



QUANTIFICATION OF DISEASE AND PATIENT ACCORDING TO AYURVEDA AND ITS RATIONALIZATION IN THE PRESENT ERA

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ABSTRACT

The whole science of medicine stands on the pillar of disease and patient. Understanding disease is as important as having good acquaintance with patient. Ayurveda the ancient treatise of medical science gives the method for quantification of disease and patient to assist easy diagnosis and proper management. Acharya Agnivesha in Charaka Samhita describes the parameters for the quantification of

diseases, and patients. The parameters used for the quantification of diseases are prognosis, intensity, location, nature of causative factors and site of origin. *Prakriti* is used as the parameter for stratifying and clustering the various types of patients in three major groups namely *Vatika*, *Patikka* and *Kaphaja*. In the contemporary medical system diseases are classified for collection of statistical data to assess morbidity and mortality of disease and to estimate its epidemiological prevalence. An astonishing similarity exists between concept of ancient and contemporary classification of diseases. The paper will explore the existing similarity between the two systems and suggest the benefit of incorporating classification of patients on the basis of their psychosomatic constitution (*Prakriti*) in the contemporary system to enhance the therapeutic utility of the system.

KEYWORDS: Ayurveda, *Prakriti*, Personalized medicine, ICD.

INTRODUCTION

Classification of disease had helped to ferret out an important, frequently causal, relationship. According to Ayurveda, *Tridoshas* (*Vata*, *Pitta* and *Kapha*) are the basic fundamentals of the body. Their equilibrium and disturbance is solely responsible for the healthy and diseased

state. Therefore in Ayurveda diseases as well as patients are classified in three major types namely *Vataja*, *Pittaja* and *Kaphaja*. This classification is further quantified on the basis of various parameters for determining the type and timing of therapeutic to be used. Acharya Agnivesha in Charaka Samhita (an Ayurvedic textbook) describes the classification of various diseases on five parameters and also gives a generalized method for classification of disease on the basis of grief as a universal symptom.^[1] Here it is important to note that he use the term grief instead of pain to identify the disease. The word grief (*dukha*) signifies both mental as well as physical trouble. Thus he gives more emphasis on the fact that both the component of a disease i.e. somatic and psychic should be equally treated for successful management. According to Ayurveda chronic somatic diseases cause's psychological diseases and chronic psychological diseases leads to somatic diseases i.e. both are intermingled and have cause and effect relation.^[2]

Modern scientific research supports this age-old tenet of medical wisdom. It began in the 1920s, when Harvard scientist Walter Cannon, MD, identified the fight-or-flight response through which the body secretes hormones called catecholamine's, such as epinephrine and norepinephrine. When they enter the blood stream, these hormones produce changes in the body—i.e. a quickened heart or increased breathing rate—that put the person in a better physical state to escape or confront danger. In the following decade, Hungarian-born scientist Hans Selye, MD, pioneered the field of stress research by describing how the wear-and-tear of constant stress could affect human beings biologically. Since then, scores of scientific breakthroughs have illuminated the mind-body connection in health.

In the contemporary medicine diseases are classified using International Statistical Classification of Diseases and Related Health Problems. This system classifies the diseases on the basis of interpretation and comparison of mortality and morbidity data collected in different countries or areas and at different times. The ICD has developed as a practical, rather than a purely theoretical classification, in which there are a number of compromises between classification based on etiology, anatomical site, circumstances of onset, etc. There have also been adjustments to meet the variety of statistical applications for which the ICD is designed, such as mortality, morbidity, social security and other types of health statistics and surveys. The ICD is a variable-axis classification. The structure has developed out of that proposed by William Farr in the early days of international discussions on classification structure.^[3]

