualified type II (advanced-level) associate Ayurveda service providers. The programme covers specific training in administering specific Ayurvedic interventions that are part of *aṣṭāṅga āyurveda* specialties, or provides skill sets to support unique clinical situations or specific health interventions mentioned in Section 3.1.3.

4.2.4 Type I (basic-level) Ayurveda pharmacist training programme

Eligibility to enter a type I (basic-level) Ayurveda pharmacist training programme is successful completion of International Standard Classification of Education (ISCED) level 3 (upper secondary education), as defined by UNESCO.

Type I (basic-level) Ayurveda pharmacist training programmes cover the following:

- introduction to basics of Ayurveda – scope and domains of practice in Ayurveda;

- familiarization with commonly used technical terminology of Ayurveda in Sanskrit, the local language and the regional dialect for diseases, signs, symptoms, medicines and treatments;

- identifying common raw ingredients used at the basic level of practice; assessing quality and purity of raw ingredients; good storage practices for raw herbs and medicines;

- management of clinical pharmacy at the basic level of practice; procurement of medicines; storage and inventory management of medicines; management of toxic or harmful medicines; disposal of expired or discarded medicines;

- skills to prepare routinely used medicines and medicinal preparations for therapies;

- commonly used traditional, proprietary and research-based Ayurvedic medicines, and raw materials of plant, animal and mineral origin;

- basic information on common medicines used at the basic level of practice, and their modes of administration;

- medicines safety; pharmacovigilance and related processes;

- patient safety; hygiene and sanitation of clinical premises;

- basics of management of outpatient clinics;
- management of patients in special categories, such as elderly people, children, and pregnant and postnatal women;
- adverse effects of Ayurvedic interventions and medicines, and common signs and symptoms;
- processes involved in referral;
- communication within clinical establishments;
- basics of working in a and managing primary health centre;
- communication as a community health worker.

4.2.5 Type II (advanced-level) Ayurveda pharmacist training programme

This training programme is for qualified type I (basic-level) Ayurveda pharmacists. The training covers:

- rules, regulations, policies and acts related to Ayurveda and herbal medicines, food supplements and nutraceuticals in the Member State;
- basic principles of Ayurveda pharmacology (*dravyaguṇavijñāna*);
- preparation and storage of various dosage forms of herbal, mineral and herbo-mineral medicines; basics of Ayurveda pharmaceutics (*bhaiṣajyakalpanā*);
- safety issues and dosages related to mineral-based medicines (*rasaśāstra*);
- Ayurveda pharmacopoeia, materia medica and formularies;
- notified essential medicines of Ayurveda;
- Sanskrit and botanical names for commonly used Ayurvedic herbs;
- commonly used medicines and other medicinal products in Ayurveda practice;
- doses, dosages and time of administration of medicines;
- adjuvant foods and drinks with specific medications;
- drug–drug incompatibilities and symptoms of adverse drug reactions.

5 General considerations

5.1 Syllabus, curriculum and medium of instruction

Specific details of the syllabus and curriculum, including the language and medium of instruction, the duration of the training programme, the distribution of subjects across the semesters or years of study, the scheme of examination, and the scheme of practical training and internship, may be decided by Member States according to national requirements and education regulations and systems.

5.2 Other considerations

When adapting this document to a Member State's national situation, needs and priorities, the training programme should:

- support social and cultural aspects of the Member State and be open to any necessary inclusions and alterations in the details of the programme to best integrate with the needs and priorities of the Member State;

- be streamlined to the prevalent and pertinent laws and regulations of the Member State;

- be open to integrating new medical and health-care skills into the historical, traditional and alternative therapeutic practices of the region;

- integrate traditional, complementary and alternative systems of medicine into the health system appropriately, for the benefit of the population of the region;

- bring the benefits of safe and effective health care closer to the population of less developed communities in an integrated manner;

- include necessary aspects of training to facilitate monitoring, data collection, analysis and impact assessment;

- include necessary aspects of training to facilitate research and evidence-based practice of Ayurveda.

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WHA54.11. WHO medicines strategy. In: Fifty-fourth World Health Assembly, Geneva, 21 May 2001 (https://apps.who.int/iris/handle/10665/78786).

A vision for primary health care in the 21st century: towards universal health coverage and the Sustainable Development Goals. Geneva: World Health Organization; 2018 (https://apps.who.int/iris/handle/10665/328065).

Traditional medicine strategy: 2014–2023. Geneva: World Health Organization; 2013 (https://apps.who.int/iris/handle/10665/92455).

Patient safety curriculum guide: multi-professional edition. Geneva: World Health Organization; 2011 (https://apps.who.int/iris/handle/10665/44641).

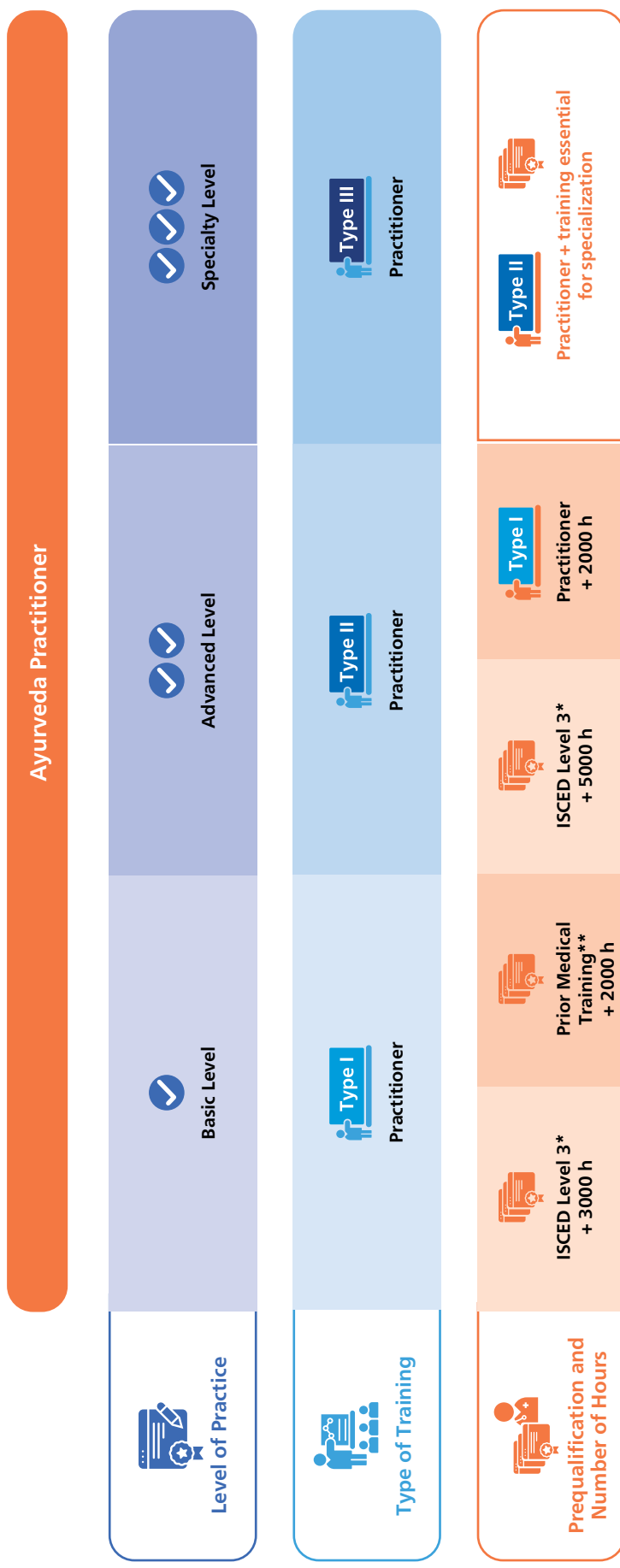Benchmarks for training in traditional/complementary and alternative medicine: benchmarks for training in Ayurveda. Geneva: World Health Organization; 2010 (https://apps.who.int/iris/handle/10665/44352).

