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Immunity - Building up Medical Capacity: An Ayurveda overview.

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Background

In almost 24 months the human civilization is facing an unspeakable tragedy in every aspect of human life due to the COVID-19. Medical fraternity is also confronting multiple levels of threats and obstacles to tackle the aftermath of the outbreak. Social, economical, health infrastructures and their operational dynamics are partially collapsed and paralyzed for a certain period of time. On account of this, various unjustified, non-tested and irrational concepts along with some good research oriented truths are getting momentum as remedial measures for combating the deadly appearing virus. Various preventive and treatment modules are advocated from time to time by national and international health monitoring authorities. Among conducted research across the globe, some were found competent and grossly acceptable whereas some are found not accepted by the scientific community due to lack of situation-based universal acceptance.

The whole of humanity is still in hunt of a convenient and adoptable remedy to fight against this. Owing to its rapid mutations and presence of multiple stains at a time, a single remedial measure is found insufficient. Gradually, the major focus of the research is shifting towards the building up of medical capacity of individuals and immunity enhancing measures in various forms have been capturing the major stakes of healthcare industries. This very subject matter has been stressed in *Ayurveda* and both general and disease specific immunity have been specifically depicted as prime treatment modules in the majority of the diseases.

Immunity, its components and immune body

According to the *Ayurveda*, immunity can be defined as the inner threshold of the body which provides the required resistance against the disease. It is not merely against specific infection agent or disease rather *Vyadhikshamatva* implies a resistance against a loss of integrity, proportion and inter-relationship amongst the individual bioenergy or *dhatu*. The hemostasis among the supportive elements of the body and mind, in other ways, is called *dhatuamyaya*. *Vyadhi-vighatakbhava*, *vyadhi-sahatvam*, *balam*, *abhibhavashakti* are the synonyms to the immunity as per Ayurveda. *Vyadhi-asahatvam*, *vikara-vighata-abhava*, *durbalam anabhibhavah shakti*, on the other hand, denotes compromised status where the body is unable to combat against exogenous agents. It can also be called an immunocompromised state.

Three mechanisms namely *sahaja*, *kalaja* and *yuktikurta* act simultaneously to exert the adequate potential of immunity. *Sahaja bala* i.e. congenital or natural immunity is inherited from the parents. It can be triggered through the protocol of *sankalpa*, *saumanasya* and *garbhparicharya* of *Ayurveda*. *Kalaja bala* is the immunity which is attained through proper daily and seasonal regimen. *Yuktikrita bala* represents the acquired immunity through which disease can be defended directly. The components of these categories include specific food, programmed activities like exercises and the specific medicine like *rasayana* etc.

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Immunity is practically understood either by reduction of potential strength of already manifested diseases and prevention of those which are not manifested yet. Immune body is a body which can execute both the actions upto certain level. Non-obese, well composed body, not much thin are usually immune. On the other hand, compromised body like excessively obese persons, excessively thin, ill composed and the body of a person who consume unwholesome diet on the regular basis are considered non-immune body.

Oja and Immunity

Oja, the vital essence of the body, is formed as a synthesized nectar of all tissues of the body. It provides all kinds of protection of the vital organs and the senses by maintaining the functional hemostasis of all the body parts. *Oja* is the provider and maintainer of the immunity to some extent. *Oja* gets depleted by the excessive anger, travelling, fear, grief, physical activities, by suppression of hunger, excessive consumption of *katu-ruksha bhojana*, excessive thinking, taking less food, fasting, excessive night awakening etc. Eventually that depletion causes loss of immunity and manifests as less strength of the body and mind, excessive thinking, depletion of lustre and complexion, loss of mental initiation, dryness of the body and wasting. Deranged *oja* can be restored by *jivaniya aushadhi*, milk, and meat soup. The digestive fire/*agni*, proper food, proper maintenance of body humour, *sadhak pitta*, pure blood, the *majja* and the *shukra* are mentioned as a vitality that provides a different instance of the classics. This also maintains the equilibrium of the *ojas* in the body.

