Ayur nutrigenomics in Purview of Tenets of Ayurveda in the world of Genomic Science

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Abstract—**Background: An era of personalized nutrition has led a pathway of considering each body with its specificity in acceptance of nutrients as well as drugs. Several studies have been attempted to identify genetic variations to know the susceptibility to ailments as well as differential responses to drugs and diet. But studies have their limitation as genetic mapping and classification in large group with invariable mutation makes it burdensome and time consuming.Genomic era gives the chance of reviving Tenets of Ayurveda and integrating it in field of genetics and nutrition. Aim and Objectives: To study Ayurgenomics and dietary desciplines in Ayurveda. Gather all possible data reviewing Ayurnutrigenomics. To create access to global acceptance of Ayurvedic dietics in genomic era. Methods:Various electronic media on research papers, textual references, video recordings were studied and analysed. Discussion: Many ways to see the propensity of diseases can be inferred from knowledge given in Ayurveda regarding dietary regimen.Noninvasive classification of prakriti gives direction to rightful, mindful healthy eating Conclusion: Ayurnutrigenomics has potential to improve patient care through right choice of preventive, predictive, personalized, participatory protocols.**

I. INTRODUCTION

Nutrition has always been the prime focus in the health care world. Supplementing the deficient element with outside sources is the way of dealing with deficiencies of macro and micro nutrients in the body. The advancement of emerging "Omics era"[1/1] has resulted in the surge of many new terms like pharmacogenomics, epigenomics, nutrigenomics etc. Nutrigenomic literal meaning is application of genomics in Nutrition [1/2].

The specialized part of genomic science is divided into two parts

- The interaction between the genetic material with the dietary component and
- nutrigenetics which identifies the related response to dietary component about genetic differences[1/3].

In an easier terms every-body is made of different genetic material and it reacts differently to varied range of nutrients in the nature. This revolution of testing the pathways and studying the gene expression to every bioactive nutrient gave the new law of "Personalised nutrition "in the field of healthcare science i.e "One Diet Fits to All" is no more the concept one will look in future. Target has changed from destined genes to the science of epigenetics where the capabilities of nutrients in specific diet lie in changing the gene expression with personalized dietary prescriptions. "Food is a medicine" this quote has a scientific backup in the world of nutrigenomics and Ayurveda has always seen food as Mahabhaisajya. (Kashyap samhita)

This ability of food to interfere with our physiological wellbeing at molecular level is the sight of interest in today's world called as nutrigenomics, which had already existed in ancient India from the time when Ayurveda dominated the medical world. So Ayurnutrigenomics is a newer term applied to the traditional practice of Prakriti(body-constituition) based dietary personalized regime. In other word the inception of the terminology "Ayurnutrigenomics" ensued due to the assimilation of Ayurgenomics with the traditional concept of Ahara (diet).

The holistic approach towards diet in Ayurveda, guide us to the universe where diet is the controller of all other elements in the body.

- "Pranah pranahbrutamannam annam lokoabhidhavati" the source of life for living beings is food, all living beings are food and all world seek food. (charak samhita)[2/1]
- Complexion, clarity, good voice, long life , proper understanding, happiness, satisfaction, growth, strength and intelligence are all pursuits of good food.[2/2]
- A disciplined man who practices right approach to diet lives a life of 3600 nights (shadtrimshatam sahasrani ratrinam) [2/3]equals to 100 years and is said to be blessed and honoured by society and is disease free. Live example of the verses in Charak Samhita is Swami Sivananada, yoga instructor, who was awarded Padmashri yoga Ratna by GOI (2022). He was 125 years old while receiving the prestigious award.

II. EPIGENOMICS

- Epigenomics is the study of heritable changes in DNA sequence which is not encoded in it. Epigenetics is the process that alters activity of gene without the change in DNA but relatably leads to heritable modifications.
- Every body cell has similar genome as compared to different phenotype due to control of gene expression.[3/1] An epigenome consists of series of chemical compounds and complex external modifications which causes changes in genomic DNA without the change in DNA sequence of genes, giving unique cellular and developmental identity.[3/2]
- The epigenome of an organism is dynamic and flexible and can influence its phenotype depending on environment to which it is exposed.[3/3] To be precise with an example the population in same community bear different physical appearances like lean, medium, obese as the functional expression of the gene differed with influence of environmental factors like food, physical activity, metabolic influence etc.
- The nature (food) to nurture (human body) law is possible through personalized diet plan rather than a commonly described prescriptions of medicine. To comprehend, a genetic expression of Diabetes in the family can be controlled by specifying the perfect way of dealing the gene expression by changing the environmental exposure with proper diet and exercise at right time.

