

Concept of ‘Bala’ (strength) –an Ayurvedic and modern review**Kale Deepa Rajesh¹, Holkar Vijaya Nagnath*¹**

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ABSTRACT-

Bala is considered as the physical and mental strength of the individual. It can be assessed in healthy individuals as well as diseased. The knowledge of *Bala* of a patient is needed to know about the prognosis and to fix the dosage, to adopt proper treatment modality and to advice proper regimens for a healthy lifestyle. Information on *Bala* is available in *Ayurvedic* texts, but at different contexts. Among the explanation given are, *Bala* is one which prevents the *roga*, one which is *Adhistana* of *Arogya* and treatment is given for protecting it. *Bala* has been explained in different contexts like, *Ojas* as *Bala*, *Prakruta Kapha* as *Bala*. *Vyadhikshamatva* has also been explained as *Bala* in *Ayurveda*. Assessment of *Manasika Bala* can also be done. This *Bala* also have a direct relationship with *Vyadhikshamatva* or immune response of body and strength. The extrinsic expression of *Bala* is the *Vyayama shakti* (exercise power). *Vyayama shakti* may be correlated with physical strength. The intrinsic expression of *Bala* is *Vyadhikshamatva*

(immunity). *Bala* is characteristic of feature of healthy physical and mental state of body. So, in this study an attempt is being made to collect information available on concept of *Bala* in Ayurvedic and Modern view.

KEYWORDS- *Bala*, Strength, *Vyadhikshamatva*, Immunity.

INTRODUCTION-

Ayurveda gives priority to maintain healthy state of an individual and its second aim is to treat the disease of the patient. *Bala* is considered as the physical and mental strength of the individual. It can be assessed in healthy individuals as well as diseased. In present era of fast paced life people are ignoring or are unable to give proper attention towards their health; disturbed lifestyle i.e. irregular food & sleep habits, lack of exercise, stress etc become a contributory factor for many health hazards. It is so because of *Bala* that one could sustain through morbid condition or maintain a healthy life. Through this factor a person tends to perform his/her work both physically (*Sharirik*) and mentally (*Manasika*). It could be the

exterior one in form of physical strength or the inner strength or stamina. It is the important source of energy which is required for nourishment, development and defense mechanism of body; which helps in sustenance of life. The knowledge of *Bala* of a patient is needed to know about the prognosis and to fix the dosage, to adopt proper treatment modality and to advice proper regimens for a healthy lifestyle. Information on *Bala* is available in *Ayurvedic* texts, but at different contexts. Among the explanation given are, *Bala* is one which prevents the *roga*, one which is *adhista* of *arogya* and treatment is given for protecting it. *Bala* has been explained in different contexts like, *Ojas* as *Bala*, *prakruta Kapha* as *Bala*. *Vyadhikshamatva* has also been explained as *Bala* in *Ayurved*. Assessment of *manasika Bala* can also be done. This *Bala* also have a direct relationship with *Vyadhikhyamatva* or immune response of body and strength. The extrinsic expression of *Bala* is the *Vyayama Shakti* (exercise power). *Vyayama shakti* may be correlated with physical strength. The intrinsic expression of *Bala* is *Vyadhiksamatva* (immunity). *Bala* is characteristic of feature of healthy physical and mental state of body.

AIMS AND OBJECTIVES-

AIMS-

To evaluate importance of *Bala* (strength) in maintenance of health of human being.

OBJECTIVES-

To study detailed review of *Bala* (strength) from *Granthas*, textbooks, and data available online

To evaluate scientific explanation of the data available.

MATERIALS AND METHODS-

1. All the literary data was collected from available *Samhitas*, *Granthas* and textbooks.
2. Related websites have also been searched.
3. Previous articles and dissertations were referred.

Concept of *Bala* in Ayurveda-

According to Acharya Charaka *Prakrita Kapha*, is termed as *Bala*, the same has again been termed as *Ojas* which is the *Saara* of the body ⁽²⁾, similarly *Udan Vayu* (subtype of *Vata dosha* is termed as *Bala* ⁽³⁾, one of the main *Karma* of *Udan Vayu* is *Bala* ⁽⁴⁾. In *Jwara chikista adhyaya*, *Arogya* is termed as *Adhithana* of *Bala* that means *Aarogya* (Health) in general depends on the *Bala* ⁽⁵⁾. According to Yogratnakar *Agni* is considered as *Moola* (origin) of *Bala* of any *Vyakti*. ⁽⁶⁾ *Agni* is responsible for generation and maintenance of *Bala* in the body ⁽⁷⁾.