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Handbook for good clinical research practice (GCP) : guidance for implementation. Geneva: World Health Organization; 2005 (https://apps.who.int/iris/handle/10665/43392).

Guidelines on developing consumer information on proper use of traditional, complementary and alternative medicines. Geneva: World Health Organization; 2004 (https://apps.who.int/iris/handle/10665/42957).

WHO guidelines on safety monitoring of herbal medicines in pharmacovigilance systems. Geneva: World Health Organization; 2004 (https://apps.who.int/iris/bitstream/handle/10665/43034/9241592214_eng.pdf).

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Legal status of traditional medicine and complementary/alternative medicine: a worldwide review. Geneva: World Health Organization; 2001 (https://apps.who.int/iris/handle/10665/42452).

General guidelines for methodologies on research and evaluation of traditional medicine. Geneva: World Health Organization; 2000 (https://apps.who.int/iris/handle/10665/66783).

WHO medicines strategy 2000–2003. Geneva: World Health Organization; 2000 (https://apps.who.int/iris/handle/10665/66694).

Guidelines for the appropriate use of herbal medicines. Geneva: World Health Organization; 1998. (https://apps.who.int/iris/handle/10665/207021).

Regulatory situation of herbal medicines: a worldwide review. Geneva: World Health Organization; 1998 (https://apps.who.int/iris/handle/10665/63801).

The use of traditional medicine in primary health care. Geneva: World Health Organization; 1990.

Traditional medicine and health care coverage: a reader for health administrators and practitioners. Geneva: World Health Organization; 1983.

Patient safety assessment manual, 2nd edition. Cairo: World Health Organization Regional Office of the Eastern Mediterranean; 2016 (https://apps.who.int/iris/handle/10665/249569).

Traditional herbal remedies for primary health care. Delhi: World Health Organization Regional Office for South-East Asia; 2010 (https://apps.who.int/iris/handle/10665/206024).

Annex 1. Types of Ayurveda practitioner training programmes

This shows the types of practitioner training programmes, their subcategories, the suggested number of hours required to complete the training in each category, and the levels of practice that can be undertaken after completing the training.

Ayurveda Practitioner

Level of Practice	Basic Level	Advanced Level	Specialty Level
Type of Training	**Type I** Practitioner	**Type II** Practitioner	**Type III** Practitioner
Prequalification and Number of Hours	ISCED Level 3* + 3000 h	**Type I** Prior Medical Training** + 2000 h / ISCED Level 3* + 5000 h	**Type II** Practitioner + 2000 h / Practitioner + training essential for specialization

* ISCED – International Standard Classification of Education as defined by UNESCO; Level 3 is also termed "Upper Secondary Education".

** Medical graduate who has completed, and is certified under, a valid University level medical training program which requires formal training of not less than 3000 hours. This includes practitioners of Allopathic Medicine (also called Conventional Medicine or Biomedicine), Unani medicine, Siddha medicine, Homeopathy, Anthroposophic medicine, Tibetan Medicine, Sowa Rigpa, Traditional Chinese Medicine, Kampo medicine, Chiropractic and Osteopathy, Heil praktiker and Naturheilkunde, and Herbal medicine. The acceptance of this suggestion for Category II training and validity of the corresponding qualification within their respective jurisdiction, is fully dependent on the policies, regulatory frameworks, priorities, and rules for medical training, regulation, and practice in a Member State.

Annex 2. Types of associate Ayurveda service provider training programmes

This details the types of associate Ayurveda service provider training programmes, the suggested number of hours required to complete the training in each category, and the levels of practice that can be undertaken after completing the training.

Level of Practice	Basic Level	Advanced Level	Specialty Level	Basic Level	Advanced Level
Type of Training	Type I — Ayurveda therapist, nurse or community health worker	Type II — Ayurveda therapist, nurse or community health worker	Type III — Ayurveda nurse	Type I — Ayurveda pharmacist	Type II — Ayurveda pharmacist
Hours of training	ISCED level 3* + 1000 hours	Type I — Ayurveda therapist, nurse or community health worker + 1000 hours	Type II — Ayurveda therapist, nurse or community health worker + 500 hours	ISCED level 3* + 1000 hours	Type I — Ayurveda pharmacist + 1000 hours

* ISCED, International Standard Classification of Education, as defined by UNESCO; level 3 is also termed "upper secondary education."

Annex 3. Suggested duration of Ayurveda training programmes

A3.1 Ayurveda practitioner training programmes

A3.1.1 Type I (basic-level) practitioner training programme

Type I (basic-level) practitioner category I training programme:

- total duration of training: 3000 hours;
- time for didactic training: 1500 hours;
- time for practical training: 1000 hours;
- time for internship: 500 hours.

Type I (basic-level) practitioner category II training programme:

- total duration of training: 2000 hours;
- time for didactic training: 1000 hours;
- time for practical training: 500 hours;
- time for internship: 500 hours.

A3.1.2 Type II (advanced-level) practitioner training programme

Type II (advanced-level) practitioner category I training programme:

- total duration of training: 5000 hours;
- time for didactic training: 2500 hours;
- time for practical training: 1500 hours;
- time for internship: 1000 hours.

Type II (advanced-level) practitioner category II training programme:

- total duration of training: 2000 hours;
- time for didactic training: 1000 hours;
- time for practical training: 500 hours;
- time for internship: 500 hours.