1.Ayurgenomic

a.Prakriti (Bodily constituition)

- The therapeutic application of principles in Ayurveda focus on Tridosha and Prakriti analysis. There is multifactorial outlook while deciding the core of analysis of one's bodily constituition which have had been in detailed studied back in ancient times to simplify the application of therapeutic, preventive, predictive and rehabilitative approach.
- The Tridosha theory revolves around the physiological working of vata , pitta, kapha in an individual. Balance in the working of the three defines the balance of health in Ayurveda. Prakriti is described to be the result of proportion of vata, pitta, kaph.These proportions of Tridoshas are genetic determinant as well as influenced during development especially maternal diet and lifestyle[4/1].
- Prakriti of an individual is constant throughout lifespan(genotype), formed at time of development of foetus(Rasvaisheshik). The ethnicity, geoclimatic regions influence the phenotypic variability. This similarity and disparity are the core foundation of concept of genome in Ayurveda making the way to discovery of Ayurgenomics in today's contemporary world.
- A genome is a complete set of DNAS that includes all of organism's gene along with heirarchial, three-dimensional structure configuration[5/1]. The human genome is made of 23 pairs of chromosomes called diploid, each 3 million base pairs of DNA inheritance from each parent.SNPS (single nucleotide polymorphism) are several variants in human genome sequences.[5/2]
- Some of these differences are frequent and are seen in significant number of individuals whereas others are uncommon.If the differences occur in fewer than one percent of population likely categorized as mutation.Many uncommon

disorders are monogenic (single gene mutation) instance haemophilia, beta thalessemia.

- Whereas Diabetes, Asthma, CVD etc are multigenetic complicated ailments.[5/3] Similarly Ayurveda classics, a visionaire which equally saw individual according dominance of Doshas and categorized it under the heading Prakriti.
- In Ayurveda, population been classified as per the Tridosha theory as discussed earlier. To be elaborate it is the unique somatic constituition of an individual. It is uniqueness in anatomical, physiological and psychological constituition. Normalcy(prakriti) and abnormality(vikriti) in health in an individual are determined by the proper functions all three doshas.
- Image.2 Prakriti and Phenotype coorelation

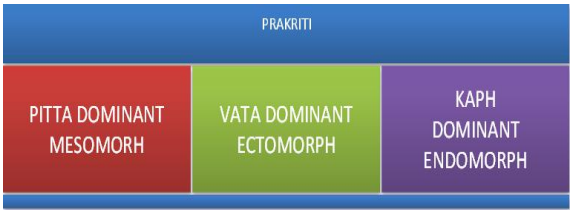

Table 1. showing doshas and their physiological role

Dosha	Functions
Vata	Kinetic, movements, celldivision, cognition, excretion,regulates pitta and kaph
Pitta	Metabolism, transformation, thermoregulations,pigmentation,vision
Kaph	Growth maintenance energy anabolism storage stability

- So, the movements from tip to toe, the food from mouth to elementary canal, the neurons to pass the signals all are regulated by vata in body, the process of digestion assimilation absorption are constituted by pitta whereas the body for the firmness of muscles bones strength needs kaph. Still every individual may not have all the constituent unit but in more or less amount leading to the differentiation of somatic constituition as vata dominant, pitta dominant and kaph dominant individual.

Prakriti is a crucial determinant in way to individual vulnerability to diseases and to the escape from them (diagnosis, prognosis,management), as dominance or deprivement of any of the three elements may lead the imbalance (vikriti).

b. Prakriti and Vikriti

The continuum of relative proportion of doshas classifies 7 types of prakriti viz vata, pitta, kaph, vata-pitta,vata-kaph, pitta-kaph and vata-pitta-kaph. Even this permutation-combinations complicate our senses but work done by acharyas are commendable as they divided it into simplest form with wide range of characteristics variabilities and thus marking the arrow towards the possibilities of vulnerabilities(vikriti) in an individual based on bodily dominance of doshas.