Acharya Charaka mentioned *Dashvidha Pariksha* for the evaluation of *Bala* of the patient and disease. *Bala* is judged on the basis of *Prakriti*, *Vikruti*, *Sara*, *Samhanana*, *Pramana*, *Satmyaa*, *Satva*, *Aaharshakti*, *Vyamashakti* and *Vaya* ⁽⁸⁾

Classification of *Bala*

Bala as classified by Acharya Charaka ⁽¹⁾ *Bala* is divided into three categories, *Sahaja*, *Kalaja* and *Yuktikrutaja bala*.

Sahaja Bala (natural strength):

The *Sharirika* and *Manasika Bala* which is attained due to *Matruja* and *Pitruja bhavas* like *Rasa*, *Rakta*, *Virya*, *Ojus* etc. is *Sahaja Bala*, which can be considered as strength attained by birth. Charaka states *Sahaja Bala* is natural *Bala* of *Sharira* and *Satva* i.e. *Bala* of body and

the mind should be considered. Chakrapani also commented the statement of Charaka in association with *Prakruta swabhava* of *sharira* and *Satva* i.e. inherent potential of the person, that why some people are strong and whereas some are weak. *Sahaja bala* can be compared to Innate Immunity which refers to nonspecific defense mechanisms that occur immediately or within hours of an antigens appearance in the body.⁽¹⁸⁾ Environmental influences or epigenetic changes also affect the immune status since birth.⁽¹⁹⁾

Kaalaj Bala (periodic strength):

Bala of this type depends on season and age of an individual. It is noted that in some seasons diseases are more prevalent which is due to *kaalaja Bala hani*. During childhood and old age individuals have less *Bala* and thus are prone to disease which is due to change in tribute of *kaalaja Bala*. In *Ayurved Rutu Sandhi* is the best example of *Kaalaja Bala hani* therefore during that period special care is mentioned in *Rutucharya* for retaining *Bala*.⁽¹²⁾ The purpose of *Rutucharya* is seen in all classics which shows how much importance Acharyas have given to *Kaalaja Bala*. Charaka divided *Kaalaja Bala* in to two types, based on seasonal attribute and age of the person. Chakrapani further explains that based on season, in *Adaanakaal* (i.e. Shishira, Vasanta and Greeshma), *Bala* is comparatively less than *Visargakaala* i.e. (Varsha, Sharad and Hemant). There is a study showing that the activity of almost a quarter of our genes differs according to the time of year, some are more active in winter and others in summer. This seasonality also affects our immune cells and the composition of our blood and adipose tissue⁽¹⁷⁾. Regarding *Vaya*

sampat, in *Madhyama vaya* all *Dhatu* attained its *Sampoornata*. So it is natural that individual at this stage have more strength compared to childhood and old age. In *Baalya avastha*, *Bala* gradually increases with age due to *Dhatu sampornata* but in old age *Bala* decrease with age because of *Dhatu kshaya*. Researches prove that Physiological ageing is accompanied by decline in immune system function. Old people are reportedly more prone to various infectious and chronic disease as compared with young people⁽²⁰⁾.

Yuktikruta Bala (acquired strength):

Yuktikruta bala can be compared to Adaptive Immunity. This type of *Bala* depends on the attitude, food habits, exercise and proper hygiene of the person. If a person follows *Dinacharyas*, *Rutucharyas*, proper food habits and *Rasayan* treatments then he can have good quality of life and it's possible due to the maintenance of *Yuktikruta Bala*. This *Bala* which is fully dependent on individual and this actions. According to Chakrapani the strength begins to develop by regular diet, rest, physical exercise. *Rasayana* administration plays an important role in the development of the defence mechanism.

Thus *Sahaja Bala* is determined at the time of conception, *Kaalaja Bala* depends on season and *Vaya*. Only *Yuktikruta Bala* could be increased by sincere efforts. *Ahara*, *chesta*, *Rasayanyoga* and *Baalyadravyas* are important in maintaining *Yuktikruta Bala*.

Classification of Bala based on physical activity

Dhatu sarata and *Satva sarata* plays a major role in the formation of *Bala* but assessment of *Bala* is done by the

working capacity of the individual. Based on the *Vyayamshakthi Bala* can be classified as *Pravara*, *Madhyama* and *Avara*.

Pravara Bala- It can be said that *pravara Bala* is that type of *bala*, which makes individual do all kinds of physical activities in utmost mental stress and person never feels tired. Person can do its activities well directed or unmoved and remains stress free. The person having *pravara bala* are mentally and physically active and lead healthy life.

Avara Bala- *Avara bala* is a type of *Bala* which is opposite in nature to *pravara Bala*. Those people who possess this type of *bala* become tired easily. People of this category are neither having strength for enduring physical strain nor the ability to withstand the mental stress.

