

## Consideration of Physiological Biomarkers while Adopting Immunity Boosting Measures

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### **INTRODUCTION**

In today's era, everyone is aware of the holistic approach of Ayurveda science and its utility as beyond just a medical science. In terms of advanced technology and progressive mindset of today's individuals everyone is inoculated with enough strength to explore the globe and satisfy own thirst. Since last year this era will be recognized by the hilarious disaster created by a very tiny entity - Novel COVID-19. We all have witnessed the havoc created by this dangerous pandemic in a very limited span of time. This has surely made man to rethink of number of ways regarding immunity boosting measures. This has created a chaos in the pharmaceutical industrial market to develop newer and newer immunity boosting molecules. Sooner or later, the common public has to understand that not every victim should be given the same immunity boosting medicine. This completely depends on the adaptation of internal environment of any particular individual.

Ayurveda plays a very pivotal role to decipher the fundamental criteria to be established and practiced widely to prevent future coming diseases. Time has arrived to look

more internally than progression in the external materialistic world. As health is completely an internal issue of peace. So, there develops a need to focus more on what we have physiologically rather than using any damn immunity boosting measure which may go in a wrong way too. The internal criteria to be focused are - **Prakriti** (constitutional makeup of an individual), **Agni** (metabolic fire and its pace), **Koshta** (functional status of gut lining for absorption of external nutrients and making it homologous with body's internal constitution), **Dhatu Sarta** (tissue excellency of an individual which is reflection of Oja), **Yuktikrut Bala** (strength intentionally achieved by practicing proper diet and daily routine) of that individual.

Ayurveda has survived more than 5000 years and renaissance for Ayurveda started since 19<sup>th</sup> century. But this COVID pandemic has excelled the urge of utilization of Ayurveda very rapidly. This has provoked every Ayurvedic physician and follower to believe in motto of Ayurveda - *Swasthasya Swasthya Rakshanam*. A large manpower of young Ayurvedic physicians are on the verge of, ready to serve the society. Even government and other officials are also utilizing this force almost at every

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level. However, there still needs to be equality as like other medical professionals.

Mass education regarding Ayurvedic fundamentals is must, as outreach of medicines, and vaccines are time consuming and may also suffer shortage many of the times. So, this Ayurveda force can be utilized for mass education. Introspecting physiological fundamentals proves to be biomarkers for adoption of suitable immunity boosting practices.

### **PRAKRITI**

It is an overall constitutional makeup of an individual established due to predominance of *Dosha* at the time of conception which later on manifest as a set of behavioral characteristics. Ayurveda emphasizes more on personalized medicinal approach as it believes that individuals differ in their overall constitutional makeup, this is *Prakriti*.

The overall adaptability (*Satmya*), tolerability (*Sahishnuta*) and desire or likings (*Akansha*) is one such criteria which author is intended to highlight this article over here. The immunity boosting measures which we practice today are mostly of - Ushna, Tikshna property. It is not necessary that every individual will be getting benefitted from the same measures. Implementation of any such measures without personalized (*Prakriti*) approach may lead to adverse effects thereby mislead the pathy and defame the science and physician as well (Table 1).

### **AGNI**

*Agni* is much more beyond the actual concept of digestive fire as considered most of the times by western schools of medicine. It is necessary for the biotic existence of every living species which metabolizes, acts upon the supplement taken in the form of food from external environment and makes its homologous with constitution of the constructive framework of our body. Every biotic and abiotic matter of the ecosystem shares similarity due to its basic elementary

composition. *Agni* is the one which can bridge the gap of external and internal environment. *Agni* is essential for tissue acceptance thereafter leading to proper growth and development. The same is highlighted in Ayurveda in terms of concept of *Satmya*.

		Vata dominant	Pitta dominant	Kapha dominant
Satmya – Acceptability	Rasa	Madhura (sweet), Amla (sour), Lavana (salty).	Madhura (sweet), Tikta (bitter), Kashay (Astringent)	Tikta (bitter), Kashay (Astringent), Katu (spicy).
	Guna	Ushna (hot) Snigdha (unctuous)	Shita (cold)	Ushna (hot), Ruksha (dry)
Sahishnuta – Tolerability		Shita asahishnu (intolerant towards cold things and cold climacteric conditions)	Klesha asahishnu (intolerant towards physical stress & heavy, vigorous workouts) Ushma asahishnu, Gharma dveshi (intolerant towards heat, hot climacteric conditions) Kshut pipasa asahishnu (intolerance towards hunger and thirst)	Klesha sahishnu (good tolerance towards physical stress and workout) Kshut pipasa sahishnu (good tolerance towards hunger and thirst) Ahi sahishmushila (good tolerability and patience)
	Akansha & Abhiruchi – Desire & likings- Dislikings	Ushna abhilashi (prefers mostly hot food items and hot climate as well) Amla rasa priya (craves for sour food items)	Shita abhilashi (prefers mostly cold food items and cold climate as well) Na amlasha (stays away from sour) Na ushna sevi (stay away from hot food items) Tikta rasa priya (craves for bitter food items)	Alpa ahara sevi (have limited food) Madhur, snigdha rasa priya (likes and craves for sweet taste and unctuous food items)
Selective herbs	immune	Pippali (Piper longum) Vacha (Acorus calamus)	Bramhi (Baccopa monieri) Guduchi (Tinospora cordifolia)	Shilajeet (Black Bitumen)

**Table 1:** Considerations of certain criteria of *Prakriti*.

*Agni* is one of the core components on which strength, vigor, vitality (*Bala*) of any individual depends. *Agni* under the form of heat undergoes continuous transformation, transmutation, combustion, oxidation, and reduction reactions which helps the ingested food to get converted into smaller constituents adaptable to bodily tissues.