Table 2. Dosha prakriti characteristics and disease(vikriti)predisposition[6]

Characteristics	Vata	Pitta	Kaph
1.Body frame	Thin	Medium	Broad
2.Build and musculature	Weakly developed	Moderate	Well developed
3.Skin	Dry and cracked	Soft,thin,tenden-cy for moles acne freckles	Smooth firm clear complexion
4.Hair	Dry,thin prone to break	Thin oily early graying	Thick smooth and firm
5.Weight gain	Not significant	Fluctuating	Tendency to gain
6.Food and bowel	Frequent,variable,irregular	More food and water consumption	Stable food habits
7.Movements	Excessive brisk	moderate	Less mobile
8.Season tolerance	Cold intolerant	Heat intolerant	Endurance for both
9.Healing, immunity	Poor	Good	Excellent

10.Metabolism of toxic substances	Moderate	Quick	Poor
11.Communication	Talkative	Sharp,incisive,analytic ability	Less vocal good communication skills
12.Initiation capabilities	Quick responsive enthusiastic	Moderate, upon conviction and understanding	Slow to initiate things
13.Memory	Quick at grasping poor retention	Moderate graping and retention	Slow graping good at retention
14.Ageing.	Fast	moderate	Slow
15.. Diseases predisposition/poor prognosis	Developmental,neurological, dementia,movement of speech disorders,arrythmia	Ulcer,bleeding disorders,skin diseases	Obesity,diabetes,arthrosclerotic conditions
Vitiation	Dystrophy of nails, dermatophytosis,sciatica,cramps in calf,spasticity in thighs,prolapsed of rectum,retraction of eyelids,faintness,giddiness,hiccup , asthenia	Heating, scorching,faintness	Anorexia nervosa,tortor,stiffness,loss of strength,increased secetion in throat,erysipelas,lethargy,goiter, obesity,heavy pulse.

There has been constant effort by various national institutes and Ayush bodies to standardize the prakriti analysis scale for better understanding prakriti. CCRAS –ICT Portal,Institute of Genomic and integrated biology, National institute of Ayurveda(jaipur), AIIA(Delhi) etc have developed tools of assessing prakriti.

III. PROPENSITY TO DISEASE WITH RESPECT TO PRAKRITI

Above chart gives the brief account of physical traits differentiating individuals. Even mental status of individual varies according to the involvement of doshas in body. Genotypic configuration is unaltered state but the epigenetic variation may be application by changing the proper input of environmental stimulus through diet, exercise or drug.

A research area and arena are waiting for Ayurveda to explore its impeccable tenets. Nutrition with respect to "Ahar Kalpana in Ayurveda" opens new way to discover nutrition with respect to prakriti, seasons, regions. Ayurnutrigenomic is new field of interest even to the western world.

IV. EVIDENCE BASED AYURGENOMICS

1. Genomic variation with classification of prakriti are studied.It is observed that PGM1 correlates with phenotype of Pitta Prakriri.This suggests that phenotypic classification has genetic basis.[6]
2. The research study on clinical phenotype and predisposition of disease undertaken to determine the association of Methylenetetrahydrofolate reductase (MTHFR) C677T and A1298C with type 2 Diabetes and prakriti. An extremely strong association between prakriti (kaphaj/kapha-pittaj) and type 2 diabetes was detected.[7]
3. A study discovered (on indo –European origin population) higher levels of markers of metabolic syndrome and chronic inflammation {TG, total cholesterol,LDL,VLDL,High LDL,low HDL, uric acid, SGPT} in kapha males compared to vata. Prothrombin time observed low in kaph males .[8/1]
4. Higher level of haemoglobin in pitta prakriti than vata and kaph coorelates the redness of skin in pitta prakriti.[8/2]
5. HAPE (High altitude pulmonary oedema) develop more to kaph dominant prakriti. Pitta dominant prakriti people survive well in Kaph vataj region as in Leh-Ladakh area .[8/3]

2.Ayurnutrigenomics

Pillars of health in Ayurveda known as TrayOpsthambh are ahar(diet), nidra(sleep) and brahmacharya(celibacy).[9]According to the principles of Ayurveda, the universe is formed from five basic elements Akash, vayu, tej , jal, prithvi[10]. Three doshas are again the amalgation of these five elements. Ahar is categorized as akashiya ,vayavya,agneya,apya,parthiva, when consumed in

appropriate proportions, these elements help in nourishment of tissues called dhatus., support the development and growth along with vitality.