Immunomodulation - Various means in Ayurveda

Immunomodulation encompasses all therapeutic interventions aimed at modifying the immune response. Augmentation of the immune response is desirable to prevent infection in states when the body is not capable to cope up adequately. In *Ayurveda* various factors are mentioned to increase and maintain the immune strength of an individual. There are six factors which influence vitality in larger aspects and maintenance of which can lead to a good immunity. It includes birth in a place where

the individuals are naturally strong, that in a time conducive for strength, favourable time i.e. pleasant and moderate climate, excellence of seed (sperm and ovum), *soil* (uterus), excellence of diet, excellence of body, excellency of suitability and mental strength, natural mechanism, youth, physical exercise and cheerfulness.

Excellency of diet for Immunomodulation

It indicates that food with all required nutrition in an adequate quantity helps in prevention of diseases and promotion of health, gives strength, vitality, endurance and improves immunity. *Aharasampad* improves immunity to a considerable extent. *Aharaparinama kara bhavas* have a major role to digest the food as required. This factor converts the exogenous food substances into endogenous. These factors like *usma*, *vayu*, *kleda*, *sneha*, *kala* and *samayoga* eventually transform the food having complex form to a digestible and absorbable one. To get excellence of diet, food should be consumed with due consideration of the eight factors known as *astavidhivisesayatana*. These factors are natural quality, processing, combination of substance, quantity of food, place of cultivation, time, rules and consumer. *Sara*, proper essence, of food substance is only available if these every factor are adequately followed. Taking proper and wholesome combinations and avoiding the improper and unwholesome combination helps to produce *sara* (required essence) for the body which ultimately provide the desired endurance and immunity. *Bhojana sadgunya* i.e. food with adequate quality like *usna*, *snigdha* etc. facilitate digestion and improve endurance.

Foods to be consumed and to be avoided for Immunomodulation

Food is the source of vital energy and is called *balayatanam*. Proper food, after getting properly digested by the digestive fire provides required adequate nourishment to all the *dhatu* (body tissues), *ojas* and maintains the supply chain of the immunity. Some specific foods are mentioned as immunomodulators. These include *Ojasya-dravya* like *ghree*. *jibaniya gana*, *mamsa rasa*, milk etc., *balya* and *balavridhikara dravya* like Milk, Fish, Chicken, *draksha* etc, *prana bardhaka*

dravya like Milk, Ghee etc., *laghu* (Easily digestible), *sadrasayukta* (contains all rasa), *mahabhuta yukta* (Containing all nutrient and micronutrients), *priya* (Desirable and palatable) and *chaturvidha* i.e. having various kinds and from various resources.

On the contrary improper food habits cause the depletion of vitality and as a result, immunity also gets diminished. This includes non-consumption of *visayukta anna* (toxin producing substances) like preservative and fruits with milk etc., *puti* and *paryusita anna* (fridge food, packed food), *samkirna-asana* (impure diet), which not prepared in right manner and right spirit, *viruddhasana* (incompatible diet) like improper combinations and sequence, *amatra-asana* (unjustified dose of diet) like less amount of food and excessive amount, *ajirnasana* (taking food in condition of indigestion), *samasana* (mixing of wholesome and unwholesome), *adhyasana* (taking food after another food or before getting it digested), *visamasana* (taking in improper time).

Excellency of suitability (satmya-sampat) as Immunomodulator

It is a process of making suitable substances that also plays an important role to maintain the equilibrium. Body initially reacts when a new food habit is introduced in the body and tries to get accustomed gradually. The process of getting accustomed is not always the same. It depends on circumstances, body status and season. The endurance of the body is maintained if the body makes those substances suitable. Maintenance of body humors, provide adequate nutrition, give strength to sense organs, increase strength, clears the channel properly, doesn't distort the mental faculty and becomes compatible. Consumption of proper combination and avoidance of improper combination of food also indirectly fasten the compatible process. Impure diet, incompatible diet, unjustified dose of diet, taking food in condition of indigestion, mixing wholesome and unwholesome together, taking food after another food or before getting it digested, taking in improper time are to be avoided totally for making the food and lifestyle suitable for the body. This enhances the strength of the body without vitiating the body humor. Certain factors are also to be taken into consideration in the cause of adoption.

Beneficial and favourable substances are to be adopted. The process should be completed by gradual habitual practices done in accordance with place, time, and dominance of body constituent of person and disease state.

