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Health informatics — Introduction to Ayurveda informatics

Informatique de santé — Introduction à l'informatique sur l'Ayurveda

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Foreword

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This document was prepared by Technical Committee ISO/TC 215, *Health informatics*.

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Introduction

Ayurveda, the “science of life”, integrally incorporates the concepts of health and disease and aims not only at treating a patient but also at maintaining wellbeing of a healthy person by achieving homeostasis of the body, mind, and spirit; referred to as the holistic approach (see Annex A).

With an increase in lifestyle-related disorders, there is a worldwide resurgence of interest in Ayurveda and other holistic systems of healthcare, particularly with respect to the prevention and management of chronic and non- communicable diseases. Today, more than 110 WHO member states use herbal medicine and more than 90 WHO member states have reported use of Ayurveda. In most of these countries Ayurveda treatment is covered by insurance too.

The globalization of Ayurveda calls for standardization in terms of terminology; clinical examination; diagnosis; maintenance of health records; interventions in form of herbs, herbal/ herbo-mineral formulations, diet and lifestyle; pharmaceuticals as well as pharmacovigilance specific to Ayurveda.

Application of standardized informatics tools in Ayurveda is poised to bring robustness in clinical decision support systems, electronic health records, telemedicine, processing and storage of data, automation of time consuming, subjective and labour-intensive clinical examination involving multi-layered parameters, personalized medication, identification of herbs, processing of formulations, pharmacovigilance and even drug re-positioning.

This document shares the concept diagram of Ayurvedic diagnosis. Since prevention of disease and maintaining health is an important concept in Ayurveda, this document shares the concept diagram for Ayurvedic analysis of a healthy subject in addition to an unhealthy subject.

The potential uses for this categorial structure are to:

— facilitate the representation of Ayurvedic analysis of a subject using a standard core model in a manner suitable for computer processing;

— support developers of new terminology systems concerning Ayurvedic medicine systems;

— facilitate mapping and integration between Ayurvedic and other Traditional medicinal models;

— facilitate meta-data association, automatic processing of medicinal literature and texts on Ayurvedic medicine systems and integration of the same with Ayurveda based EHR systems.

The potential beneficiaries of this document include:

— developers of Ayurveda and other traditional medicine based diagnosis and analysis systems;

— developers of information systems for patient findings, Ayurvedic medicinal treatment and its efficacy;

— informaticians, analysts, researchers who would require common models of knowledge to facilitate analysis of data available on traditional medicine;

— developers of EHR systems, aiming on interoperability of biomedicine and traditional medicine based systems.

Health informatics — Introduction to Ayurveda informatics

1 Scope

This document seeks to establish a baseline understanding of Ayurvedic medicine system. It introduces various elements and processes inherent and integral to Ayurvedic diagnosis and treatment. It establishes concept models for Ayurvedic analysis of a subject which can potentially form the basis of system models.

The following topics are out of scope of this document:

— concept models and categorial structures for the individual elements of the concept models proposed.

— individual Ayurvedic dosage forms or medicines or therapies.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 General terms

3.1.1
assessment of signs of disease
assessment of an observable indication of a disease, injury, or abnormal physiological state that can be detected during a physical examination, patient history taking, or a diagnostic procedure

3.1.2
assessment of symptoms of disease
assessment of the something out of the ordinary that is experienced by an individual or reported by a patient

3.1.3
Ayurveda
science of life where advantageous and disadvantageous, happy and unhappy states of life along with what is good and bad for life, its measurement and life itself are described

Note 1 to entry: Ayurveda deals with inter-individual variability for personalized and predictive medicine.

Note 2 to entry: Ayurveda emphasizes maintenance and promotion of health and prevention of diseases through various dietary and lifestyle regimens along with treatment of diseases through various therapeutic measures and medications.

3.1.4
Ayurvedic medicinal treatment
ayurvedic pharmacological intervention involving administration of single herbs or compound formulations which can be internal or external

3.1.5
Ayurvedic surgery
ayurvedic intervention involving para-surgical or surgical interventions

3.1.6
Ayurvedic therapy
treatment of diseases or disorders, as by remedial, rehabilitating, or curative process described in Ayurveda

3.1.7
concept
unit of knowledge created by a unique combination of characteristics

[SOURCE: ISO 1087:2019, 3.2.7, modified — Note to entry removed.]

3.1.8
concept model
concept diagram formed by means of a formal language

[SOURCE: ISO 24156-1:2014, 3.2]

3.1.9
Daivavyapashraya chikitsa
divine therapy
non-pharmacological Ayurvedic intervention involving social and religious rituals based on faith

3.1.10
diagnosis
process of identifying a disease, condition, or injury from its signs and symptoms

Note 1 to entry: A health history, physical exam, and tests, such as blood tests, imaging tests, and biopsies can be used to help make a diagnosis.

3.1.11
disease
illness or medical condition, irrespective of origin or source, that presents or could present significant harm to humans

[SOURCE: WHO (2005)]

3.1.12
disease susceptibility
state of being predisposed to, or sensitive to, developing a certain disease

3.1.13
family predisposition
genetic predisposition
increased chance of developing a certain disease based on the genetic makeup

3.1.14
healthcare
care activities, services, management or supplies related to the health of an individual

Note 1 to entry: This includes more than performing procedures for subjects of care. It includes, for example, the management of information about patients, health status and relations within the healthcare delivery framework and can also include the management of clinical knowledge.

[SOURCE: ISO/TR 18307:2001, 3.70, modified — "Activities" and "management" added, note 1 to entry modified.]

3.1.15
healthy subject of healthcare
healthy person who uses, or is a potential user of, a health care service for the purpose of maintenance of health

3.1.16
herbs
crude plant material, such as leaves, flowers, fruit, seeds, stems, wood, bark, roots, rhizomes or other plant parts, which can be entire, fragmented or powdered

3.1.17
intervention
treatment, procedure, or other action taken to prevent or treat disease, or improve health in other ways

3.1.18
logical information model
information model that specifies the structures and relationships between data elements but is independent of any particular technology or implementation environment

[SOURCE: ISO 13972:2022, 3.1.8, modified — Second preferred term removed.]