Previously discussed prakriti of an individual is associated with healthy union of sperm –ovum and other factors influencing are diet (ahar) and lifestyle of mother during pregnancy. Hence again role of nutritional health of mother begets good progeny is the Ayurvedic concept practiced in traditional era. Again, to the contemporary science, days before the genomics era, Dr.Richard O.Brennan introduced the concept of nutrigenetics in 1977.He emphasized newborns that inherit single-gene inborn metabolism errors or diseases require personalized nutritional support to combat then at earlier stages.

People response to same nutrient differently forms basis of nutrigenomic

Components of nutrigenomic.[11]

- Improper diets are risk factors for initiation of diseases in humanbody.
- Genetic makeup complies to individual vulnerability to diseases
- Gene expression (epigenetics)and genome structure supposed to get altered by dietary chemicals
- Some dietary regulated genes are likely to play role in the onset,progression,incidence and severity of chronic diseases.

Components of Ayurnutrigenomics

- According to Ayurvedic Principles food and beverages that are apt in their appearances, smell, taste, touch, taken at right season, time, region are sources of life, vitality are known as hitahar(wholesome). This turns to be the fuel that maintains i.e digestion and metabolism, invigorates mind, responsible for proper distribution of body elements (dhatu) etc. And vice versa the food inflicting all these resulting in disease condition is ahitahar(unwholesome).[12]
- Virudhahar is opposite food implies incompatible to body.Any food or drug which excites the doshas (vata, pitta, kaph) but does not eliminate it is harmful.
- Combination of food that is antagonistic with respect to place, time, agni(digestive power), quantity, compatibility,doshas, processing, potency, bowels, health, opposite in sequence of eating habit with contradiction-indication, cooking, combination, palatability etc are said to be unwholesome or unfit for human consumption.[13]The very well-known traditional example known to every household in India is avoiding milk with fish which may lead to skin ailments precisely many with vitiligo.
- Satmya ahar a unique concept, food items which may get easily assimilated in body without causing harm .[14/1]
- It may mean adaptation/habitual use of certain food items which becomes harmless to the body. Sambhar-dosa-idli in south India, chhola-bhaura in north, aloo bhunjiya in bihar, bhatt chudkani in uttarakhand etc(state wise traditional food)
- The right effect or ill-effect of food may be due to proper -improper use of eight basic factors viz Prakriti (nature of food), karan(processing of food), sanyog(combination of food), rashi(quantity of food), desh(region of food), kal (proper time).[14/2]

3.Shadras ahara kalpana(six tastes theory) tastes as medicine

1. The six tastes are madhur(sweet), amla(sour), lavan(salty), katu(pungent), tikta(bitter), kashaya(astringent). The are said to be progressively lower in energy that means madhur imparts maximum energy.
2. The taste that we can sense is while the first bite if consumption is called rasa and the other along with is called as anurasa.Like a mango may tastes sweet sour, young mango is sourer than the ripe one.
3. There happens to be 63 combinations of rasa(tastes) if we combine single or other combinations. For instance, cow milk possesses single sweet taste property but lasun (garlic) is said to possess all except amla rasa (sour taste). The deeper one studies, the more knowledge is bestowed.
4. A Physician, well acquainted with combinations of Rasa(taste) and doshas,seldom commits blunders in ascertaining the cause, sign, symptoms and management of diseases.[15]
5. Carbohydrate rich food is example of madhur rasa rich food.The An ayurvedic diet plate is like

traditional thali with all chatani achar papad and desert included in it. Example regional Kerela sandhya bhojan (traditional serving) served on banan leaf.