Ayurveda advocates that the pacified or suppressed form of *Agni* is the root of all pathological ailments and diseases. Even the quantity of food to be ingested is decided as per the status of *Agni*. List of some etiological factors causing vitiation of *Agni* are:

1. **Abhojan** (Prolong starvation, fasting).
2. **Ajirnanashan** (Food ingestion even though there is prior indigestion).

3. *Ati bhojan* (Overeating).
4. *Vishamashan* (Irregularities in dietary protocols).
5. *Asatmya bhojan* (Unacceptable, unwholesome food).
6. *Dushtha bhojan* (Contaminated, adulterated food).
7. *Panchakarma vibhramat* (Perversion of panchakarma modalities).
8. *Vyadhi karshanat* (Emaciation, deprivation of body due to chronicity of diseases).
9. *Desha kala rutu vaishamyat* (Facing sudden shift to unfavorable place, time, seasonal changes).
10. *Vega vidharan* (Voluntary suppression of natural urges).

While prescribing or advocating immunity boosting measures, the herbs, minerals, and dietary constituents should be advised keeping the functional status of *Agni* as prime concern. As the *Agni* is completely under the influence of *Dosha* which as per their inevitable nature always tends to deviate the *Agni* from normalcy. This ultimately leaves *Agni* in its four normal forms as - *Vishmagni* (*Vata dosha* predominance, manifested by irregularities in digestion and related activities), *Tikshnagni* (*Pitta dosha* predominance, manifested by exaggerated digestive activities with profuse digestive juices secretions, making intestinal wall very sensitive and tender) *Mandagni* (*Kapha dosha* predominance, manifested by slow and sluggish digestive activities) and *Samagni* (balanced *dosha*, manifested by balanced digestive activities completing the digestion in appropriate time).

### **KOSHITA**

So, while practicing immunity boosting measures it is essential to think about the *Koshta* also. As it is expected that the ingested herbs, minerals and other dietary constituents after acted on by *Agni*, should be properly absorbed from the gut and brought into systemic circulation. All this is intended to be happen in a stipulated time so as to boost the respective target cell, tissue, or organ with respect to time. As all phytochemical nutrients are having

their own properties, own plasma half-life and has to pass through first pass metabolism. So as per the need and status of *Koshta*, it is easy to adopt suitable phytochemicals to prevent rejection and any other adverse effects.

For that purpose, conservative therapeutic modality in Ayurved mainly prefers certain procedures intended to clear bowels and maintain the status of intestinal wall. These include - *Langhan* (fasting), *Deepan* - aimed for stimulating, provoking *Agni*; *Pachan* (digestives, carminatives), *Anuloman* (soft laxative).

For better immune boosting results, advocacy of suitable *Snehapan* for selective number of days should be followed as per dominant dosha and respective *Prakriti*.

- Vata Koshta - Bramhi, Ashwagandha Ghрут, etc.
- Pitta Koshta - Patoladi, Triphala, Nimbadi, Tikta, Mahatikta, Pachtikta Ghрут, etc.
- Kapha Koshta - Kushmanda, Triphala, Duralabhadi Ghрут, etc.

### **DHATU SARTA**

Ayurveda emphasizes on tissue excellence as a criteria for determination of strength of an individual. This is *Dhatu sarta* which is excellent manifestation of quality status of constructive framework of tissues (*Dhatu*). This implies to all seven *Dhatu* mentioned in Ayurveda - *Rasa* (liquid connective tissue - plasma and lymph), *Rakta* (connective tissue - blood and formed

elements), *Mamsa* (connective tissue - muscle), *Meda* (adipose tissue), *Asthi* (osseous tissue), *Majja* (myeloid tissue-marrow), *Shukra* (reproductive tissue). Clinically it is presented at physical and psychological level. So, strength of an individual should not be predicted just on the basis of its body physique.

*Dhatu* which is having at par excellence within, explores its characteristics and resist the deprivation or deterioration of tissue cycle thereby prolonging lifespan at cellular level.

Measures to enhance *Dhatu Sarta* comes up with increased resistivity against surrendering to a disease.

Intake of immunity boosting or immunomodulatory herbo-mineral drugs, should be target specific. They should be acting to enhance the weaker tissue elements thereby modifying the morphological and functional status of *Dhatu*. Providing immunity at *Dhatu* level is to improvise the tissue cycle, enhancing the normal ageing process, keeping the *Dhatu* oxidative stress free to work efficiently and perform their desired function. This category is called as - *Dhatu Rasayan* Therapy.