3.1.19
miscellaneous factors
miscellaneous risk factors
different kinds of factors that have a potential to affect one's health

3.1.20
occupational factors
occupational risk factors
health risk factors associated with one's work or profession

3.1.21
personalized diet
tailored nutritional recommendations that promote and maintain an individual's health and helps to fight against existing diseases

3.1.22
personalized lifestyle
tailored lifestyle recommendations that promote and maintain an individual's health and helps to fight against existing diseases

3.1.23
prakriti
phenotype
body constitution type as per Ayurveda

3.1.24
preventive intervention
activity undertaken with the objective of improving human health by preventing disease, by curing or reducing the severity or duration of an existing disease, or by restoring function lost through disease or injury

3.1.25
Satvavjaya chikitsa
psychotherapy
non-pharmacological Ayurvedic intervention primarily aimed at behaviour correction by virtue of counselling, Yoga and meditation

3.1.26
staging of disease
Shadvidha kriyakaala
classification system that uses diagnostic findings to produce clusters of patients who require similar treatment and have similar expected outcomes

3.1.27
subject of healthcare
person who uses, or is a potential user of, a health care service

[SOURCE: ISO/TS 22220:2011, 3.2]

3.1.28
treatment
attempted remediation of a health problem, usually following a diagnosis

3.1.29
unhealthy subject of healthcare
unhealthy person who uses, or is a potential user of, a health care service for diagnosis, treatment, mitigation or cure of any specific disease, signs and/or symptoms

3.1.30
use case diagram
diagram that shows relations between actors and use cases

3.1.31
vikriti
disturbed homeostasis leading to the condition of suffering from a disease

3.1.32
Yuktivyapashraya chikitsa
rational therapy
ayurvedic pharmacological intervention which can be internal or external

3.2 Characterizing categories

3.2.1
ayurvedic analysis of a healthy subject of healthcare
process of Ayurvedic analysis where the four factors, i.e. *prakriti* (3.1.23), *family predisposition* (3.1.13), *occupational factors* (3.1.20) and *miscellaneous factors* (3.1.19) are taken into consideration

3.2.2
ayurvedic analysis of an unhealthy subject of healthcare
process of Ayurvedic analysis where the five factors, i.e. *vikriti* (3.1.31), *prakriti* (3.1.23), *family predisposition* (3.1.13), *occupational factors* (3.1.20) and *miscellaneous factors* (3.1.19) are taken into consideration.

Note 1 to entry: In case of an unhealthy subject of healthcare, the processes of disease *diagnosis* (3.1.10), *staging of disease* (3.1.26) and *assessment of signs of disease* (3.1.1) and *assessment of symptoms of disease* (3.1.2) are used to elaborate the attributes associated with *vikriti* (3.1.31) or *disease* (3.1.11).

4 Semantic links

4.1 isAppliedTo

Relationship between the process and subject of healthcare (see 3.1.27).

It is the representation of the semantic link between the <subject of healthcare> (see 3.1.27) and the process of <Ayurvedic analysis> (see 3.2.1, 3.2.2) resulting into personalized diagnosis and <treatment> (see 3.1.28).

EXAMPLE <Ayurvedic analysis> isAppliedTo <subject of healthcare>.

4.2 hasCharacteristicOf

Characteristics/ data associated with a subject of healthcare (see 3.1.27).

It is the representation of the semantic link between the <subject of healthcare> (see 3.1.27) and the primary findings/ characteristics of the subject.

EXAMPLE <subject of healthcare> hasCharacteristicOf <prakriti>.

4.3 isA

Property of the main element is being inherited by the child.

It is the representation of the semantic link between two elements where the child element inherits all the properties of a parent element.

EXAMPLE <personalized diet> isA <treatment>.

4.4 includes

Products or processes being implemented as an integral part of the analysis of a subject of healthcare (see 3.1.27) in Ayurveda (see 3.1.3).

It is the representation of the semantic link between processes or products with another process or product where one is essential for successful completion of the other.

EXAMPLE <Ayurvedic analysis of unhealthy subject> includes <disease diagnosis>.

4.5 utilizes

Facts or information essential to the analysis of a subject of healthcare (see 3.1.27) in Ayurveda (see 3.1.3).

It is the representation of the semantic link between facts or information with a process where the fact or information is for successful completion of the other.

EXAMPLE <Ayurvedic analysis of unhealthy subject> utilizes <vikriti>.

4.6 resultsIn

Conclusion of the process of analysis of a subject of healthcare (see 3.1.27) in Ayurveda (see 3.1.3).

It is the representation of the semantic link between <treatment> (see 3.1.31) prescribed or conclusion of the process of analysis of <subject of healthcare> (see 3.1.27) in <Ayurveda> (see 3.1.3).

EXAMPLE <Ayurvedic analysis of unhealthy subject> resultsIn < satvavajaya chikitsa>.

5 Concept models

5.1 Subject of healthcare

The concept model for subject of healthcare (see 3.1.27) bifurcates the subject into two categories based on the attribute and characteristics. The formal concept model outlines the inheritance and semantic links (see Clause 4) in Figure 1.

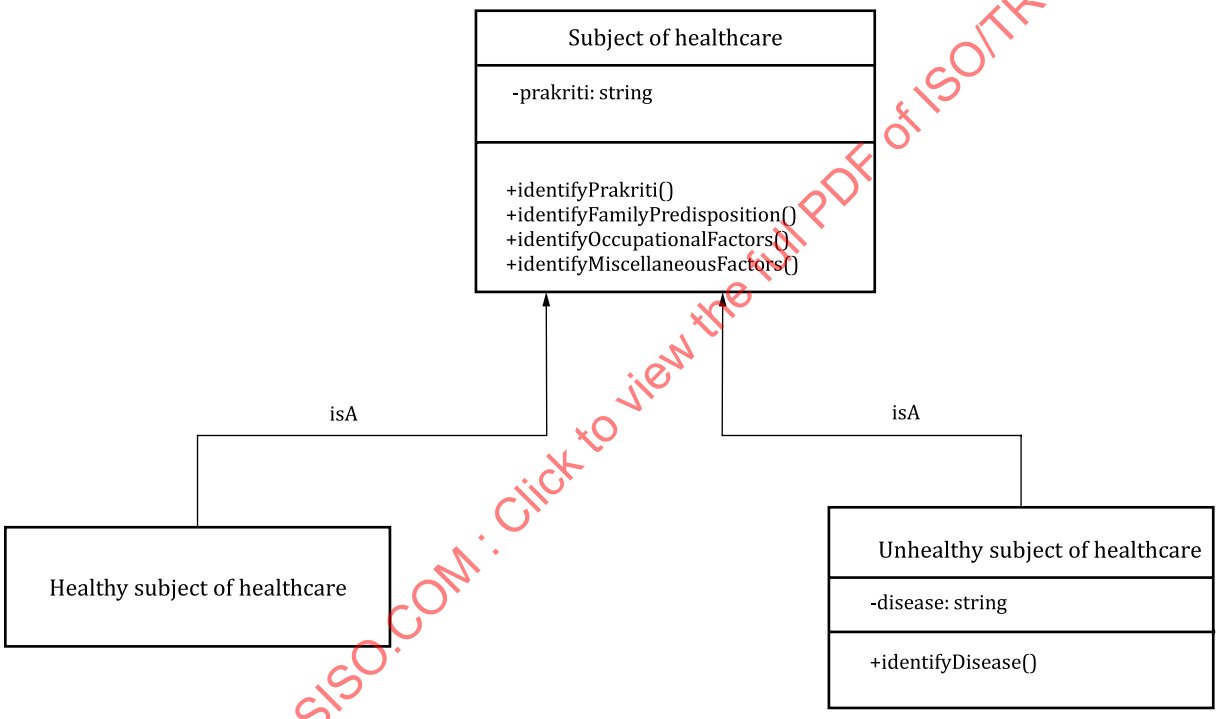

Figure 1 — Concept model for representation of subjects of healthcare in Ayurveda