6. The only wit is of physichian to decide the rasa which needs more balance according to place, season, quantity and ultimately prakriti and their dominant doshas.
7. As per Ayurveda the rasas(tastes) influence the balance of doshas (vata, pitta, kaph) depending upon the season, region, age etc and not one rasa (tastes) can contribute overall health benefit to an individual
8. Let's brief it with dominance of 5 elements, their effects on dosha and overall wellbeing
9. Hitahar/ahitahar according to rasa dominance given in following table

Table3.showing relation of six rasa(tastes) Mahabhuta effect on Dosha and functions and ill-effects of excessive consumptions. (Charak Samhita)

Taste	Mahabhuta(elements)	Effect on dosh	Function	Examples	Ill-effects of excess use or alone
Madhur (sweet)	Prithvi and jal	Vata pitta pacifier and kaph elevator	Good for tissue nourishment	Dairy sugar,jaggery potato, godhum(who-le wheat)	Obesity, laziness, loss of appetite, heaviness, weak digestion
Amla (sour)	Prithvi and agni	Vata pacifier/ elevator	Digestive and taste builder	Lemon,amla, tamarind	Teeth sensitivity, thirst, closes the eyes, enhances body hairs, aggravates pitta, liquefies kaph, influences blood morbidity, causes inflamed muscles, laxity in the body, creates inflammation in wasted, emaciated, debilitated,and injured persons, causes wound suppuration, bites, fractures, injuries, burns dislocations, swellings, toxic stains caused by insect's contacts, urine and incised etc, causes burning sensation in the throat cardiac and chest region.
Lavan (salty taste)	Agni and jal	Vata pacifier, pitta kaph elevator	Stimulates saliva,taste elevator	Salty items	Aggravates rakta, causes thirst, heat, fainting, tearing, enhances, leprosy or well as other sort of skin diseases, sloughing, weakness of teeth, aggravates inflammations, impairs sense organs, impairs potency, cause wrinkles, baldness, grey hairs, causes acid gastritis, internal haemorrhage, gout, erysepalis, alopecia, eczema etc.
Katu(pungent taste)	Vayu and agni	Pitta kaph pacifier and vata elevator	Digestiv-e power augment-or	Dry ginger, black pepper, hing,dalchini	Malaise, mental confusion, ematiation, depression, bending, fainting, giddiness, darkness, destroy sexual potency,burning in throat, loss of strength, thirst, body heat, vata dis-orders in hand, back,feet, sides etc, burning pain,dizziness, tremors,tearing and piercing pain.
Tikta(bitter)	Vayu and akash	Pitta kaph pacifier,vata elevator	Cleanses mouth	Bitter gourd, neem, guduchi	Dries blood tissue,plasma,fat,muscles,bone marrow, semen, channel coarseness (path of dissemination of tissues like blood), reduces strength, produces malaise,emaciation, giddiness,

					mouth dryness, mental confusion and vata disorders like arthritis.
Kashaya (astringent taste)	Vayu and prithvi	Pitta kaph pacifier, vata elevator	Light and absorpti-ve	Khadir,jamun, haritaki	Dry mouth,heart ache, obstructs speech, distended abdomen, darkeness, darkens complexion, decrease fertility, constricts channels of the body, vata disorders like hemiplegia, convulsions, facial paralysis, spasm etc.

Conclusive remark following the table gives a picture

- For the skin ailments like eczema, pruritis, dermatitis, hair issues like alopecia,early graying of hair etc the food group with excess salt should be the first thing to be avoided. Like chips, noodles package food, salty pickles etc.
- Patients with excruciating pain of arthritis should avoid diet aggravating vata dosha due to single or excess use of kashaya rasa (astringent in taste). Tobacco is astringent in taste and can be the cause of many ailments and cancer.
- Dyspepsic patient or with Crohn's disease one must avoid amla (excess sour taste food) etc. Apple sider vinegar can be cause of tooth sensitivity. It is a celebrity trend now used by weight loss public.
- Fertility comes with good choice of ahar rasa like madhur rasa (ksheer(milk), ghrit(ghee), shatavari, musali) enhances but excess use of bitter taste items or over spicy food can damage the fertile sperm count.
- Madhur rasa (sweet taste) is indefensible culprit for obesity, PCOS, Diabetes, lifestyle disorders but our body requires madhur rasa for proper nourishment too hence a wiseful intake is advisable.
- So, whether healthy individual or diseased every rasa (tastes)correspond to its benefits and side effects. The physician with right knowledge paves the ultimate path.