As William Farr stated in 1856 (9): Classification is a method of generalization. Several classifications may, therefore, be used with advantage; and the physician, the pathologist, or the jurist, each from his own point of view, may legitimately classify the diseases and the causes of death in the way that he thinks best adapted to facilitate his inquiries, and to yield general results. Thus ICD classification of diseases also holds the Acharya Atreya principles and shows close resemblance with the Ayurvedic structure of disease classification. A step ahead to the contemporary classification of diseases Ayurveda advocate to classify the disease on the basis of prognosis before applying the therapeutic measures as the ultimate goal of treatment is the restoration of health. Ayurveda holds the view that some disease is incurable right from their starting and also provide the details of the factors that produce such diseases. Therefore according to Ayurveda it is irrational to apply therapeutic measure for curing such diseases. Even today we see that there are diseases which are incurable from their onset like HIV, Type -1 Diabetes, Asthma, Cancer, etc., whereas some other are palliable like Diabetes, Hypertension, etc. It should be remember that these examples are illustrated to make one understand the factors that are responsible for making a disease incurable as these monster diseases that are threaten the human world today may be wiped out completely in future as happened to many of their allied ones like polio, leprosy etc., so it should not be misinterpreted that Ayurveda advocate that these disease will remain incurable always. Ayurveda postulate the factors that determines the prognosis of disease, factors that are if associated with any disease make it incurable like vitiation of all *doshas* (high virulence of disease), involvement of all *dhatu*s (multiorgan involvement), weak strength (low/compromised immunity) etc., contrary to these make good prognosis of disease.^[4,5]

Determination of Psychosomatic constitution as well as disease susceptibility of an individual in population through genetic trait is known as *Prakriti*. *Prakriti* is a broad term encompasses all the three Genotype, Phenotype as well as Endophenotype. The concept of *Prakriti* in Ayurveda related to the bio-characteristic of an individual in healthy state and its vulnerability for particular diseases. According to Ayurveda, *Prakriti* of an individual once determine at the time of fertilization remains unchanged throughout life though it is well influenced by environment. Role of environment in determination of *Prakriti* during prenatal period is as important as postnatal period. Reviewing the human embryology it can be postulated that the three primitive germinal layers namely ectoderm, mesoderm and endoderm can be correlated with *Vatika*, *Patika* and *Kaphaja* trait. According to Ayurveda at the time of fertilization the *doshika prakriti* is determine by the *doshika* predominance of

Sukra (sperm) and *Sonita* (egg) that represent the fastidious genetic alignment of chromosomes in sperm and egg and decide the genetic trait of ovum. Nearly 11 million single-nucleotide polymorphisms (SNPs) have now been catalogued in humans across diverse populations by the International HapMap Consortium.^[6] Coupled to this, the individual genome projects have also revealed a large fraction of variations that are specific to an individual.^[7,8] With this enormous amount of variability, it now seems that there are as many human genomes as there are humans. Ayurveda gives clue to stratify this huge genomic variation through *Prakriti*. Cataloguing the genomic variation according to seven types of *Prakriti* helps in personalizing medicine that aims that are most suits to a specific phenotypes and would be useful in prevention of disease and maintenance of health.^[9]

An integrative approach of stratifying and clustering physiological and pathological states on the basis of molecular functioning is called as *Prakriti*. The Ayurvedic system of medicine provides already a built-in framework for stratifying healthy individuals who differ in susceptibility to disease and response to drug and environment. In contrast to the empirical approach of contemporary medicine, the Ayurveda therapeutic regimen is tailored to an individual's physiology with the help of *Prakriti*. Transcriptional profiles of pooled RNA from V, P, and K revealed differences in core biological processes between these *Prakriti* groups.^[10] There is indeed an underlying cellular system in each *Prakriti* type for example, the Ayurvedic abstraction of *Kapha* as being the promoter of anabolic state overlapped with the overall upregulation of genes involved in cellular biosynthesis including ATP and cofactor biosynthesis and purine salvage pathway.^[11] Both male and female individuals of the *Vata* group showed enrichment of differentially expressed genes involved in cellular processes such as cell cycle, DNA repair, and recombination as well as transport functions.^[12] For instance, the expression of genes involved in olfactory transduction processes was observed to be significantly low in both male and female individuals of *Pitta Prakriti*. While striking differences with respect to the immune functions were observed, different facets of the immune function seemed to be differentially modulated in different *Prakriti* types. Thus susceptibility to infections, atopy, and allergic reactions are likely to vary according to the constitution types.^[13] The development of embryo is also divided into three distinct layers. The unified egg cells divide into ectoderm, mesoderm and endoderm. The ectoderm relates to outer covering and develops into nervous system and skin that are both influence by *Vata*. The mesoderm is the middle germinal layer develops into vascular system that includes blood vessels, heart, muscles, bone and urinary system that are primarily *Pittaja* in nature (although

bone is frequently associated with some of its functions like managing red blood cell production through bone marrow can be correlated with *Pitta*. From the endoderm, the inner germ layer, comes the inner layer of the mucous membrane lined digestive tract, respiratory system and urinary system that are regulated by *Kapha*. This three tier pattern is then replicated in every structure in the body from blood vessels to bones to organ and to the mucous membrane; they each have an inner epithelium layer having nerve innervations (*Vata*), a middle layer containing connective tissues like blood vessel (*Pitta*) and an outer serous layer that hold structures together and binds an organism as a whole (*Kapha*).