5.2 Ayurvedic analysis of a healthy subject of healthcare

The formal concept representation system for Ayurvedic analysis of a healthy subject of healthcare (see 3.2.1) and semantic links (see Clause 4) is illustrated through the concept model in Figure 2. It would also act as a logical information model (see 3.1.18) for an Ayurveda (see 3.1.3) based analysis application.

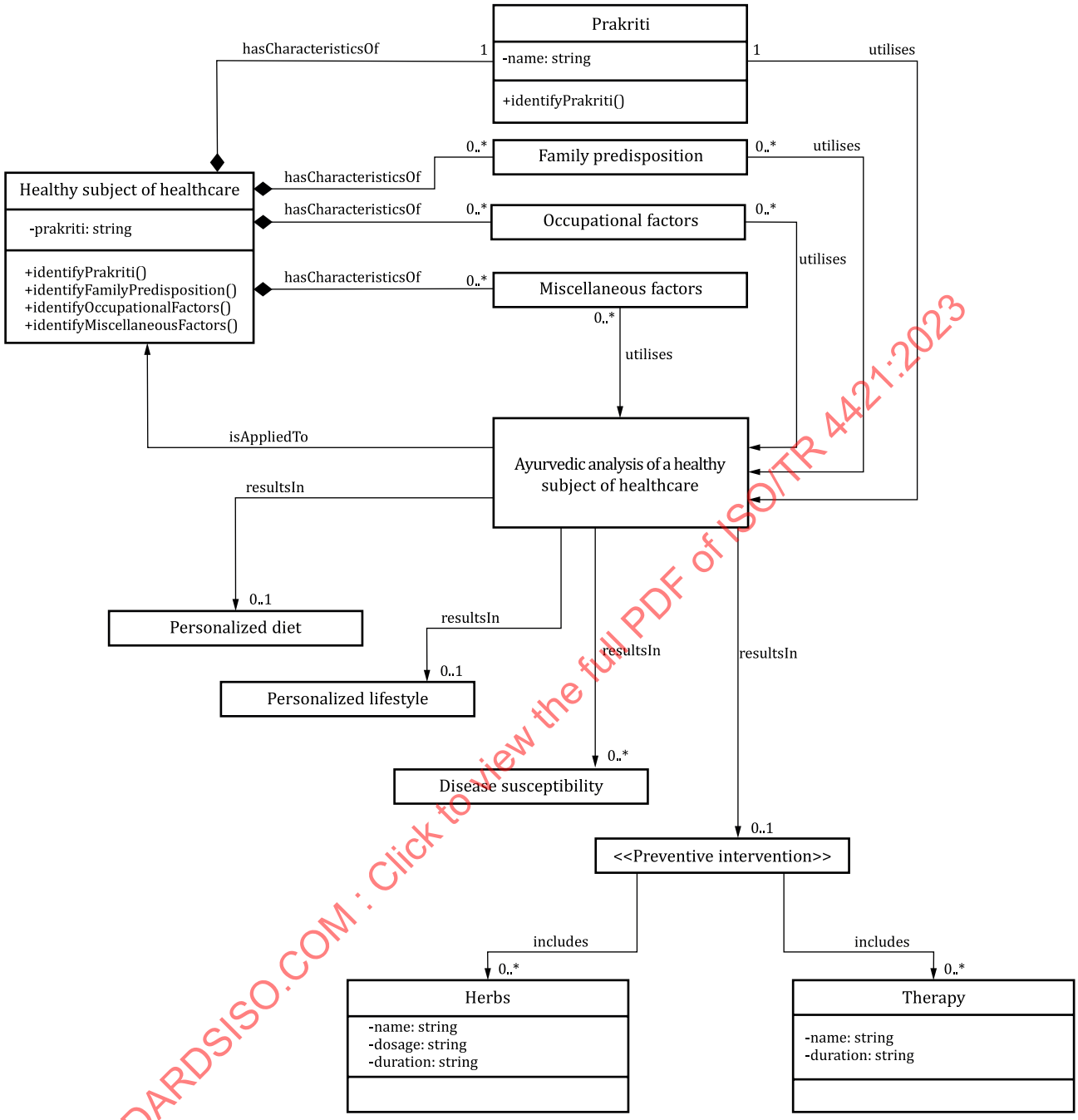

Figure 2 — Concept model for representation of the process of Ayurvedic analysis of a healthy subject of healthcare

Use case representation based on the concept model in Figure 2 is illustrated through Figure 3.

