

A Review on Relation of *Prakriti* with *Sharirika Bala*

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ABSTRACT

Acharya Charaka has described different Deha Prakriti in charaka samhita such as Vataja, Pittaj and Kaphaj Prakriti as main and Dwandaja Prakriti i.e Vata-pitta, Vata-kapha and Pitta-kapha and last one is Sama Prakriti i.e. all the Doshas are in equilibrium state also known as Sama Prakriti. According to Ayurvedic literature the quality of Bala is supreme in Kapha Pradhan Prakriti individuals followed by Pitta and Vata Prakriti individuals. So, different Dosha Pradhana Deha-Prakriti persons have varying degrees of Bala, according to the Ayurvedic Samhitas. Another crucial factor for assuming Trividha Bala, which consists of Pravara, Madhyama, and Avara, is Vyayama-Shakti. There is no convincing evidence of a direct relationship between Deha-prakriti and Vyayama-Shakti, despite all these references suggesting that various Dosha Pradhana Deha-Prakriti persons should also have varying amounts of Vyayama-Shakti.

There isn't a conventional test for Vyayama-Shakti examination outlined in Ayurvedic literature, but various contemporary fitness tests and efficiency tests, such the Treadmill, Queens test and Harvard step test, can be utilized to provide objective parameters with which the Vyayama-shakti can be assessed and co-related with Deha Prakriti.

Keywords: Deha Prakriti, Bala, Vyayama-shakti

INTRODUCTION

As we all know that the *Prakriti* of human being is formed at the time of fusion of *Shukra evam Shonita* and it remains same throughout the life⁽²⁾. The term *Bala* has its own significance and is also related to *Prakriti*. In Ayurveda, Acharyas has described various *Prakriti*, mainly three *Ekal Prakriti* (*Vaataj, Pittaj, Kaphaj*) and three *Dwandaja Prakriti* (*Vaat-Pitta,*

Vaat-Kapha, Pitta-Kapha), and at last *Sama Prakriti* i.e all *Doshas* remain in equilibrium in this state. Similarly, *Bala* is also defined as *Prakrit Sleshma*⁽³⁾. *Bala* is classified into two categories and both having three types.

Classification based on strength⁽¹⁾ (Physical):

1. *Pravara Bala*
2. *Madhyam Bala*
3. *Avara Bala*.

Classification based on its origin⁽⁴⁾:

1. *Sahaj Bala*

2. *Kalaj Bala*
3. *Yuktikrita Bala*

MATERIALS AND METHODS

Literature and references related to the proposed title are collected from classical texts of Ayurveda and contemporary literature. Various publications, research papers, references from internet related to topic have been considered.

REVIEW AND DISCUSSION

Prakriti is one of the fundamental ideas in Ayurveda, among others. *Prakriti* originated with the *Tridosha*. The dominant dosha is in charge of forming *Prakriti* at the moment when the ovum and sperm fuse⁽⁵⁾. In accordance with Ayurveda, a person with a balanced *Tridosha* is regarded as *Shreshtha* (best), compared to a person with a *Kapha Prakriti* who has *Uttam Bala* (excellent strength), a *Pitta Prakriti* who has *Madhyam Bala* (moderate strength), and a *Vata Prakriti* who has *Alpa Bala* (poor strength)⁽⁶⁾. It implies that *Deha Prakriti*-dependent *Dehabala* fluctuates. The two most significant types of *Bala* mentioned in the classical Ayurvedic writings are *Sharirika Bala* (physical strength) and *manasik Bala* (mental power). To reveal a disease, one of the most crucial elements is *Bala*. *Bala* is a person's inner strength. Strength could be either physical or mental. *Bala* is only the topic of *Anumana*, or knowledge of inference, as it lacks *Rasa* (taste), *Varna* (color), and *Virya* (active principle). Both disease diagnosis and medication administration are aided by it.

Acharya Sushruta claimed that *Ojas*, also

known as *Bala*, is the ultimate essence of all the *Dhatus*, starting with *Rasa* and ending with *Sukra*⁽⁷⁾. According to *Acharya Charaka*, *Vaikruta Kapha* is referred to as the *Mala* and *Prakrutha Kapha* is referred to as the *Bala*⁽⁸⁾. Numerous ways to gauge physical strength or fitness have been developed by modern science. The modified Harvard Step Test (HST) is used, along with measures like the Physical Fitness Index (PFI) and Maximal Oxygen Consumption (VO₂ MAX) to assess the *Bala*.

Classification of *Prakriti* :

Acharyas had described various types of *Prakriti* in different individuals which are

1. *Vaataj*
2. *Pittaj*
3. *Kaphaj*
4. *Dwandhaj* (*Vaat-Pittaj*, *Vaat-Kaphaj*, *Pitta-Kaphaj*)
5. *Sam Prakriti*

Acharya Charaka has said *Sama Prakriti* as *Prakriti* and describes others as *Vaataj*, *Pittaj* etc. In regards of *Bala* *Acharyas* has said that the *Kapha Prakriti* individuals possess *Uttam Bala* (supreme), and *Pittaj* have (*Madhyam Bala*) and *Vaat Prakriti* possess minimum amount of *Bala* respectively.