The duration of type II (advanced-level) category I training is fixed at 5000 hours, and that of type II (advanced-level) category II training at 2000 hours. In several Member States where Ayurveda is part of the history and tradition, the prevalent minimum training programme that permits regulated practice of Ayurveda has the same or more duration as the type II (advanced-level) category I training programme (5000 hours).

A3.1.3 Type III (specialty-level) practitioner training programme

These training programmes may address a specific skill set or a logical combination of several of them, and accordingly they vary in duration and content. There is considerable freedom for the academic authority to decide on the duration of the type III (specialty-level) practitioner training programme, based on the syllabus and curriculum. Where appropriate and practical, a type II (advanced-level) practitioner may have the provision to take this training in-career and advance to become a specialist in a specific clinical area.

A3.2 Associate Ayurveda service provider training programmes

A3.2.1 Ayurveda therapists, nurses and community health workers

Type I (basic-level) Ayurveda therapist, nurse or community health worker training programme:

- duration of training: 1000 hours;
    - time for didactic training: 400 hours;
    - time for practical training: 300 hours;
    - time for internship: 300 hours.

Type II (advanced-level) Ayurveda therapist, nurse or community health worker training programme:

- duration of training: 1000 hours;
    - time for didactic training: 300 hours;
    - time for practical training: 400 hours;
    - time for internship: 300 hours.

Type III (specialty-level) Ayurveda nurse training programme:

- duration of training: 500 hours;
    - time for didactic training: 100 hours;
    - time for practical training: 200 hours;
    - time for internship: 200 hours.

A3.2.2 Ayurveda pharmacists

Type I (basic-level) Ayurveda pharmacist training programme:

- duration of training: 1000 hours;
    - time for didactic training: 400 hours;
    - time for practical training: 300 hours;
    - time for internship: 300 hours.

Type II (advanced-level) Ayurveda pharmacist training programme:

- duration of training: 500 hours;
    - time for didactic training: 200 hours;
    - time for practical training: 200 hours;
    - time for internship: 100 hours.

Annex 4. Essential resources on Ayurveda

A4.1 Basic texts

The Ayurveda contents of the training programmes described in this document may be sourced from any one of the following basic Ayurveda texts. It is suggested that the trainee does a comparative study of the other texts in each of the subjects covered:

Caraka saṃhitā. Delhi: Central Council for Research in Ayurveda and Siddha (https://niimh.nic.in/ ebooks/ecaraka/index.php).

Suśruta saṃhitā. Delhi: Central Council for Research in Ayurveda and Siddha (https://niimh.nic.in/ ebooks/esushruta/index.php).

Aṣṭāṅga saṃgraha. Bangalore: Indian Institute of Ayurveda and Integrative Medicine (http:// ayurvidya.net/shastra/sangraha/?mod=read).

Kunte AM, Navare KS, Shastri H. Vagbhata's Aṣṭāṅga hṛdayam, with Arunadatta's Sarvangasundara interpretation and Hemadri's Ayurveda rasāyana commentary. Mumbai: Panduranga Javaji; 1938.

A4.2 Additional texts

Śāraṅgadharasaṃhitā: translated by KR Srikantha Murthy. Varanasi: Chaukhambha Orientalia; 2016.

Mādhava-nidāna. Delhi: Central Council for Research in Ayurveda and Siddha (https://niimh.nic.in/ ebooks/madhavanidana/?mod=home&con=fore).

Vidyasagara PJ. Chakrapanidatta's Chakradatta, second edition. Kolkata: Saraswathi Press; 1888.

Baghavathpadacharya G. Bhaiṣajyaratnāvali: Vidyotini Hindi commentary by Kaviraj Ambikadatta Shastri – XIII edition. Varanasi: Chowkhamba Sanskrit Series Office; 1997.

A4.3 Ayurveda medicines

Vidyanath R. Sahasrayogam: text with English translation – Vol. 18. Varanasi: Chowkhamba Sanskrit Series Office; 2006.

Ayurvedic formulary of India. Ghaziabad: Pharmacopoeia Commission for Indian Medicine and Homoeopathy; 2000 (https://pcimh.gov.in/show_content.php?lang=1&level=1&ls_id=56&lid=54).

Ayurvedic pharmacopoeia of India. Ghaziabad: Pharmacopoeia Commission for Indian Medicine and Homoeopathy; 1986 (https://pcimh.gov.in/show_content. php?lang=1&level=1&ls_id=56&lid=54).

Annex 5. Surgical interventions (*śastra karma*) that need specific type III specialty training

Specific and appropriate training in administering the eight Ayurveda surgical methods (*śastra karma*) – incision (*bhedana*), excision (*chedana*), scraping (*lekhana*), puncturing (*vedhana*), probing (*eṣaṇa*), extracting (*āharaṇa*), evacuating (*utpāṭana*) and suturing (*sīvana*) – must be imparted during type III (specialty-level) practitioner training:

- bloodletting by venesection (*sirāvedha*);
- sling surgery for ptosis (*vātahata-vartma śastra karma*);
- ectropion and entropion correction surgery (*vartma-vikṛti śastra karma*);
- cataract surgery (*kaphajaliṅganāśa śastrakarma*);
- tonsillectomy (*gilāyu-nirharaṇa śastrakarma*);
- tooth extraction (*dantanirharaṇa*);
- removal of metallic and non-metallic foreign bodies from non-vital organs (*pranaṣṭaśalyanirharaṇa*);
- diagnostic and surgical (*śalya tantra*) interventions to remove urinary calculi (*aśmarī-nirharaṇa*);
- incision and drainage (*bhedana*) of glaucoma (*adhimanthaḥ*) – trabeculectomy;
- incision and drainage of peritonsillar abscess (*āśukārigilāyu vṛddhi*) and acute suppurative otitis media (*āśukārī madhya-karṇaśotha*);
- incision and drainage (*bhedana*) of abscess, such as perianal abscess (*gudavidradhi*) and breast abscess (*stanavidradhi*);
- incision and drainage (*vedhana-visrāvana*) of internal abscess (*ābhyantara vidradhi*); drainage of spermatocele, chylocele, pyocele and haematocele;
- incision and drainage (eversion of sac) (*vedhana-visrāvana*) in hydrocele (*mūtra-vṛddhi*);
- incision (*bhedana*) and drainage/curettage (*lekhana*) of cysts of the eyelids (chalazion);
- debridement/fasciotomy/curettage (*lekhana*/*chedana*) of suppurative ulcers (*duṣṭanijavraṇa*);
- excision (*chedana karma*) of cysts (*granthi*), such as sebaceous cysts, dermoid cysts, mucosal cysts and retention cysts;
- excision (*chedana karma*) of benign tumours (*arbuda*) such as lipomas, fibromas and schwannomas of non-vital organs;
- excision/amputation (*chedana karma*) of gangrene (*sirā-snāyukotha*);
- various methods of haemorrhoidectomy (*chedana of arśa*);
- fistulectomy and fistulotomy (*chedana of nāḍīvraṇa*), such as excision of pilonidal sinus (*bhagandarachedana* using *kṣārasūtra*);
- excision and management (*chedana*) of pterygium (*arma*) and nasal polyps (*nāsārśa*);
- incision and drainage (*bhedana and chedana*) of dacrocystitis (*pūyālasa*);
- appendicectomy (*chedana* and *saṃdhāna* of *uṇḍukapucchaśotha*);