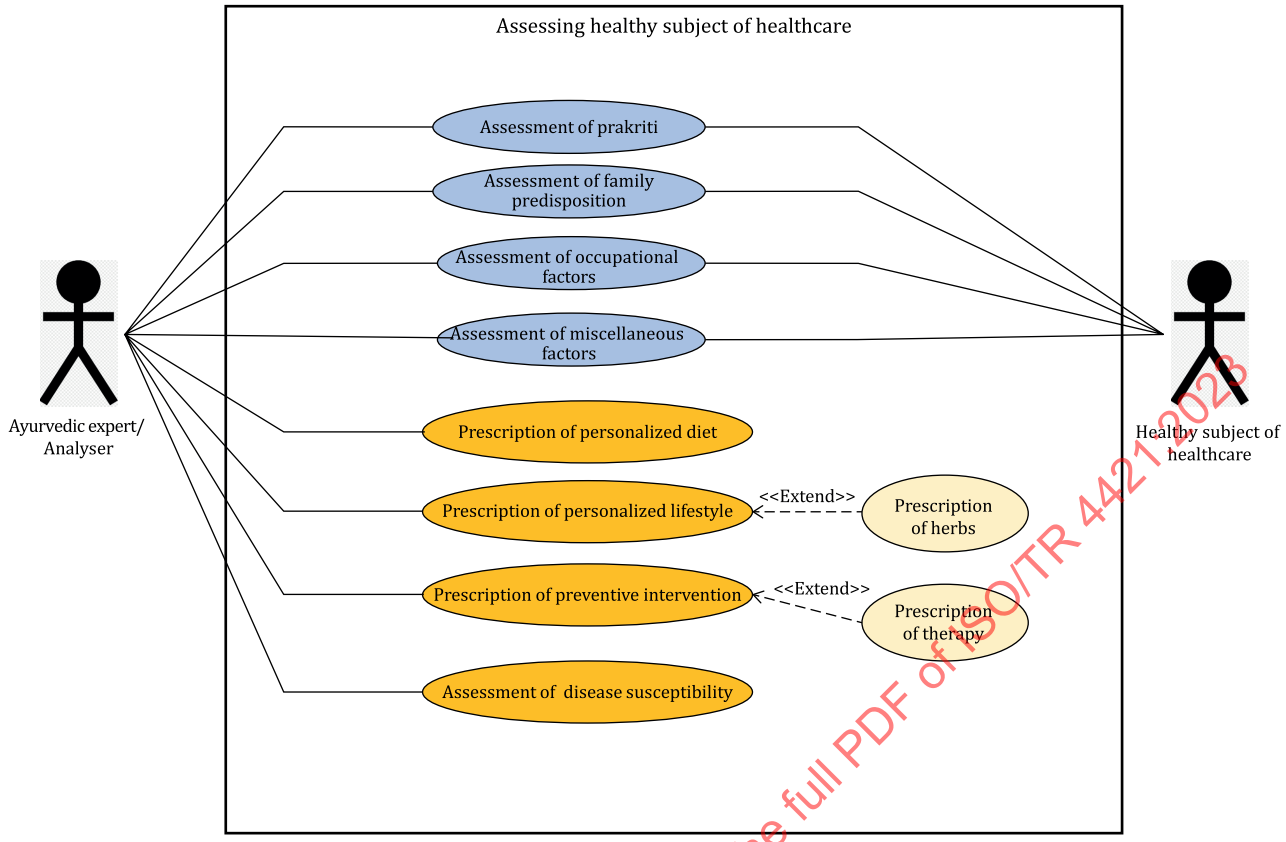

Figure 3 — Use case diagram for representation of the process of Ayurvedic analysis of a healthy subject of healthcare

5.3 Ayurvedic analysis of an unhealthy subject of healthcare

The formal concept representation system for the Ayurvedic analysis of an unhealthy subject of healthcare (see 3.2.2) and semantic links (see Clause 4) is illustrated through the concept model in Figure 4.

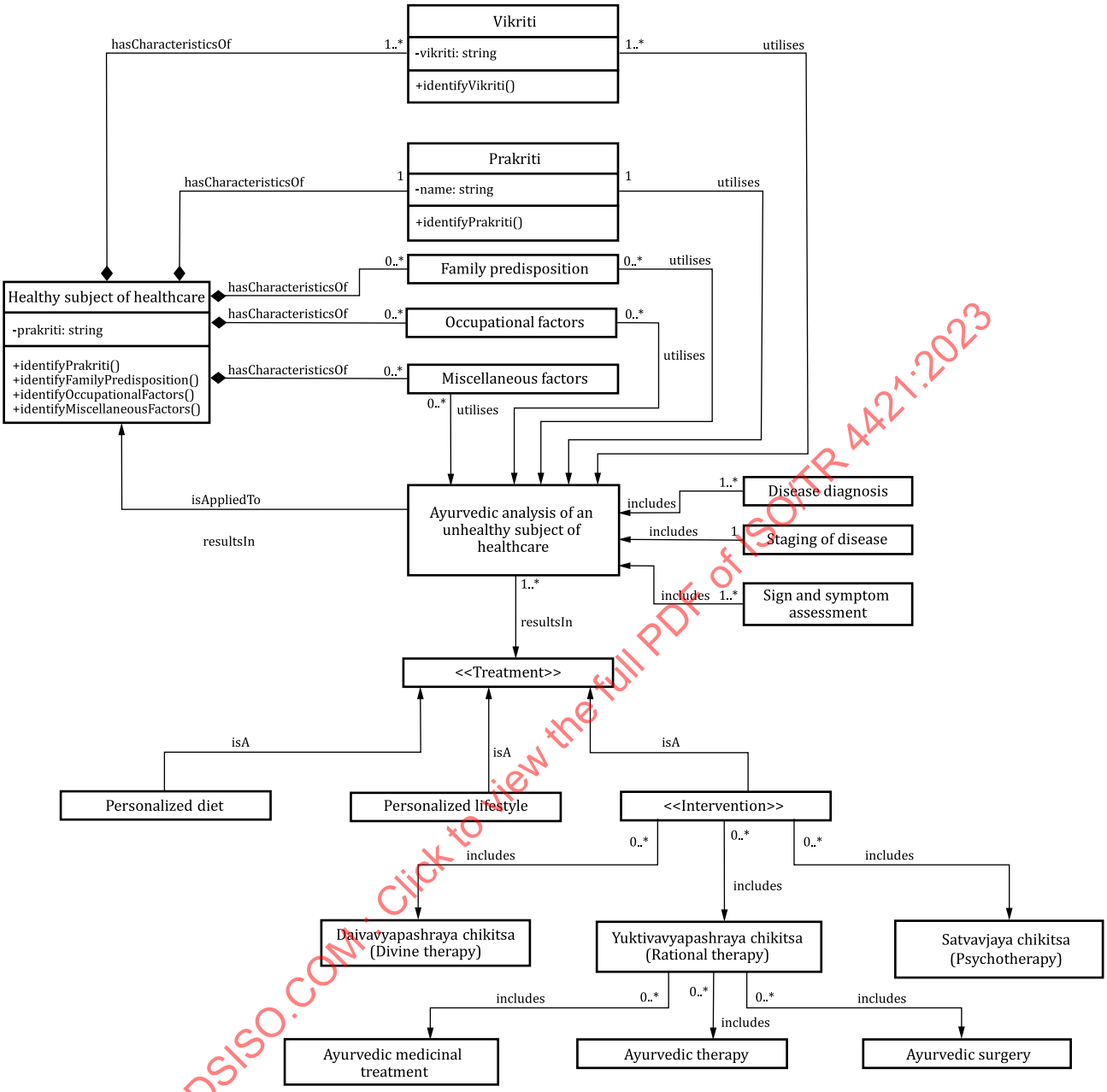

Figure 4 — Concept model for representation of the process of Ayurvedic analysis of an unhealthy subject of healthcare

Use case representation based on the concept model in Figure 4 is illustrated through Figure 5.