Madhyama Bala - *Bala* that comes in between the *pravara* and *avara bala* can be termed as *madhyama bala*. In other words *bala*, it is a variety of whose nature is found in between *pravara* and *avara bala*.

Criteria for assessing *Bala*

1. *Bala* and *Vyayama Shakti*

Maharshi Charaka in *Vimanasthana* directs the methods to examine *Bala*.⁽⁸⁾ It is assessed by *Vyayama Shakti*. Dalhanana also commented on *bala* in relationship with *Ojas*. In his opinion *bala* is assessed by ones power to lift and bear heavy weights. *Bala* is *karmashakti*, means power to perform work.

Physical strength- It is the ability of to exert force on physical objects using muscles. An individual's physical strength is determined by two factors ;the cross sectional area of muscle fibers recruited to generate force and the intensity of the recruitment .individuals with a high proportion of fast twitch

fibers, but would have a greater inherent capacity for physical endurance. The genetic inheritance of muscle fiber type sets the outermost boundaries of physical strength possible (barring the use of enhancing agents such as testosterone), though the unique position within this envelope is determined by training. Other considerations are the ability to recruit muscle fibers for a particular activity, joint angles, and the length of each limb. For a given cross –section, shorter limbs are able to lift more weight. The ability to gain muscle also varies person to person, based mainly upon genes dictating the amounts of hormones secreted, but also on sex, age, health of the person and adequate nutrients.

2. *Bala* in *Dasha vidha rogi pareeksha*⁽⁸⁾

Prakruti- According to *prakruti* it can be said that individuals of *Vataprakruti* have *alpa bala*, individuals of *pitta prakruti* have *madhyama bala* and individuals of *kapha prakruti* have *uttam bala*.

Vikruti- Here the *rogi* is assessed through *dosha*, *dushya*, *kaala* and *bala*.

Sara- To know the *bala* pramana of *purusha*, *ashtasaras* are explained. While explaining *dhatu sarata*; it is mentioned that the person of *Raktasara* have *anatibala*, the person of *Mamsa*, *Asthi*, *Majja* and *Shukra Sara* are *Balavanta* and the person of *Sarva Sara* is *Balavaan*.

Samhanana- The *samhanan* is explained as *sthiropachita* i.e. well demarcated bones, well bound joints and well-formed muscles and blood. If a person's *samhanan* is good then he is *balavan*, if not, *alpabala* and if his *samhanan* is moderate then he is of *madhyama bala*.

Pramantah- It is measured by one's own *anguli pramana*. The person with proper *anguli pramana* of the body are endowed with *ayu, bala, oja, sukha, aishwarya, via* and other desired qualities. The person with less or more measurement has qualities accordingly.

Satmyatah- If the person is *sarvarasa satmya* then that person is said to be *balavan*. But if the person is *ek rasa satmya* then that person is *alpabala*. If he is in between these two *satmya* then that individual is *madhyama bala*.

Sattwatah- Here *sattva* means *mano bala*. It is of three types. The person with *pravara sattva*, can tolerate severe pain produced by *nija* and *agantuja vyadhies*. Individuals having *madhyama sattva* tolerate the pain for themselves when they realize that other can also tolerate it. Then they at a times gain strength from others. Those having *avara sattva* neither by themselves nor through others can sustain their mental strength. Even if they possessed of big physique, they cannot tolerate even mild pain. They are susceptible for fear, Grief, greed, delusion and ego. When they saw terrifying situation or come across flesh or blood they become fainted or fall to the ground.

Ahara shakti- This is examined by the power of ingestion as well as digestion. Strength and life also depend on *Aahar Shakti* it also divided into three *pravara, madhyama, and avara*.

Vyayama shakti- If the person can perform more physical work *Pravara Bala*, then he is of If moderately then *Madhyama Bala* and if less than *Avara bala*.

Vaya shakti- *Baala-* up to 16 yrs of are *Alpa Bala*, *Madhyaavastha*-16 to 60 yrs

are *Uttama Bala* and *Jeernaavastha*-60 to 100 yrs are *Alpa Bala*.

Bala and motor function- Externally *Bala* is expressed by *Vyayama shakti* (exercise strength). *Vyayama shakti* can be compared with the motor system of our body. The motor system is responsible for muscle contraction along with the range, rate and force of contraction and therefore responsible for the muscle power. It is responsible for equilibrium, posture and various body movements alone with co-ordination between different muscles. Therefore testing of motor system including muscle tone, size of the muscle, muscle power, muscular co-ordination, gait etc. must be performed to assess the *bala*. Motor system individually cannot do anything without the help of sensory system and so many other factors. ⁽¹⁴⁾ Muscular strength also depends on the body mass index. If motor function is in normal state then ability to work also occurs normally.