Table 4. Prakriti and tastes [16]

Prakriti	Tastes preferred	Tastes avoided
Vata dominant prakriti	Madhur,amla,lavan	Katu,tikta kashaya
Pitta dominant prakriti	Madhur,tikta kashaya	Katu amla lavan
Kaph dominant prakriti	Katu tikta kashaya	Madhur amla lavan

- When it comes to personalized rasa (tastes based) ahar kalpana(diet according to tastes) vata dominant prakriti will be benefited with diet dominating in tastes involving madhur(sweet), amla(sour) and lavan (salty)
- They are physiologically or Ayurgenomically least affected with side effects pertaining to excess use of this rasa (tastes) in diet and on other hand katu(pungent), tikta(bitter), kashaya(astringent) rasa dominating diet(spices) shall be limited to individual suffering from vata dominating diseases like hemiplegia, arthritis etc and even vata dominant Prakriti. When Ayurvedic classics advocates about the seasonal and regional variation in diet the shadrasa ahara kalpana plays a pivotal role in deciding diet.
- An obesity management protocol for individuals residing in Kerela would have preferred dietary regime according to variation in region and traditional aspects. The seasonal variation in Kerela varies as compared to other parts of India.
- The principles in Ayurveda are immortal but the right knowledge will only give right outcome.
- Varsha kritu(rainy season) is supposed to be aggravating vata dominant season hence the main rasa involved even to healthy individual must comprise of madhur amla rasa pradhan(dominating) ahar and avoid katu tikta kashaya rasa. Same Principles explain the applicability of different food according to kritu and dominance of Dosha.

3.My plate for the Day

ICMR-National institute of nutrition provides simple guidelines to achieve balanced diet from different groups.

My plate for the day 2000KCAL (Indians)

- Vegetables 400gm
- Fruits 100gm
- Pulses/eggs/flesh foods 85 gm

- ❖ Nuts/seeds 35 gm
- ❖ Nuts/oils 27gm
- ❖ Cereals/nutricereals 250gm
- ❖ Milk or curd 300 ml

55% Energy from carbohydrates,30% energy from fat, 15%from protein

Nutrigenomics give a vision that not every plate will be universal as not every DNA response shall be same. But the genomic mapping is still in process of progression with molecular biotechnology.

Following tables [17]give concise description of few common food groups from Ayurvedic classics and their applicability towards personalized diet for different Dosha dominant Prakriti in purview of Ayurnutrigenomic concept.

Table 5. cereals /millets And Prakriti

Cereals/millets	properties	Prakriti
Wheat	• Nourishing, sweet in tastes, heavy to digest, cold potency, aphrodisiac, • improves weight, heals fracture bones, • stability strength, skin complexion,improves	Best for Vata and Pitta Prakriti Least beneficial in Kaph dominating
Barley	• kashaya rasa dominance,cool in potency, • heavy to digest, has scraping effect, aphrodisiac, • good for voice, dry in nature, maintains skin complexion, increases intestinal motility, improves physical strength, stabilizes body	Best for Kaph and Pitta dominating • Least for Vata dominating
Shali rice	• Rakta shali best nourishing	Best for Vata and Pitta dominating • Least for Kaph dominant
Jowar (SORGHUM)/great millet	• Cool potency,sweet in tastes, • light in digestion,dry in nature, • improves tastes,slightly aphrodisiac	Best in Kaph and Pitta dominant prakriti • Least for Vata dominating
Bajra/pearl millets	• Hot potency, sweet in tastes, dry, • enhances metabolism, aphrodisiac,relieves impotency • difficult to digest	•
Finger millet/ragi	• bitter, sweet, astringent taste • easy to digest • cold in potency • Promotes strength and satiety • Bulk promoting	Best for Pitta dominant Prakriti

Table 6 Pulses and Prakriti

Pulses	Vata dominating Prakriti	Pitta dominating Prakriti	Kaph dominating Prakriti
Mudga/green gram	++	+++	+++
Mash/black gram	+++	+	+
Toor/pigeon pea	+	+	++
Chana (horse gram)	+	+	+
Masoor/lentil	+	++	++
Kulathi	++	+	+++
Soyabean	++	++	+

Table7.vegetables and Prakriti

Vegetables	Vata dominating prakriti	Pitta dominating prakriti	Kaph dominating prakriti
Palakya(spinach)	+	++	+
Palandu(onion)	++	+	+
Potato	+	++	+
Tomato	+++	+	+
okra (Lady finger)	+	++	+
Rason(garlic)	+++	+	+++
Shigru(drumstick)	+++	+	+++