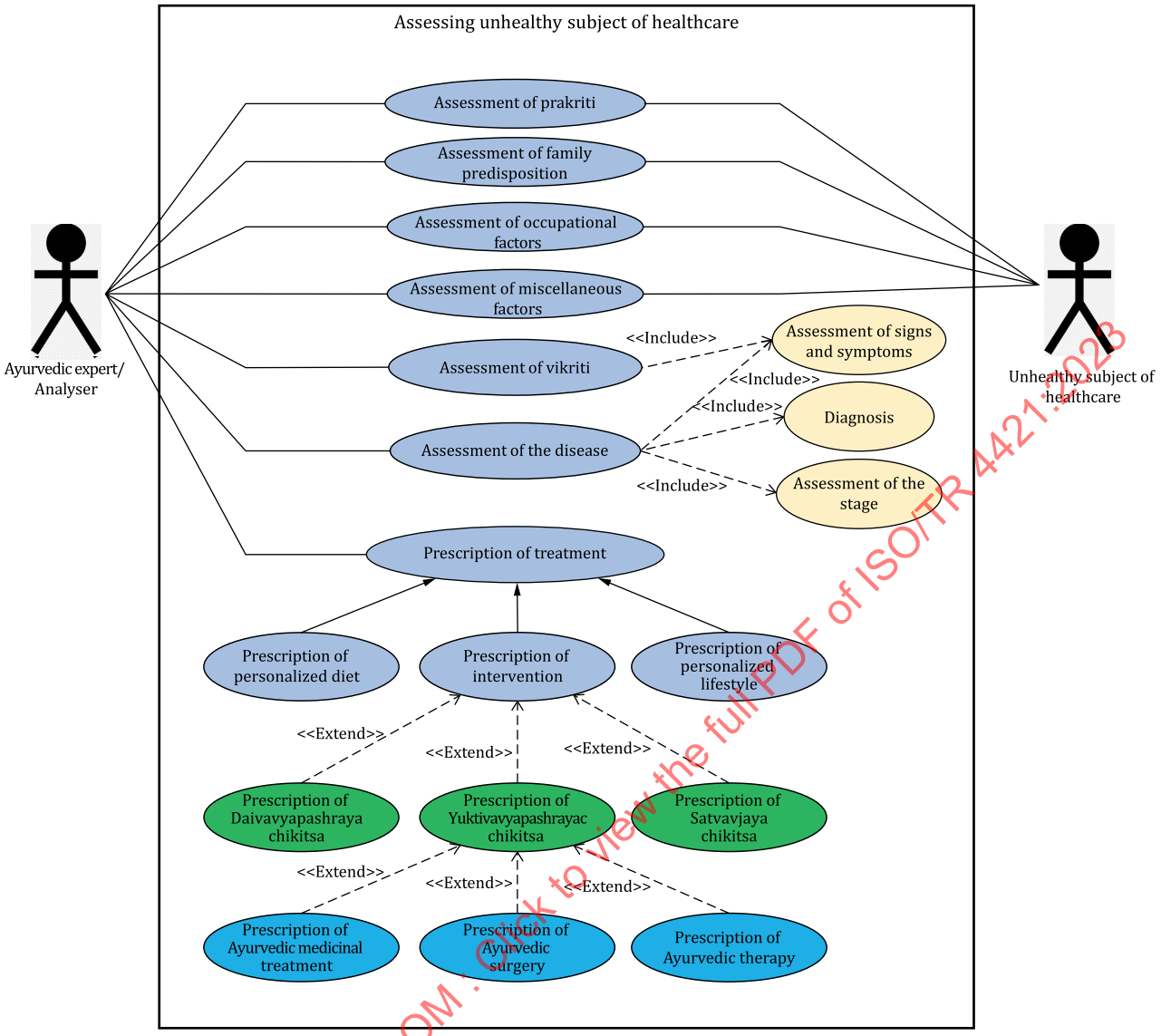

Figure 5 — Use case diagram for representation of the process of Ayurvedic analysis of an unhealthy subject of healthcare

6 Road map for standardization in Ayurveda informatics

The use case scenarios of processes of Ayurvedic analysis of a healthy subject of healthcare and an unhealthy subject of healthcare decipher the broad contours of the important attributes which define the roadmap for standardization in the domain of Ayurveda informatics.

Annex A
(informative)

Fundamental principles of Ayurveda

A.1 Concept of trisutra

Ayurveda describes the approach to network medicine by virtue of trisutra (see Figure A.1), meaning the three interconnected aspects including causes (hetu), features (linga or lakshana) and therapeutics (aushadha) both for healthy and diseased people (see Figure A.2).

Causes of diseases (hetu), are ascribed to lifestyle, dietary regimen, and thought processes that affect the behavior of various metabolic pathways. These are described with signs and symptoms (linga or lakshana), and the correction of the disturbed metabolic pathways is done through both natural and therapeutic interventions (aushadha).