Thus the person having predominance of *Vata dosha* at the time of fertilization has under developed nervous system and therefore he will be more for developing disease of nervous system and similarly with other *doshas*. One can imagine that categorizing huge variation of human diversity merely by three parameters is how much easier and beneficial in planning the management.

Management of *Vatika* disorders^[14]

If *Vataja* types of individual resorts to such things as are aggravators of *Vata*, *Vata* gets aggravated immediately. This does not happen in case of remaining two *doshas*. The aggravated *Vata* afflicts individuals by the manifestation of disease resulting in the impairment of strength, complexion, happiness and longevity. The following therapies alleviate this *dosha*.

1. Proper administration of oleation and fomentation;
2. Mild purgative prepared by the addition of fat, hot things and substances having sweet, sour and saline tastes;
3. Food having the ingredients of the above mentioned properties.
4. Massage, poultices, bandages, kneading, bath, samvahana (pressing and massaging by hand),
5. Use of wine and asavas (fermented drinks)
6. Fats from different sources mixed with drugs having digestive, stimulant, carminative, *Vata*-alleviating and purgative properties- they may be boiled hundred and thousand times and be used for being administered in different ways, viz. internal use, massage, enema, etc., and
7. Enema and regimens to be adopted along with it.

Management of *Paittika* disorders^[15]

The following therapies alleviate the *Pittaja dosha*:

1. intake of ghee;
2. oleation by ghee;
3. purgation;
4. use of drugs and diets having sweet, bitter and astringent tastes; and cooling property;
5. use of scents which are mild, sweet, fragrant, cooling and cordial;
6. use in the chest of pearls, jewels and garlands which are kept in excessively cold water;
7. frequent sprinkling of cold water and cold air of agryacandana (*Santalum album* Linn.), priyangu (*Callicarpa macrophylla*), kaliya (yellow variety of candana) and mrinala (lotus stalk) mixed with utpala (*Nymphaea alba* Linn.), kumuda (a variety of utpala), kokanada, sugandhika (a variety of utpala) and padma (*Nelumbo nucifera* Gaertn.)
8. hearing of songs and music which are pleasing to ears, mild, sweet and agreeable;
9. residence in buildings which is cooled by the moonrays and exposed to the breezes from all sides;
10. residence in cold places in mountains and river banks, use of cold apparel and exposure to the cold winds of fans;
11. visiting beautiful garden having pleasing, cold and fragrant wind;
12. use of flower of padma (*Nelumbo ncifera* Gaertn.), utpala (*Nymphaea alba* linn.), nalina (a type of lotus), kumuda (a variety of utpala), sougandhika (a variety of utpala), pundarika (*Nymphaea lotus* Linn.) and satapatra (a variety of lotus); and
13. adoption of such other regimens as are of soothing nature.^[17]

Management of *Kaphaja* diseases^[16]

The following therapies alleviate *Kaphaja dosha*:

1. proper administration of strong and hot elimination therapies;
2. intake of diet which is mostly ununctuous and is composed of ingredients having pungent, bitter and astringent tastes;
3. running, jumping, swimming, whirling, keeping awake during night, fighting, sexual intercourse, exercise, unction, bath and oil massage;
4. intake of strong wines preserved for a long time;
5. all lightening therapies along with smoking;
6. use of warm apparel; and
7. giving up comforts of life with a view to enjoying happiness ultimately.

CONCLUSION

Thus, this integrative approach might allow us to identify groups of individuals that share core physiological variations, a requirement for development of stratified medicine. It might be worthwhile to mention that in Ayurveda, selection of a suitable drug and dietary regime is made on the basis of clinical assessment of the individual with respect to disease endophenotype, the basic constitution as well as the status of health at the time of their administration. Therefore it can be concluded that classification based on psychosomatic constitution should be accepted globally for easy assessment and successful management of diseases.

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