Karvelak (bitter guard)	+	++	+++
Mulak(radish)	+	+	++

Table 8. Fruits And Prakriti

Fruits	Vata dominating prakriti	Pitta dominating prakriti	Kaph dominating prakriti
Amra (unripe mango)	+	+	++
Amra (ripe mango)	+++	+	+
Draksha(grapes)	+++	+++	+++
Papaya	++	+	+
Kadali(banana)	+++	++	+
Apple	+++	++	+
Dadimb(pomegrantate)	+++	+++	++
Kaling(watermelon)	+	++	+
Jackfruit	++	++	+
Dates	+++	+++	+
Jamun	+	++	+++

Table 9. Spices and Prakriti

Spices	Vata dominating prakriti	Pitta dominating prakriti	Kaph dominating prakriti
Haldi(turmeric)	+	+	+++
Shunthi (ginger)	++	+	+++
Methika(fenugreek)	++	+	+++
Ela(cardamom)	+	+	+++
Jeerak(cumin)	+	+	+++
Hingu(asafetida)	++	+	+++
Dhaniya(coriander)	+	+++	++
Marich (black pepper)	++	+	+++
Lavang(clove)	+	+	+++

Table 10 Dairy products and Prakriti

Dairy products	Vata dominating Prakriti	Pitta dominating Prakriti	Kaph dominating Prakriti
milk	+++	+++	+
curd	++	+	+
butter(white)	+++	+++	+
buttermilk	++	+	++

V. DISCUSSION

Enormous inter-individual variability and different geo-climatic condition and so the diet led to many susceptible diseases.

- The genetic mapping for every change is invasive long length process. Whereas classical classification in Ayurveda with detail study of possibilities have given a noninvasive phenotype variation that could be tested for global acceptance and benefit of human health.
- For an instance, when we come across children facing problems of ADHD (attention deficit hyperactivity disorder) considering the Prakriti analysis I anticipate the involvement Vata. So, a proper Vata controlling diet, activities and herbs can help to have control. Apparently, the right diet in preconceptional and conceptional state of a mother a may help in preventing the occurrences of offspring with ADHD. Challenges in child care development can meet new ends if considered the right path of filling the gaps through Ayurvedic basic principles in preventive, participatory, predictive and personalized care.
- As per the table 2. a Pitta dominant Prakriti tend to age faster than the Kaph dominant Prakriti. So, the right time to skin care routine with nutritional supplements aiding the skin health will help in maintaining the skin glow. Cosmetology has gone miles ahead within few spans of years with discovery of many components like gluthathione, collagen builder etc.Ayurveda will give a clear vision with its concept on aging and prakriti.
- Obesity has become an epidemic, we can predict the approach that Kaph dominant individual will tend to grow more with consequences of HTN, DM, CVD etc so the diet in approach controlling the kaph will lead to controlling the hazards of obesity as well. DASH diet, intermittent fasting, ketogenic diet etc are recent approaches to manage weight. Ayurvedic protocol in diet can be the way of placing right diet to right person as personalized diet is a new era of Nutrition in Health
- Ayurveda therapeutic outcome has shown ways to deal with predictive, personalized nutrition. Ayurnutrigenomic can be novel area to explore all best diet protocol. Today all talk about a gluten free diet. But Ayurnutrigenomic visions the right use of

wheat, rice, millets. As wheat bread in Indian diet will be best suited in vata dominant prakriti and jowar will suit in kaph dominant.

- ➢ Again, the working of diet protocol is not just limited to rasa (tastes) it extends the body ways to metabolise it(agni), the season, the region of production of particular food item, the potency, consistency of the food, the after effect of after digestion too. Bajra considered hot is best suited in winter season than summer.
- ➢ Mustard oil in winter and more in North india and coconut oil in land like Kerela. There is a huge sea awaiting to define Ayurnutrigenomic for global acceptance which already had existed thousands of years back.

VI. CONCLUSION

- ➢ Ayurnutrigenomic can bridge the gap of two contrasting deciplines of Medicine. Biomarkers and targets can be set for early actionable interventions in diet protocol of individual through prakriti based baseline classification.Ayurnutrigenomics has potential to improve patient care through right choice of preventive, predictive, personalized, participatory protocols.

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