Classification of *Bala* :

According to *Acharya Sushruta*, '*Bala*' is the factor by virtue of which a person can draw the nourishment and stability of the *Mamsa Dhatu* which can be co-related with the muscular tissues of the body, and it also provides the ability to perform various tasks and Since the regular "*Kapha Dosha*" serves to provide *Bala* for the body, the word "*Bala*" also refers to it⁽⁹⁾. Additionally, *Charaka* divides *Bala* into three categories: *Sahaja*

(natural), *Kalaja* (seasonal and age), and *Yuktikrita* (intelligent act). The *Yuktikrita* kind of the three is defined as the *Bala* that develops as a result of efforts specifically carried out for enhancing the same. These therapies include a variety of physical activities, yoga, dietary items, and medications with *rasayana* (a general tonic that nourishes all bodily tissues) and *vajikarana* (an action that particularly

includes nourishing the *Shukra*) qualities.⁽¹⁰⁾

Relation between *Bala* & *Prakriti* :

Prakriti of an individual is of great importance in determining the body composition and also in understanding the disease pathology. It has been observed that *Bala* is directly dependant on naturally inherited *Prakriti*, as shown in Table 1.

Table 1⁽¹¹⁾

Prakriti	Relation with Bala
Vaataj Prakriti	The Vaataj Prakriti individuals possess least Bala. They are more prone to have various ailments with changing environment.
Pittaj Prakriti	Pitta Prakriti individuals possess Madhyam Bala, and are more prone to heat related disorders in respect to Vaataj & Kapha Prakriti individuals.
Kapha Prakriti	Kaphaj Prakriti individuals have Uttam Bala i.e they are considered Balavanta among three Ekal Prakriti.

Assessment of *sharirika bala* is determined by *vyayama shakti* and *Sara Pariksha* in ayurveda⁽¹²⁾. Because of this *acharya* also include *vyayam* in *dashvidha pariksha*. Modified harvard step test is used to determine the physical strength and capacity to do work. So this test can be used to assess *dehabala* by measuring the *vyayam shakti*. This means there is relation between *dehabala* and *vyayam shakti*.

Strength is the quality of being physically strong or the capacity of an individual to withstand stress. Physical strength is measure of exertion of force on objects.

Physical fitness is defined as a general state of health and well-being or specifically the ability to perform aspects of sports or occupations. Physical performance is generally achieved through correct nutrition, exercise, hygiene and rest. It is a set of attributes or characteristics that people have or achieve that relates to the ability to

perform physical activity. Factors affecting the physical performance are age, somatotype, personality, diet and drugs; other factors can affect performance such as physical factors, psychological or external factors⁽¹³⁾. The test used to assess the physical strength is Modified harvard step test.

Modified Harvard Step Test:

Modified Harvard step test- (Powell K.E. & Blair S.N.: The Public Health burdens of sedentary living habits: theoretical but realistic estimates. Med.Sci.Sports Exerc.1994;26:851) In this each subject will be asked to complete 'up' and 'down' at task 22 cycles per min on 40 cm's height bench for male volunteers and for female volunteers 33 cm's height bench will be used for 5 minutes or until exhaustion whichever is early⁽¹⁴⁾.

Modified Harvard Step Test will be performed to establish the quality of *Bala* in different *Deha Prakriti* individuals in this study.

Physical Fitness Parameters-Heart rate, Blood pressure, Exercise duration

Physical Fitness Index- It is used to evaluate the cardiopulmonary fitness; it is a powerful indicator of cardiopulmonary fitness and there by physical performance. The regular exercise and nutritious food intake can increase PFI by increasing oxygen consumption.

The PFI score will be calculated as follows:
 $PFI = \text{Duration of exercise in seconds} \times 100 / 2 \times (\text{Sum of Pulse counts at 1, 2 and 3 minutes})^{(15)}$.

Category of fitness allotted as per PFI :-

CATEGORY	HARVARD INDEX
Poor	< 54
Low average	54 - 67
Average	68 - 82
Good	83 - 96
Excellent	> 96

VO₂ Max:

Maximum oxygen uptake (VO₂ max or maximal aerobic capacity) was measured during a continuous incremental exercise test to volitional exhaustion while running on a motorized treadmill. It was defined as the maximum rate at which a subject could take up and utilize oxygen while breathing air at sea level. The most reliable and accurate test of aerobic or cardiovascular fitness is VO₂ max testing. Your VO₂ max determines how well your cells utilize oxygen as a source of energy.⁽¹⁶⁾ This is a great way to gauge your level of physical fitness since it gives you an efficiency metric.

The most straightforward equation to determine VO₂ max is $VO_2 \text{ max} = 15 \times (\text{HRmax}/\text{HRrest})$. In comparison to other widely used formulas, this approach is thought to perform well⁽¹⁷⁾. Milliliters of oxygen per kilogram of body weight per

minute (mL/kg/min) are used to measure VO₂ max.

CONCLUSION

Vyayama Shakti and *Sara Pariksha* are used by Ayurveda to evaluate bala. According to ancient writings, people with *Kaphaja Prakriti* often have more *Bala* on their bodies than those with *Pittaja Prakriti* or *Vataja Prakriti*, who have the least. The effectiveness of the medicine and the patient's *Bala* have a role in Ayurvedic therapy. As is well knowledge, patients with *Avara Bala* cannot get powerful strength medications. Therefore, as a prerequisite to the treatment regime, the patient's *Bala* must be determined. The evidence supporting the aforementioned information, however, is still weak. This opens up the possibility for more study in this area and the use of scientific facts to back up this core idea.

Declaration by Authors

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