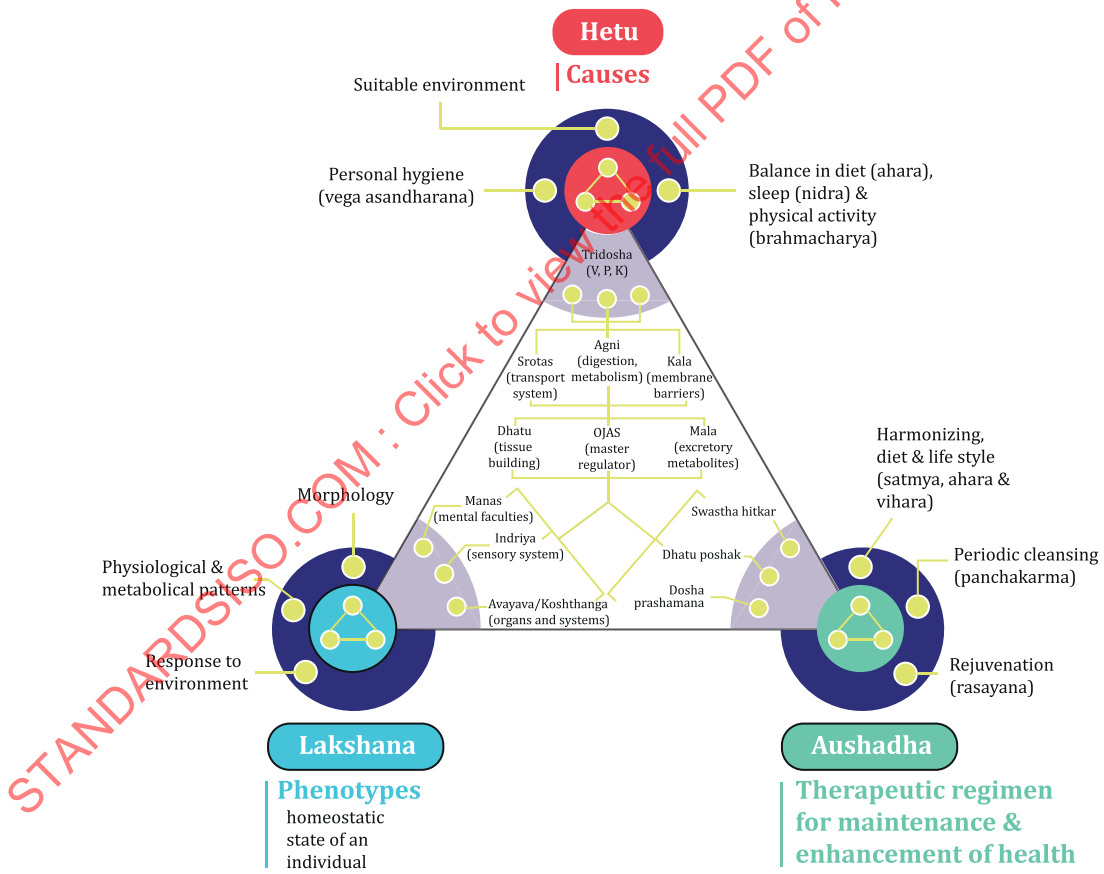

Figure A.1 — Trisutra Ayurveda

The disturbance, restoration, or suitability in a human system is assessed, modulated, or predicted, respectively, through the management of tridosha by appropriate drug, dietary, and lifestyle recommendations in a personalized manner. This includes detoxification with panchakarma therapeutics both in health and disease states.

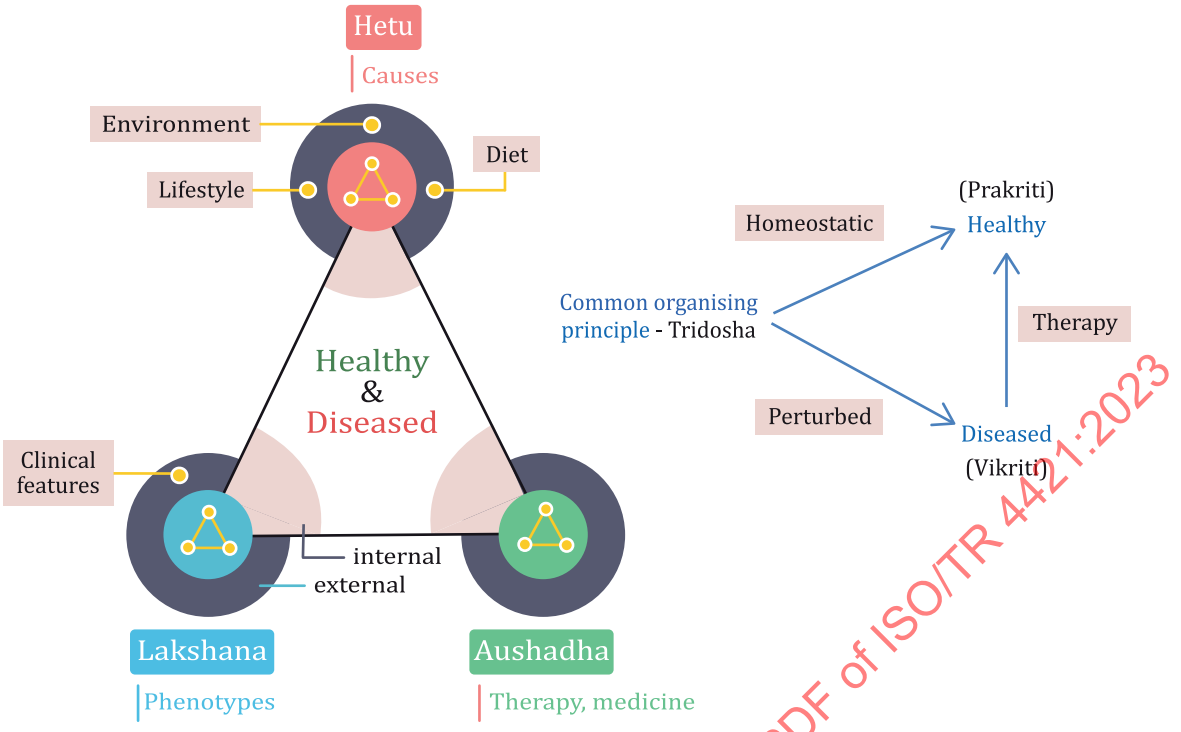

Figure A.2 — Trisutra Ayurveda in reference to healthy and diseased

The nature and state of disease, the strength of the diseased individual compared with his baseline health state, and the geo-climatic environment all are considered for deciding the line of treatment.

A.2 Concept of Guna

Guna refers to a property of a medicine detected by sense organs other than the tongue. They are 20 in number and represent the characteristics of the elements. There are 10 pairs of contrasting characteristics – guru *(*heavy*)*/ laghu *(*light*)*, manda *(*dull*)*/ tikshna *(*sharp*)*, shita *(*cold*)*/ ushna *(*hot*)*, snigdha *(*unctuous*)*/ ruksha *(*non-unctuous*)*, shlakshna *(*smooth*)*/ khara *(*rough*)*, sthira *(*immobile*)*/ sara *(*mobile*)*, mridu *(*soft*)*/ kathina *(*hard*)*, vishada *(*clear*)*/ picchila *(*slimy*)*, sandra *(*solid*)*/ drava *(*fluid*)*, sthula *(*bulky*)*/ sukshma *(*fine*)*.

A.3 Pathology in Ayurveda

According to Ayurveda, there are three main causes of disease, namely asatmyendriyartha samyoga (indiscriminate use of senses and their objects), prajnaparadha (error of intellect resulting in a loss of discrimination between wholesome and unwholesome with subsequent indulgence in unwholesome diets and behaviour) and parinama (seasonal variation, cosmic effects and the effects of time).

Disease examination is done using parameters such as nidana (causative factors of the disease), purvarupa (prodromal symptoms), rupa (clinical features – signs and symptoms), upashaya – anupshaya (aggravating and pacifying dietary and lifestyle factors) and samprapti (pathogenesis of the disease from exposure to manifestation). These are collectively referred to as pancha lakshana nidana (the five components of the pathology of a disease).