- circumcision and management (*chedana* and *saṃdhāna*) of phimosis (*niruddhaprakāśa*) and paraphimosis (*parivartikā*);

- ligation and repair (*saṃdhān karma*) of tendons and muscles (*sirā-kaṇḍara-snāyu*);

- various rectopexies (*saṃdhān karma* of *gudabhraṃśa*);

- all types of suturing and ligatures (*sīvana karma*), such as haemostatic ligatures, ligation of haemangioma, vascular ligation, ligation of varicocele, varicose veins/stripping surgery and varicocele high ligation;

- diagnostic and surgical (*śalya tantra*) interventions for management of hernia (*vṛddhirogacikitsā* and *saṃdhān karma*);

- laparotomy and paracentesis (*udararoganidānacikitsā / udakodarvisravan*);

- placing and changing intercostal drain (chest drain/pleural drain), laryngeal mask airway, intubation, bag/mask ventilation, and urinary catheterization;

- critical or severe traumatic wound (*sadhyo-vraṇa*) management; complex/comminuted/open fracture management (*bhagna cikitsā*), including close reduction (*āñcana*), immobilization (*pīḍana*), splint/cast of compound fractures (*saṃkṣepa, kuśābandhana*); correction/reduction of dislocation and subluxation (*sandhimokṣa*);

- reconstruction surgery/grafting (*saṃdhāna karma*), including ear lobe repair (lobuloplasty, *karṇapālī saṃdhāna*), nose repair (rhinoplasty, (*abhighātaja nāsāvikṛti saṃdhāna karma*), repair after lip trauma (*oṣṭhāghāta*), hair lip repair (*oṣṭhabheda*), and deviated nasal septum surgery (septoplasty, *nāsā-yavānika-vakratā śastra karma*);

- obstetric and gynaecological surgery, including management of labour/delivery, caesarean section, hysterectomy, tubectomy, pelvic floor repair, dilation and curettage, complicated labour, surgical management of obstetric emergencies (malpresentation, prolonged or obstructed labour/dystocia, contracted pelvis, cephalopelvic disproportion, multiple pregnancy, cord abnormality, antepartum haemorrhage, third-stage complications), management of complicated pregnancies (ectopic pregnancy, gestational trophoblastic disease, medical and surgical illness complicating pregnancy and labour), management of puerperal complications, medical termination of pregnancy, obstetric/gynaecologic surgery, and neonatal care;

- interventions for medical termination of pregnancy;

- interventions for emergency management of severe trauma;

- invasive procedures involving excision and healing using specialized medicated threads (*kṣārasūtra karma*);

- administration of general anaesthesia (*saṃjñā-haraṇa*) and local anaesthesia (*sthānika-saṃjñā haraṇa*).

Annex 6. Specific interventions not included under surgical procedures (*śastra karma*) that need specific type III specialty training

- infusing liquid medicines the into uterus for medical benefits (*uttaravasti*);
- chemical cauterization (external and internal) (*kṣārakarma*);
- regenerative/rejuvenating medical procedures for patients from specific age groups and with diseases requiring long-term treatment and intense care (*kuṭīpraveśikarasāyana*); treatment using *Semecarpus anacardium* as the main medicine (*bhallātakarasāyana – rasāyana* treatment using *bhallātaka*); treatment using *Hydnocarpus laurifolia* as the main medicine (*tuvarakarasāyana – rasāyana* treatment using *tuvaraka*);
- interventions for radio-diagnosis, proctoscopy and sigmoidoscopy; investigations such as pap smear, colposcopy and endometrial biopsy;
- interventions for prenatal diagnosis and counselling; assessment of pelvic and fetal factors favourable and unfavourable for normal labour;
- critical care interventions;
- occupational therapy interventions;
- speech therapy interventions;
- sports medicine and sports rehabilitation interventions;
- interventions to manage non-traumatic emergency.

Annex 7. Formal licensure and established national standards and guidelines available in Member States that supported the development of this document

Our enquiry on formal licensure and established national standards and guidelines available in Member States that can assure good-quality health-care delivery of Ayurveda and Unani systems of medicine provided the following information, which has supported the development of the content of this document. The information was collected from relevant websites of ministries of the respective Member States, and from direct communication with officials and experts associated with these Member States.

A12.1 Argentina

Argentina has Ayurveda medical training programmes that educate conventional doctors. Since 2000, postgraduate courses in Ayurveda have been held for physicians and other health professionals at various universities in Argentina. Since 2014, the Argentine Medical Association has conducted similar courses. Some insurance companies provide medical malpractice insurance to physicians covering the Ayurvedic medical care provided by these health-care professionals.

A12.2 Australia

The Australian Government officially recognized two training programmes in Ayurveda in 2015 – the Diploma in Ayurvedic Lifestyle Consultation, and the Advanced Diploma in Ayurveda. Each qualification has a clearly defined scope of practice for its graduates. This official recognition of Ayurveda allows qualified and certified Ayurveda doctors to practise in Australia without further qualification.

HLT52615 Diploma of Ayurvedic Lifestyle Consultation. Canberra: Industry Skills Council (https://training.gov.au/training/details/HLT52615).

HLT62615 Advanced Diploma of Ayurveda. Canberra: Industry Skills Council (https://training.gov.au/training/details/HLT62615).

A12.3 Bahrain

The Ministry of Health started to approve alternative medicine licences in 2003, including for Ayurveda and Unani. Since 2012, the licensing authority for regulating practice in Ayurveda and Unani has been the National Health Regulatory Authority.

A12.4 Bangladesh

The Unani and Ayurveda Practitioners Ordinance of 1983 provided for the regulation of qualifications and registration of Ayurvedic and Unani practitioners, formally acknowledging the Ayurvedic and Unani systems of medicine.

The Bangladesh Unani and Ayurvedic Practitioners Ordinance, 1983 (Ordinance No. XXXII of 1983) (http://bdlaws.minlaw.gov.bd/act-645.html).