Excellency of mind or mental acuity for Immunomodulation

Mental acuity plays an important role in immunomodulation. Food gets transformed in various *dhatu*s and provides nutrition and maintains its haemostasis. Mind is formed out of the essence of all *dhatu*s. *Sattvasara* is the postulated goal of any food substance. *Sattvasara* forms the highest mental threshold. This excellence of mind in the form of *sattvasara* enhances the pain threshold of the mind and thus increases the endurance of the body. Excellence of mind can be properly achieved by various means namely avoidance of unwholesome, consumption of wholesome and restraining from over indulgence of *indriyas* to their objects. Ultimately this excellence of mind or *satvasampat* provides healthy status. Removal of mental stress and the stable mentality enhance a level of immunity in a wider manner that is why the avoidance of mental agony and mental calmness, understanding of underlined happening have been admitted to remove the stress.

Executing adequate activity for Immunomodulation

Humans perform three types of activities namely *kayika*, *vacika*, *manasika*. Execution of proper mental activity and verbal activity are partially elaborated under *sattva sampat* as mind is the supreme controller of all ten *indriyas*. Regular physical activity improves body endurance and enhances immunity. The activity is divided into two categories namely *niyatakalanusara* (bounded by certain time) and *aniyatakalanusara* (not bounded by specific time frame). *Niyatakalanusari* karma includes *baddhvakramavihara* (programmed activities) and *abaddhakramavihara* (non-programmed) activities of daily regimen and seasonal regimen. Proper adaptation of daily regimen and seasonal regimen prevent accumulation

of *dosha* and expulsion of vitiated *dosha* from the body. Thus play a key factor in maintaining the homeostasis of *tridosha* and amplify the body immunity. The activity like *vegadharana* (suppression of natural urges), *vegodirana* (forceful discharge of natural urges), *sodhana* (purification of accumulated *dosha*), *brimhana* (nourishing activity and food) and *bhutadyasparsana* come under *aniyata kala vihara*. The immunity can be augmented considerably by non-suppression and non-triggering of natural urges, timely purification of *dosha*, having proper adequate diet etc.

Excellency of delightfulness or social dealings for Immunomodulation

Samharsha i.e. being delightful in life and mental calmness improve immunity. The measures include being fearless, relaxed, calm, satisfied in day to day activities, cheer up, unconcerned, in actual and factual orientation etc.. On the other hand, remaining in grief and in a depression or disappointment condition decreases the immunity potential. Proper initiation of needful works potentiate the endurance of the body.

Lifestyle modification to be adapted for Immunomodulation

Proper hemostasis of the body can be maintained by adaptation of a beneficial lifestyle. These include early awakening as per biological clock, taking adequate sleep and not having day sleep, regular *abhyanga* (daily massage) in empty stomach, regular *vyayama* (daily after massage in empty stomach) upto half strength and not after food, regular *pratimarsha nasya* (Ghee or oil , 2drops), taking adequate warm water bath in empty stomach and in hungry condition, execution of proper professional, familial and social conduct, adaptation of

proper sexual practice and regular spiritual practice (*adhyatma kriya*). These factors help to hold the equilibrium of the body by enhancing endurance and immunity of the body.

Conclusion :

On the basis of above facts it may be said that the means and methods of achieving immunity mentioned in *Ayurveda* is quite simple, convenient and natural. Immunity can be significantly improved without hampering the other functionality of the body and the body can be made potent enough to fight against the exogenous diseases according to *Ayurveda*. These factors are proper diet, wholesome practices, pure mental state, daily regimen and a joyful living. Proper exercise also plays a vital role to enhance the immunity. Currently the whole world is in a race to prepare various kinds of laboratory-based immunity enhancing products and a new immunity industry is rapidly evolving. So in a situation when the humanity is being pushed, without improving the human's natural immunity, into an unnatural and non-sustainable era of immunity where the human will remain dependent on certain measures and products throughout the life then the adaptations of these natural immunity enhancing models of *Ayurveda* will be boon for the human. Hence, the immunity boosting parameters are to be made user-friendly, adaptable and should be propagated in a large scale so that each and every person can adapt in day to day life. Simultaneously, *Ayurveda* food and other packages of immunity boosting measures like the daily regimen, seasonal regimen, exercise, yoga etc. are also to be made available for common people. Maintenance of an optimal immunity can be done by adopting traditional lifestyles and local food habits according to the season, place and compatibility.

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