Patient examination is done using modalities such as trividha pareeksha (threefold examination of a patient) comprising of darshana (examination by inspection), sparshana (examination by touch) and prashna (examination by interrogation); shadvidha pareeksha (sixfold examination of a patient) comprising of examination by inspection, through smell, auscultation, through taste, through touch and by asking questions; ashtavidha pareeksha (eightfold examination of a patient) including examination of nadi (pulse), mala (stool), mootra (urine), jihwa (tongue), shabda (sounds), sparsha (touch), drik

(eyes) and aakriti (built/ gait/ decubitus); dashavidha pareeksha (tenfold examination) comprising of assessment of prakriti (body constitution), vikriti (morbidity status), saara (essence of body tissues), samhanana (compactness of the body), pramaana (anthropometry), saatmya (suitability), satva (mental faculties), aahara shakti (appetite), vyaayama shakti (physical stamina) and vaya (age).

The concept of shatkriyakala (six stages of pathogenesis) is vital for understanding of the pathological samprapti (states) of the doshas that result in disease. These are sanchaya (accumulation), prakopa (aggravation), prasara (overflowing), sthanasamshraya (localization), vyakta (manifestation) and bheda (classification or dissolution) of doshas. The concept refers to the recognition of the stage of a disease's progress, which helps to determine appropriate measure to correct the imbalance in doshas. Here 'kriya' means the choice to treatment (medicine, food and daily-routine) used to improve the disturbance in doshas, and 'kala' refers to the stage of progress of a disease.

A.4 Pharmacology in Ayurveda

In Ayurveda, substances of natural origin are used as medicines which act on the principles of samanya (homologous) and vishesha (antagonistic) action. Substances possessing homologous properties and actions increase the relevant elemental properties or constituents of the body while those having antagonistic properties or actions decrease those properties or constituents. In cases of disease or imbalance, the rational use of naturally available substances aims to restore normalcy.

In Ayurvedic pharmacology a given drug action is attributed to certain principles/ doctrines namely rasa, guna, virya, vipaka, and prabhava of the active principles of the drug. These five basics are known as rasa-panchaka. The food or drug act by their innate rasa-panchaka attributes and these only define their pharmacodynamic properties.

The rasa (taste) of a dravya (substance) is felt at the commencement only, i.e. when the substance is exposed to the tongue (nipata). Vipaka is inferred only after perceiving the final effects of digestion and metabolism is produced (karma nishtha) while virya is identified throughout the stay of the substance in the body (adhivasa) and at the beginning through the contact with the tongue. Gunas (physical properties) of substances are modes of virya (energy or potency). Prabhava has been defined as the special property of a substance that produces actions different from and contrary to those ascribed to rasa, guna, virya, and vipaka.

A.5 Therapeutics in Ayurveda

In Ayurveda, the equilibrium in healthy individuals is preserved so that disease is prevented. In diseased people, treatment eliminates the disequilibrium between the doshas, and the body is restored to normality. Thus, equilibrium is the determining factor in all individuals. From this point of view, a wholesome substance is either one that maintains health or one that corrects the abnormal doshas thereby alleviating the disorders. The former is useful for healthy people and the latter for the diseased. In addition, vajikarana (aphrodisiac) and rasayana (rejuvenative/ promotive) measures are also prescribed for maintaining equilibrium and preventing senility and related disorders.

Ayurveda has suggested various type of therapeutic modalities for treatment of a disease. These can be primarily classified into Daivavyapashraya chikitsa (divine therapy), Satvavajaya chikitsa (psychotherapy) and Yuktivyapashraya chikitsa (rational). The internal therapy can be Langhana (comprising of Shodhana, i.e. purifying therapies including Panchakarma, i.e. detoxification therapies for strong people and Samshamana, i.e. palliative therapies for weak people) to address vitiation in Kapha dosha or Brimhana (comprising of nourishing therapies) to address vitiated in Vata and Pitta doshas. External treatments involve Snehana (oleation/ uncting), Swedana (sudation/ diaphoresis) and Nasya (nasal instillation). These interventions are followed by guidance regarding diet and lifestyle attributes depending upon the condition of the patient, stage of the disease and the type as well as duration of the therapy administered.

A.6 Miscellaneous information about Ayurveda

A.6.1 International presence of Ayurveda

There has been a dramatic surge in worldwide popularity of the various disciplines of traditional medicine over the past several decades. Ayurveda is recognized/ regulated in Nepal, Bangladesh, Pakistan, Sri Lanka, UAE, Colombia, Malaysia, Switzerland, South Africa, Cuba, Tanzania, Romania, Hungary, Latvia, Serbia and Slovenia.

As per WHO survey, 107 Member States had a national office for traditional medicine and 75 Member States had a national research institute of traditional medicine. A total of 34 Member States across the six WHO regions included traditional or herbal medicines in their national essential medicines lists.

A.6.2 Network medicine approach in Ayurveda

Ayurveda describes the approach to network medicine by virtue of trisutra, meaning the three interconnected aspects including causes, features and therapeutics both for healthy and diseased people. The concept integrates the understanding of networks in physiology in the context of spatio-temporal dynamics and translates them for the development of predictive as well as personalized preventive and therapeutic medicine.

A.6.3 Personalized medicine approach in Ayurveda

A.6.3.1 General

One objective of personalized medicine is to classify individuals with respect to their risk of disease, which is exactly the basis of ayurvedic practice. According to ayurveda, individuals are classified into seven constitution types collectively referred to as Prakṛti that is determined at the time of birth and remains constant throughout life. Three among the seven types – the Vata (V), Pitta (P) and Kapha (K) are at the extremes of the phenotype spectrum and have contrasting disease susceptibilities. Whereas, the other four prakriti types Vata-Pitta (VP), Pitta-Kapha (PK), Vata-Kapha (VK) and Vata-Pitta-Kapha (VPK) are the non-extreme manifestations of the phenotype spectrum.

Prakriti determines disease susceptibility, drug responsiveness, prognosis as well as the suitability of diet and lifestyle and overall responsiveness to the environment. Such knowledge has formed the basis for the development of predictive preventive, personalized and participatory (P4) medicine.

A.6.3.2 Prakriti evaluation

Prakriti evaluation involves clinical examination including questions about physiological and behavioural traits. The clinical methods of prakriti evaluation are non-empirical and can be captured as well as logically processed through advanced machine learning approaches. Amidst the spectrum of phenotypic heterogeneity even within the genetically homogeneous population, the inter-connectedness of sub-phenotypes of different systems get highlighted in the prakriti groups.