Bachelor of Unani Medicine and Surgery. Munshiganj: Hamdard University (https://www.hamdarduniversity.edu.bd/department/bums).

General courses. Munshiganj: Hamdard University (https://www.hamdarduniversity.edu.bd/department/bums/program).

Bachelor of Ayurvedic Medicine and Surgery. Munshiganj: Hamdard University (https://www.hamdarduniversity.edu.bd/department/bams).

General courses. Munshiganj: Hamdard University (https://www.hamdarduniversity.edu.bd/department/bams/regular_program).

A12.5 Brazil

Ayurveda has been recognized within the framework of the National Policy of Integrative and Complementary Practices since 2017.

Ordinance 971 of 2006. Approves the National Policy of Integrative and Complementary Practices (PNPIC) in the Unified Health System. Brasilia: Ministry of Health; 2006 (https://bvsms.saude.gov.br/bvs/saudelegis/gm/2006/prt0971_03_05_2006.html).

Ordinance No. 849, 27 March 2017. Includes Art Therapy, Ayurveda, Biodanza, Circular Dance, Meditation, Music Therapy, Naturopathy, Osteopathy, Chiropractic, Reflexotherapy, Reiki, Shantala, Integrative Community Therapy and Yoga to the National Policy for Integrative and Complementary Practices. Brasilia: Ministry of Health; 2017 (https://bvsms.saude.gov.br/bvs/saudelegis/gm/2017/prt0849_28_03_2017.html).

A12.6 Colombia

There is no specific policy or law document for Ayurveda or Unani, but there is a regulatory framework that covers traditional and complementary medicine practice by health-care professionals; the inclusion of services in the health system; the provision of services, phytotherapeutic products; and health food stores. Ayurveda and Unani medicine are classified under complementary medicine in Colombia. Decree 2753 of 1997 (Article 4) limits complementary medicine practice to physicians. Resolution 2927 of 1998 defines and regulates different types of complementary medicine practices. Law 1164 of 2007 dictates provisions on the practice of traditional and complementary medicine, and Resolution 2003 of 2014 regulates all health-care services, including traditional and complementary medicine. It defines the minimum requirements for physical spaces where services are to be provided, equipment and training of professionals, and the standards for health professionals. The regulations on traditional and complementary medicine providers, enforced at the national level, are for acupuncture (2006), Ayurvedic medicine (2006), herbal medicines (2006) and homeopathic medicine (1962, 2006). Traditional and complementary medicine providers practise in private and public clinics. A traditional and complementary medicine licence or certificate issued by a relevant academic institution is required to practise. As a result of participatory work with the expert committees for traditional and complementary medicine, there is a proposal to define the profile and professional competencies of health professionals, to guide the formation and performance in each of the recognized systems.

Article 7 of Law 1164 of 2007. Bogotá: Subcommittee for Ayurveda Medicine, Committee for Alternative Medicine, Alternative and Complementary Therapies, National Council of Human Talent in Health.

A12.7 Cuba

Cuba regulates traditional medicine under the umbrella of the Natural and Traditional Medicine Program. In 2019, Cuba initiated the process of regulating Ayurveda and a pañcakarma department opened at a health centre operating within the national health system.

A12.8 Germany

There is no statutory recognition for Ayurveda or Unani, but there are increasing numbers of practitioners and their associations. Several courses have been conducted by private institutions, often under the aegis of medical associations, providing different levels of Ayurveda training.

A12.9 Hungary

Hungary officially recognized the Ayurveda medical system as a natural medicine through the 40/1997 Government Decree and the 11/1997 NM Order in 1997. According to the Decree, Hungarian medical doctors who have undertaken training of Ayurveda can practise it.

Decree 11/1997. (V.28.) NM of the Minister of Welfare on certain issues of the exercise of naturopathy activity and alternative medicaments (Ayurveda) (http://www.ayurveda.hu/doc/Decree_11-1997.pdf).

Government Decree 40/1997 (III.5.) Korm. on the Practice of Alternative Medicine (http://www.ayurveda.hu/doc/GovernmentDecree_40_1997.pdf?docid=99700040.KOR).

A12.10 India

India recognizes and regulates Ayurveda and Unani medicine as medical systems and has specific laws and frameworks in place to regulate training and practise of the systems. Ayurveda and Unani medicine are part of health system establishments. The services are delivered through government and private establishments. India has the world's largest number of registered Ayurveda and Unani practitioners who have completed the graduate medical training of the respective systems, which are of more than 5000 hours duration.

Apex manual. New Delhi: All India institute of Ayurveda; 2017.

Apex manual: biomedical waste management policy. New Delhi: All India Institute of Ayurveda; 2017.

Apex manual: hospital infection control manual. New Delhi: All India Institute of Ayurveda; 2017.

Apex manual: patients records department operation. New Delhi: All India Institute of Ayurveda; 2017.

Apex manual: patients right and education policy. New Delhi: All India Institute of Ayurveda; 2017.

Apex manual: safety policy. New Delhi: All India Institute of Ayurveda; 2017.

A practical handbook of panchakarma procedures. New Delhi: Central Council for Research in Ayurveda and Siddha; 2010 (https://www.researchgate.net/publication/257358254_A_PRACTICAL_HANDBOOK_OF_PANCHAKARMA_PROCEDURES).

Central Register of Indian Medicine (Amendment) Regulation 2016 (https://www.ccimindia.org/pdf/CCIM%20(Central%20Register%20of%20Indian%20Medicine)%20(Amendment)%20Regulation%202016.pdf).

Central Register of Indian Medicine (General) Regulations, 1976 (https://www.ccimindia.org/pdf/ CCIM%20(General)Regulations%201976.pdf).

Ayurveda and conventional medicine: cross referral approach for selected disease conditions. New Delhi: Central Council for Research in Ayurvedic Sciences; 2021. (http://ccras.nic.in/sites/default/ files/viewpdf/15112021_Cross_Referral_Approach_for_Selected_Disease_Conditions.pdf)

Ayurveda-based diet and life style guidelines for prevention of cardiac disorders. New Delhi: Central Council for Research in Ayurvedic Sciences; 2018 (http://ccras.nic.in/sites/default/files/ ebooks/24052018_CCRAS_Cardiac_disorders.pdf).

Ayurveda-based diet and life style guidelines for prevention and management of skin diseases. New Delhi: Central Council for Research in Ayurvedic Sciences; 2018 (http://ccras.nic.in/sites/default/ files/ebooks/24052018_CCRAS_HQ_Ayurvedabaseddiet&lifeStyleGuidelinesSkinDiseases.pdf).