Every *Dhatu* is fed with essential and required nutrients through this channel and while drifted into *Dhatu*, final tissue metabolic output is useful nutrient part which is homologous with composition as that of *Dhatu* (sara) and leaving behind a metabolic waste at *Dhatu* level (*kitta*). *Dhatu* are supplied with their own nutrient circulating channels called as - *Strotovahi dhamni*.

Ayurveda is a treasure of natural herbs having therapeutic utility. So, there are some herbs which completely focuses on specific *Dhatu* and act as *Rasayan* for them. Any morbidity after treating with essential therapeutic procedures, should be benefited with *Dhatu Rasayan chikitsa*. Some of them are listed here:

1. **Rasa** - *Mantha* (*kharjur mantha*), *Manda* (*laja manda*), liquid dietary forms
2. **Rakta** - *Manjishta*, *Nagakeshar*, *Bhasma - Loha* (Iron), *Abhraka* (Mica), *Tamra* (Copper), *Roupya* (Silver)
3. **Mamsa** - *Mamsa rasa*, *Kushmanda*, *Shatavari*
4. **Meda** - *Guggulu*, *Shilajita*, *Vasa*, *Meda* (Fatty acids and lipids)
5. **Asthi** - *Laksha*, *Kshar*, *Praval*, *Sudha varga* (Calcium mineral group)
6. **Majja** - *Roupya*, *Vacha*, *Vasa*, *Majja*, *Ghrut* (Ghee)

7. **Shukra** - *Dudh* (Milk), *Ashvagandha*, *Kapikachu*, *Vanga bhasma*

## **BALA**

*Bala* as per Ayurveda depends on the compactness of body structures and tissues, well-developed organs, matured *Dhatu*, and most importantly *Dosha-Agni-Strotasa* in their functional normalcy throughout body. *Bala* is the ultimate output or manifestation of static and dynamic equilibrium of body at structural and functional level. It is classified into three categories as:

1. **Sahaj Bala** - Inherited, innate strength readily achieved from parental side.
2. **Kalaj Bala** - This is natural adaptive immunity gained when faced to variable seasonal and climacteric changes.
3. **Yuktikrut Bala** - Strength intentionally achieved by practicing proper diet and daily routine.

While having some immunomodulatory drugs, the status of *Bala* of an individual should be taken into account. In the prima facie, every individual has to be aware of his own strengths and weaknesses. Not every individual should be supplied with immunity boosting supplements. This will unnecessarily keep the natural phenomenon of immune system idle and inert.

## **YOGA & PRANAYAMA**

*Pranayama* (Prana and ayama) which means control over *Prana*. Respiration is one of the expedients for combating distractions by restraining breathe and forcible expulsions. Regulation of breath (*Pranayama*) viz. regulating the rhythm and flow of respiration cycle can be achieved only after steadiness in physical posture (*Asana*).

In today's scenario, COVID19 pandemic has drastically driven a wave of fearfulness in every individual with a deep impact at psychological level. It is true about the intensity or virulence and mortality which it has created and spread

globally but human fraternity needs to be patient enough to face current and any other unfortunate situations hereafter too.

India has a very vast background and original deep roots of Yoga and spiritual sciences. Today whole world is having an eye over India for the implementation of methodology which can eradicate such type of miseries viz. *Adhibhautik vyadhi* (diseases caused by and concerned with animals and materialistic objects) also *Adhyatmik vyadhi* (spiritual problems).

### **KEY TAKE AWAY**

Human fraternity is constantly under the threat of being attacked by various microbes. One of which we are facing today is COVID19 pandemic. Boosting immunity to survive in unfavorable and unwholesome conditions is a need of hour today. A very vast variety of preventive, prophylactic and curative measures are spread now a days. This comes from the opener end like government, policy makers, medical health care systems and even any other administrative authorities too. But this fact should also be understood that every living being is gifted with its natural immunity and a unique constitutional makeup. For anything before practicing and implementing, individuals should trust their own physiological gifted aspects from the user end. Enhancing own immunity can be done by improvising

the status of physiological aspects as mentioned in Ayurveda too. Knowing one's own *Prakriti, Agni, Koshta, Dhatu Sarta* and status of *Bala* will benefit us to know and make us aware about what we are actually made up of, what we have with us, and what we do really need. Biotic life is continuously exposed to and is in direct contact with the external environment. So seasonal variation and its impact develops tactical changes within the body which also changes the status of *Agni* and thereafter *Bala*. So, while practicing immunity boosting measures, the seasonal impact and other physiological parameters as stated above should be taken into considerations.

This pandemic has also created a wave of psychological disturbances and related disorders related to it. So along with measures of physical stability, need is to focus on psychological and spiritual stability as well. For this, mass education regarding practicing pranayama and yoga proves beneficial.

This article is not meant to deny any existing trends of immunity boosting measures, rather it is purely intended to educate mass regarding own strength and potential. Also means and measures to develop and enhance body's own aspects of - *Prakriti, Agni, Koshta, Dhatu Sarta*, and *Bala* within physiological limits.

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