The logical information model of prakriti evaluation based on phenotypic features comprises of (but not limited to) assessment of attributes related to body frame, body build, ma, speech, skin, appetite and health status. This symbolic information model delineates relations between concepts (phenotypic features) and organizes structure of information requirements for the domain of Ayurveda (see Figure A.3).

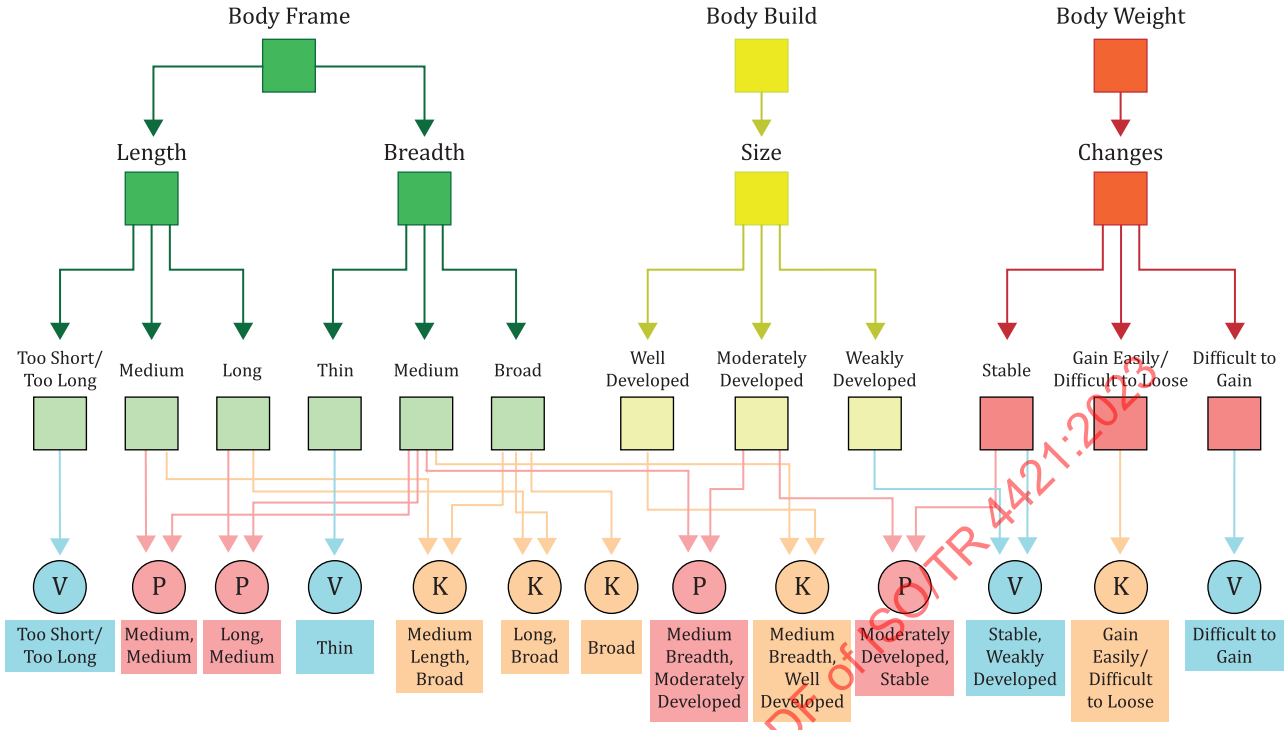

Figure A.3 — A concept diagram of prakriti evaluation based on phenotypic features (body frame, body build and body weight)

A.6.3.3 Concepts

A.6.3.3.1 Body frame

The physical makeup of a human body.

Include but not limited to:

— Length, which can be

  Long (SNOMED CT: Tall stature - 248328003, observable entity)

  Medium

  Too short/ too long

— Breadth, which can be

  Thin (SNOMED CT: Thin build/ Skinny build - 61294007, observable entity)

  Medium

  Broad

A.6.3.3.2 Body build

The physique or compactness of a human body.

Include but not limited to:

— Size, which can be

  Well developed

Moderately developed

Weakly developed

A.6.3.3.3 Body weight (SNOMED CT: Body weight - 27113001, observable entity)

A SNOMED CT standard concept of the common clinical term "body weight" that has the property of mass and is actually a measurement of the body mass

A.6.3.4 Relationship between concepts

Mapping of tridosha – vata (V), pitta (P) and kapha (K) among different concepts comprising of (but not limited to) phenotypic features like body frame, body build, body weight, skin, health status, speech and appetite helps in interpretation of prakriti.

A.6.3.5 Constraints

Prakriti assessment is based on the combinatorial occurrence and assessment of phenotypic features that are captured through a questionnaire and clinical examination.

A.6.3.6 Rules

A.6.3.6.1 Combinatorial occurrence of Pitta (P) and Kapha (K) in case of length and breadth of body frame

— If breadth of body frame is medium, it can be either due to Pitta (P) or Kapha (K), however, if it is also accompanied by long length, it will be interpreted as Pitta (P) whereas, if it is accompanied by well-developed body build, it will be interpreted as Kapha (K).

— If length of body frame is medium, it can be either due to Pitta (P) or Kapha (K), however, if it is also accompanied by medium breadth, it will be interpreted as Pitta (P) whereas, if it is accompanied by broad breadth, it will be interpreted as Kapha (K).

A.6.3.6.2 Combinatorial occurrence of Vata *(V)* and Pitta *(P)* in case of body weight and body build

If body weight is stable, it can be either due to Vata (V) or Pitta (P), however, if it is also accompanied by weakly developed body build, it will be interpreted as Vata (V) whereas, if it is accompanied by moderately developed body build, it will be interpreted as Pitta (P).

A.6.4 Relationship between Pancha mahabhuta (five basic elements) and Tridosha (three bio-energies)

Ayurveda is based on the principle that the entire universe and the human body are one and the changes that occur in the universe with the passage of time impact the human body also. Hence, substances of natural origin are congenial to the human body and help to maintain the balance of its constituents. Both the universe and the human body are made up of Pancha mahabhuta - five basic elements: akasha, vayu, agni, jala and prithvi. A balanced state of these elements in the body brings health, and an imbalance brings disease.

The Ayurveda concepts of physiology, pathology, diagnosis, medicine and therapeutics are based on the doctrine of tridosha: vata, pitta and kapha. A unique combination of tridosha manifests in an individual in the form of prakriti. The doshas are present in every cell and move through every channel of the body.