Ayurveda-based dietary guidelines for mental disorders. New Delhi: Central Council for Research in Ayurvedic Sciences; 2018 (http://ccras.nic.in/sites/default/files/ebooks/Ayurveda-Based_ Dietary_Guidelines_Mental_Disorders.pdf).

General guidelines for clinical evaluation of Ayurvedic interventions. New Delhi: Central Council for Research in Ayurvedic Sciences; 2018 (http://ccras.nic.in/sites/default/files/viewpdf/Publication/ CCRAS_Guideline%20of%20Clinical_Evaluation.pdf).

General guidelines for drug development of Ayurvedic formulations. New Delhi: Central Council for Research in Ayurvedic Sciences; 2018 (https://www.ayush.gov.in/docs/guideline-drug-development.pdf).

General guidelines of safety/toxicity evaluation of Ayurvedic formulations. New Delhi: Central Council for Research in Ayurvedic Sciences; 2018 (https://www.ayush.gov.in/docs/guideline_safety_ toxicity.pdf).

Good clinical practice guidelines for clinical trials in Ayurveda, Siddha and Unani medicine. New Delhi: Department of AYUSH, Ministry of Health and Family Welfare; 2013 (https://health.ncog.gov. in/ayush-covid-dashbaord/assets/Classified/GCP_ASU.pdf).

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Apex manual: patients records department operation. Lucknow: Ram Manohar Lohiya Hospital; 2008.

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A12.11 Italy

Ayurveda was recognized as a medical act in 2002 by the National Federation of Medical and Dental Orders, supervised by the Ministry of Health. This position, expressed by the highest body of the medical profession in the field of ethics, reiterates that doctors, surgeons and dentists, after appropriate certified training, are the only people qualified to practise clinical Ayurveda. In 2018, the first elective course of Introduction to Ayurveda was activated for fifth- and sixth-year medical students of the Faculty of Medicine of the State University of Milan.

In 2019, the Italian National Organization for Standardization issued the normative UNI 11756:2019 for the profession of technician (therapist) in Ayurveda, which has become an officially acknowledged and protected profession by the Italian Government under Law 4/2013. The recognition is subject to verification of the education, examination and certification by the Federazione delle Associazioni per la Certificazione, a body recognized by Accredia, the sole national accreditation body appointed by the Italian Government under the vigilance of the Ministry of Economic Development. The qualifying education programmes in Ayurveda for medical doctors and technicians (therapists) are private and preferably certified by third parties such as ISO 9001 certification for teaching quality.

Figura professionale: tecnico in Ayurveda. Cuneo: FAC Certifica (https://faccertifica.it/wp-content/uploads/2021/08/sk39.pdf).

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A12.12 Malaysia

Malaysia recognizes and regulates Ayurveda and Unani medicine as medical systems and has laws and frameworks in place to regulate them. In Malaysia, the Programme Standards: Traditional and Complementary Medicine, composed of the recognized standard Ayurveda Curriculum Design and Delivery, was established in 2009 and revised in 2021. In 2016, legislation for traditional and complementary medicine was established to regulate traditional and complementary medicine practitioners and services.

Traditional and complementary medicine regulations 2021. Federal Government Gazette, 23 February (https://tcm.moh.gov.my/ms/upload/smptk/akta/Peraturan-PeraturanPTK2021.pdf).

Programme standards: traditional and complementary medicine, 2nd edition. Cyberjaya: Malaysian Qualifications Agency; 2021 (https://tcm.moh.gov.my/ms/upload/smptk/standard/PSTNCM2NDED.pdf).

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Consumer guideline for proper use of traditional and complementary medicine in Malaysia. Putrajaya: Ministry of Health Malaysia; 2019 (https://tcm.moh.gov.my/ms/upload/garispanduan/consumer/BukuPanduan_BI.pdf).

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Practice guideline: herbal therapy as adjunct treatment for cancer, 2nd edition. Putrajaya: Ministry of Health Malaysia; 2018 (https://tcm.moh.gov.my/ms/upload/garispanduan/amalan/2018_HerbalTherapy.pdf).

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Traditional and Complementary Medicine (T&CM) Council. Putrajaya: Ministry of Health Malaysia (https://tcm.moh.gov.my/en/index.php/policy/sct-tcm-2016/tncmcouncil).

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A12.13 Mauritius

The Ayurveda and other Traditional Medicine Act came into effect in 1989. In 1992, Ayurvedic clinics were started in the Government hospitals and clinics in Mauritius. Ayurveda is now integrated within the Mauritian health system.

Ayurvedic and Other Traditional Medicines Act. Act no. 37 of 1989. Port Louis: Attorney General's Office, Mauritius (https://attorneygeneral.govmu.org/Documents/Laws%20of%20Mauritius/A-Z%20Acts/A/AYURVEDICANDOTHERTRADITIONALMEDICINESACTNo37of1989.pdf).

A12.14 Nepal

Nepal recognizes and regulates Ayurveda and Unani medicine as medical systems.

Codes on sales and distribution of drugs, 2071. Kathmandu: Department of Drug Administration, Ministry of Health and Population (https://www.dda.gov.np/content/codes-on-sales-and-distribution-of-drugs-2071).

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Formation rules, 2037(1970). Kathmandu: Drugs Advisory Council and Drugs Advisory Committee (https://www.lawcommission.gov.np/en/wp-content/uploads/2018/09/drugs-advisory-council-and-drugs-advisory-committee-formation-rules-2037-1970.pdf).

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A12.15 Netherlands

Ayurveda and Unani medicine are classified as complementary and alternative medicine. There is no Government regulation for complementary and alternative medicine, and provision of alternative care is legal. Both medically and non-medically qualified professionals are allowed to practise complementary and alternative medicine.

By passing amendments to the Individual Health Care Professions Act on 1 December 1997 (Beroepen in de Individuele Gezondheidszorg), practice of medicine is open to all, with some limitations; some procedures may be carried out only by categories of professional practitioners authorized to do so by law.

According to the Individual Health Care Professions Act, the performance of certain medical procedures is limited to categories of professional practitioners authorized to do so by law. The eight health professions regulated by Section 3 of the Individual Health Care Professions Act are dentist, doctor, health-care psychologist, midwife, nurse, pharmacist, physiotherapist and psychotherapist. The new registration and title protection of these professions started on 1 December 1997. Performance of such a procedure by an unauthorized practitioner is a criminal offence. The procedures specified are artificial insemination (including vasti), cardioversion, catheterizations and endoscopies, defibrillation, electroconvulsive therapy, general anaesthetics, lithotripsy, obstetric procedures, procedures involving the use of radioactive substances and ionising radiation, punctures and injections, and surgical procedures.