Bala and Vayadhikshamathava- Resistance towards disease is called *Vyadhikshamathava*. ⁽¹⁵⁾ In *Ayurved Charaka* declares it varies in individual to individual. The power of body to resist and prevent the disease is called *vyadhikshamathava*. Inside that is the process by which *Vyadhi prativandhyakatwa* is provided. Chakrapani also accepts same view i.e. ability to fight back and the ability to prevent the disease. Charaka explains about *vyadhi aasha purusha* as, one who is *atisthula, atikrusha*, whose *mamasa, shonitha*, and *asthi dhatu*s are not well formed, who is *durbala*, who consume *asatmya aahara*, who consumes less quantity of *aahara* and who is *hina satva*, these persons will not have

vyadhikshamatva. The persons opposite to these features possess *vyadhikshamata*.

Bala and immunity- Immunity can be defined as the self-preparedness against invasion by microbes.⁽¹³⁾ Immunity is divided into two categories **a. Innate immunity or nonspecific immunity** is not affected by prior contact with the invader and it is effective against all without recognizing the specific identities of the enemies i.e. *Vyadhibala virudhitwa*. It is composed of many factors. Firstly the constitutional factor due to which some individuals are more prone to some specific infections but others are not. **b. Specific immunity:** There is a separate mechanism for each and every enemy (antigens). The weapon for one invader will not act against the other hence called specific. This immunity develops properly only when the body is exposed to the specific antigen.i.e. prior contact is essential, but the provision is inborn, means *sahaja*. The specific immunity may be active or passive. Active immunity is developed within the body by the lymphocytes against antigens introduced into the body i.e. *Vyadhi utpada pratibandhaktwa*. The passive immunity occurs due to transfer or introduction of antibodies from outside. It is a readymade immunity and can act immediately but it is short lasting.⁽¹⁶⁾ That means our body has its own defense mechanism against the disease processes and this is possible only when proper *bala* is present in our body internally and externally.

DISCUSSION

Bala is considered as the physical and mental strength of the individual. It can be assessed in healthy individuals as well as

diseased. The knowledge of *bala* of patient is needed to know about the prognosis and to fix the dosage, for proper treatment and to advise proper regimen for healthy lifestyle. *Bala* has been explained in different contexts like, *Ojas* as *Bala*, *prakruta Kapha* as *Bala*. *Vyadhikshamatva* has also been explained as *Bala* in *Ayurved*. This *bala* also has a direct relationship with *Vyadhikshamatva* or immune as *Bala* is assessed by *Vyayama shakti*. It can be considered as *Shareerika bala*. *Satwa* is considered as *Manasika bala*. The concept of *Ojas* and its *karma* can be considered as *Vyadhikshamatva bala*. So *Bala* can be assessed in three ways i.e. physically, mentally and immunologically. *Bala* is responsible for nourishment, immunity and sustenance of life. Immunity is the one's capacity to resist pathogenic agents or various diseases. Immunity is the ability of body to resist the entry of different types of foreign bodies like bacteria, virus, toxic substances etc. in Ayurvedic reference, it is the tendency of the body to keep *dosha*, *dhatu*, and *mala* in equilibrium. There are two types of immunity viz Innate immunity (non-specific immunity) and acquired immunity (specific immunity). Innate immunity is the capacity of body to resist pathogens by birth. Acquired immunity is the resistance developed in the body against any specific foreign body like bacteria, viruses, toxins, vaccines and grafted or transplanted tissues. In Ayurveda Acharya Charaka has described *Balavriddhikara Bhava* in *Shareera Sthana* which can be correlated to methods defining and enhancing immunity. *Bala* is characteristic of

feature of healthy physical and mental state of body.

CONCLUSION

Bala is the functional effect of *Prakrut Kapha, Oja, and pusta dhatu*. *Sahaja Bala* is determined at the time of conception, *Kaalaja Bala* depends on season and *Vaya*. Only *Yuktikruta Bala* could be increased by sincere efforts. *Ahara, cheta, Rasayanyoga* and *Baalyadravyas* are important in maintaining *Yuktikruta Bala*. Immunity against diseases is of two kinds i.e. the one which attenuate the manifested disease and other variety prevents the manifestation of diseases. *Sahaja Bala* can be correlated to innate immunity. *Kalaja* and *Yuktikruta Bala* may be correlated to acquired immunity. Factors which contribute for *Vyadhikshamatwa* are normal *Dosha*, equilibrium state of *Dhatu*, normal *Agni*, patency of *Srotas*. *Bala* is an important factor in diagnosis and treatment of diseases.

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