A new health insurance system was introduced in 2006. Complementary and alternative medicine treatments are not covered by basic health insurance, but health insurers cover alternative treatment as either additional "free" benefits or covered by complementary voluntary health insurance. Ayurveda treatments and fees for consultation are partially covered by private insurance companies. The prerequisite for such reimbursement is that the Ayurveda practitioner needs to be a registered member of a professional body. If Ayurveda treatment is offered by a Bachelor of Ayurvedic Medicine and Surgery or an Ayurveda practitioner educated on accredited institutes in the Netherlands and in accordance with WHO guidelines for Ayurveda education, most health insurers will reimburse all or part of the treatment or consultation under the supplementary package. Most insurers do not require referral from a doctor for Ayurvedic treatment.

Registering as a healthcare professional. Den Haag: BIG-register (https://business.gov.nl/regulation/registering-as-healthcare-professional/).

A12.16 Oman

Ayurveda practice is regulated by the National Office for Traditional and Complementary Medicine, under the Ministry of Health.

Guidelines for licensing manufacturing plant for human medicines herbal medicines and medical devices. Muscat: Ministry of Health (https://www.moh.gov.om/documents/16539/1767901/Guidelines+for+Licensing+Manufacturing+Plant+for+Human+Medicines+Herbal+Medicines+and+Medical+Devices+-English.pdf/1fdc9c38-a680-4c2c-8971-f3a372dbc1b5).

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A12.17 Pakistan

Pakistan recognizes and regulates Ayurveda and Unani medicine as medical systems and has specific laws and frameworks in place to regulate these systems.

Unani, Ayurvedic and Homeopathic practitioners Act 1965 (https://pakistanlaw.pk/statutes/9307/unani-ayurvedic-and-homeopathic-practitioners-act-1965).

Drug Regulatory Authority of Pakistan Act, 2012 (Act No. XXI or 2012) (https://www.fao.org/faolex/results/details/en/c/LEX-FAOC188913/).

A12.18 Qatar

The Qatar Council for Healthcare Practitioners has approved the practice of Ayurveda since 2016.

A12.19 Serbia

The Ministry of Health of published and adopted the *Rule book on detailed conditions and ways of implementation of complementary medicine* in 2007, which allows doctors of medicine or dentistry, with appropriate training, to use Ayurvedic knowledge within the practice of illness prevention, diagnosis, treatment and rehabilitation. The updated version was adopted in December 2019.

The Rule book on detailed conditions and ways of implementation of complementary medicine: methods and procedures. Belgrade: Ministry of Health of Serbia; 2019 (https://www.paragraf.rs/propisi/pravilnik-o-blizim-uslovima-i-nacinu-obavljanja-metoda-i-postupaka-komplementarne-medicine.html).

Legal status and regulation of CAM in Europe: part I – CAM regulations in the European countries. Munich: CAMbrella; 2010.

Luketina-Šunjka M, Rančić N, Subotić S, Jakovljević M. Komplementarna i alternativna medicina u srbiji: pregled literature. Acta Med Med. 2020;59(3).

A12.20 Singapore

Ayurveda practice runs within a self-regulatory framework supported by an operation manual, practice guidelines and code of ethics. All products, including Ayurvedic medicines, are used in clinical practice with a consent by the Health Sciences Authority issued for each batch of manufactured medicines. Therapy practices are not currently regulated by the Ministry of Health.

Operations handbook. Singapore: Singapore Ayurveda Practitioners' Association (http://www.ayurvedicpractitioners.org/download/APAS-operations-handbook.pdf).

Self-regulation framework. Singapore: Singapore Ayurveda Practitioners' Association (http://www.ayurvedicpractitioners.org/download/APAS-self-regulation-framework.pdf).

Code of ethics and practice standards of Ayurveda practitioners. Singapore: Singapore Ayurveda Practitioners' Association (http://www.ayurvedicpractitioners.org/download/code-of-ethics.pdf).

A12.21 South Africa

South Africa recognizes and regulates Ayurveda and Unani medicine as allied health professions.

Allied Health Professions Act 63 of 1982 (https://ahpcsa.co.za/wp-content/uploads/2019/02/The-AHP-Act_63-of-1982_as-amended.pdf).

Regulations in terms of the Associated Health Service Professions Act, 1982. Pretoria: Allied Health Professions Council of South Africa; 1982 (https://ahpcsa.co.za/wp-content/uploads/2015/10/Regulations-1982_as-amended_2.pdf).

Rules specifying the acts or omissions in respect of which disciplinary action may be taken by the board. Pretoria: Allied Health Professions Council of South Africa; 1983 (https://ahpcsa.co.za/wp-content/uploads/2015/10/Regulations-1983.pdf).

Code of ethics in terms of Section 54(9) of Regulations No. R.127 of 12 February 2001 to the Allied Health Professions Act, Act 63 of 1982, as amended including guidelines for good practice and guidelines for making professional services known. Government Gazette, 18 December 2015 (https://ahpcsa.co.za/wp-content/uploads/2015/10/39531_18-12_NationalGovernment-1.pdf).

Safety guidelines: Ayurveda – Ayurvedic therapies. Pretoria: Allied Health Professions Council of South Africa; 2020 (https://www.gov.za/sites/default/files/gcis_document/202010/43810bn126.pdf).

Safety guidelines: Unani-Tibb – cupping therapy. Pretoria: Allied Health Professions Council of South Africa; 2020 (https://www.gov.za/documents/allied-health-professions-act-safety-guidelines-unani-tibb-cupping-therapy-16-oct-2020).

A7.22 Sri Lanka

Ayurveda and Unani medicine are recognized and regulated as medical systems and has specific laws and frameworks in place to regulate training and practice of these systems. Both Ayurveda and Unani medicine are part of health system establishments. The services are delivered through government and private establishments.

Acts Nos. 31 of 1961 and 5 of 1962. Ayurveda (https://www.lawnet.gov.lk/ayurveda/).

Ayurveda Act No. 31 of 1961 (http://www.commonlii.org/lk/legis/num_act/aa31o1961156/).

Ayurveda (Amendment) Law (No. 7 of 1977) (http://www.commonlii.org/lk/legis/num_act/al7o1977248/).

Ayurveda (http://www.commonlii.org/lk/legis/consol_act/a116153.pdf).

Ayurveda rules (https://www.srilankalaw.lk/Volume-I/ayurveda-act.html).

A12.23 Switzerland

In 2009, further to the federal popular initiative Yes for Complementary Medicine, accepted by more than 67% of Swiss voters, the Swiss constitution was amended to better recognize and support complementary medicine. This opened new avenues for complementary and alternative medicine, including for Ayurveda.

Since 2012, introductory courses on complementary and alternative medicine have been given to undergraduate medical students at Swiss medical faculties. In that at the medical faculty of Lausanne, a course on Ayurveda is included.

In 2015, two federal Ayurvedic diplomas were created under the authority of the State Secretariat for Education, Research and Innovation: Naturopath in Ayurvedic Medicine, and Complementary Therapist in Ayurveda. These diplomas should favour recognition and integration of Ayurveda. Furthermore, more supplementary health insurers will reimburse Ayurvedic care in 2022.

Certification, titre. Solothurn: Organisation du monde du travail de la médecine alternative Suisse (https://www.oda-am.ch/fr/profession/certification-titre/).

Descriptifs des modules M1–M7 de l'examen professionnel supérieur de naturopathe. Solothurn: Organisation du monde du travail de la médecine alternative Suisse; 2014 (https://www.odaam.ch/fileadmin/sites/oda/files/hoehere_fachpruefung/hfp/QSK_NO_Modulbeschreibungen_M1-M7_190506_A_FR.pdf).

Méthodes de la thérapie complémentaire reconnues par l'OrTra TC. Solothurn: Organisation der Arbeitswelt KomplementärTherapie OdA KT (https://www.oda-kt.ch/fr/methodes/).

Professional profile AM (alternative medicine). Solothurn: Organisation du monde du travail de la médecine alternative OrTra MA (https://www.oda-am.ch/fr/profession/profil-professionel/).

Government regulations for the profession of (naturopathic) practitioner in alternative medicine (OdA AM) (extracts): fundamentals AM (alternative medicine). Solothurn: Organisation du monde du travail de la médecine alternative OrTra MA (https://www.oda-am.ch/fr/profession/fondamentauxma).

Extract of the official guidelines for the principles and training content of the modules (M1–M7) required for the federal diploma AM. Solothurn: Organisation du monde du travail de la médecine alternative OrTra MA (https://www.odaam.ch/fileadmin/sites/oda/files/hoehere_fachpruefung/hfp/QSK_NO_Modulbeschreibungen_M1-M7_190506_A_FR.pdf).

A12.24 United Arab Emirates

The Traditional Complementary and Alternative Medicine Unit was established in 2002 under the Ministry of Health, and the Department of Traditional Complementary and Alternative Medicine started licensing Ayurveda and Unani medicine practice.

Unified healthcare professional qualification requirements. Abu Dhabi: Dubai Health Authority; 2017 (https://www.dha.gov.ae/Documents/HRD/Healthcare%20Professionals%20Qualification%20Requirements%20(PQR)%202014-1.pdf).

Introduction to professional qualification requirement (PQR). Abu Dhabi: Department of Health (https://www.doh.gov.ae/en/pqr).

Traditional, complementary and alternative medicine (TCAM). Abu Dhabi: United Arab Emirates Government (https://u.ae/en/information-and-services/health-and-fitness/alternative-medicine).

TCAM (traditional complementary and alternative medicine) examination. Abu Dhabi: Ministry of Health (https://www.homeoweb.com/moh_cam_exam.htm).

Requirements and considerations for TCAM. Abu Dhabi: Department of Health (https://www.doh.gov.ae/en/pqr/tcam).

Traditional, complementary and alternative medicine scope of practice. Health Regulation Department: Dubai Health Authority; 2011 (https://www.dha.gov.ae/Documents/HRD/Healthcare%20professionals/Scope%20Of%20Practice/SCOPE%20OF%20PRACTICE%20FOR%20TCAM%20PRACTITONERS_v_01.pdf).

Registration of a pharmaceutical product derived from natural sources. Abu Dhabi: Ministry of Health and Prevention (https://www.mohap.gov.ae/en/services/registration-of-a-pharmaceutical-product-derived-from-natural-sources).

Assessment of an alternative medicine technician. Abu Dhabi: Ministry of Health and Prevention.

A12.25 United Kingdom of Great Britain and Northern Ireland

There is no statutory recognition for Ayurveda or Unani, but there are increasing numbers of practitioners and their associations. Several courses have been conducted by private institutions, often under the aegis of medical associations, providing different levels of Ayurveda and Unani training.

Code of ethics including code of conduct and disciplinary procedures of British Ayurvedic Medical Council incorporating the British Association of Accredited Ayurvedic Practitioners. Harrow: British Association of Accredited Ayurvedic Practitioners (http://www.britayurpractitioners.com/download/d774c6dc-6856-11e6-a3a0-153011a6e257/).

A12.26 United States of America

Standalone Ayurveda or Unani practice is permissible in the Health Freedom States, where Ayurvedic clinical services are provided by Ayurvedic health counsellors, Ayurvedic practitioners and Ayurveda doctor graduates. Ayurvedic panchakarma services are provided by trained massage therapists or other licensed health-care practitioners if the services are allowed within their licence's scope of

practice. For example, doctors of medicine and licensed acupuncturists and naturopathic doctors are allowed to practise Ayurveda under their licences in some states.

University-based Ayurveda practitioner training programmes started in 2008. These are designed to impart training to all, including people with no previous medical education. There are currently courses for training Ayurvedic health counsellors, Ayurvedic practitioners and Ayurvedic doctors, among others. There are also other types of Ayurveda training, including a programme that trains conventional practitioners as part of their integrative medicine training module, and a programme that trains conventional medicine students in relevant aspects of Ayurveda as part of their university-based undergraduate medical training.

NAMA program hours requirement for programs beginning on or after January 1, 2021. Los Angeles, CA: National Ayurveda Medical Association; 2022 (https://static1.squarespace.com/static/5a2aa80890bade905ec03b63/t/60ffc92ffc4e9c661ef983cf/1627375921127/Educational+Requirements+Updated_+07–26–21.pdf).

Ayurvedic doctor. Los Angeles, CA: National Ayurveda Medical Association; 2020 (https://static1.squarespace.com/static/5a2aa80890bade905ec03b63/t/5f4687a521edba068cf785e4/1598457776508/AD_Educational+Outline+for+Competency+-08–04–20+.pdf).

Ayurvedic health counselor. Los Angeles, CA: National Ayurveda Medical Association; 2020 (https://static1.squarespace.com/static/5a2aa80890bade905ec03b63/t/5f4687072bb98c2aba27dab5/1598457615679/AHC_Competency+Guidelines-05–13–20.pdf).

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Annex 8. WHO expert consultation meeting

The following were participants at the WHO expert consultation meeting for developing the documents *Benchmarks for the practice of Ayurveda*, *Benchmarks for the practice of Unani medicine*, and *Benchmarks for the practice of Panchakarma* and updating the documents *Benchmarks for the training of Ayurveda* and *Benchmarks for the training of Unani medicine* held in Jamnagar, India, 26–29 November 2019:

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