

## UNDERSTANDING THE CONCEPT OF VYAYAM IN PREVENTION OF LIFE STYLE DISEASES

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**ABSTRACT:** Lifestyle disease is defined as disease linked with the way people live their life. It is commonly caused by alcohol, drug, smoking abuse as well as lack of physical activity and unhealthy eating. Lifestyle diseases include atherosclerosis, heart disease, stroke, obesity and type II diabetes. Over 61 percent of all deaths in India are due to lifestyle or non-communicable diseases. This article highlights on lack of physical activity as one of the main factors which leads to lifestyle diseases. Industrialization, urbanization and mechanized transport have reduced physical activity, even in developing countries, so that currently more than 60 % of the global population is not sufficiently active. The rising prevalence of diabetes and obesity in India can be attributed, at least in part, to increasing levels of physical inactivity. So Practicing *Vyayam* if it is done in moderation can be very much useful in prevention of such life style diseases. *Karmasampat* is one of the important *Balavrudhikar Bhavas*. *Vyayam* is important aspect of *Sharirik Karma*. One should examine the power in respect of *Vyayamshakti*. Acharya Charak in *Vimansthana* directs the method to examine the *Bala*. It is to be assessed by *karmashakti*. The term *Vyayam* is the bodily movement which is meant for producing firmness and strength. Incompatible food, faulty dietary habits are one of the main factors which lead to lifestyle disease. Properly practiced *Vyayam* is the ultimate solution to prevent lifestyle diseases because incompatible food, cooked or uncooked can be digested without any difficulty in persons performing exercise daily. Physical exercise is always wholesome for those who are strong and take unctuous food. This article explains about the indications, contraindications, benefits of *Vyayam* and classical method to practice it.

**Keywords:** *Lifestyle disease, Vyayam, Balavrudhikar Bhavas. Karmasampat*

**INTRODUCTION:** Industrialization, urbanization and mechanized transport have reduced physical activity, even in developing countries, so that currently more than 60% of the global population is not sufficiently active.<sup>[1]</sup> Physical exercise is linked to longevity, independently of genetic factors. Physical activity, even at an older age, can significantly reduce the risk of coronary heart disease, diabetes, high blood pressure, and obesity, help reduce stress, anxiety and depression, and improve lipid profile. It also reduces the risks of colon cancer, breast cancer and ischemic stroke. The rising prevalence of diabetes and obesity in India can be at-

tributed, at least in part, to increasing levels of physical inactivity.<sup>[2]</sup> Doing more than 150 minutes of moderate physical activity or 60 minutes of vigorous physical activity a week – whether at work, in the home, or elsewhere – can reduce the risk of coronary heart disease by approximately 30%. Despite documented evidence of the benefit of physical activity in preventing and treating cardiovascular and other chronic diseases, more than a quarter of a million individuals die each year in the United States because of a “lack of regular physical exercise.”<sup>[3]</sup> Only 8% of the world’s population currently owns a car between 1980 and 1998, the global fleet of

cars, trucks and buses grew by 80%, with a third of the increase taking place in developing countries.<sup>[4]</sup> Physical inactivity comes because of much busy schedule. Ayurveda, science of life, already designed many guidelines, rules to perform Vyayam i.e. Physical exercise to keep you physically as well as mentally fit. *Karmasampat* is one of the important *Balavrudhikar Bhavas*.<sup>[5]</sup> So such guidelines, rules, should be scientifically followed to prevent life style diseases and increase longevity of life.

**AIM:** To study the concept and importance of Vyayam for prevention of life style diseases.

### **OBJECTIVES:**

1. To review Vyayam from Ayurved compendia.
2. To review the concept of life style disease from modern literature.

**MATERIAL AND METHOD:** All classical texts available in the library have been reviewed. Database available after net surfing was also reviewed.

### **HISTORICAL BACKGROUND:**

*Dhanurveda*, the military science of ancient India, throws light on various types of Vyayam like rotating *Tula* or *Mudgar* i.e. hammer like instrument, drawing of rope, stretching an Archer.<sup>[6]</sup> Such activities are helpful in stretching various bodily parts. In Modern scenario, above mentioned exercises can be categorized into mainly flexibility and anaerobic exercises. Flexibility exercises stretch and lengthen the muscles. Activities such as stretching help to improve joint flexibility and keep muscles limber. The goal is to improve range of motion which can reduce chance of injury. So the importance of exercise lies from Vedic period. *Bala* is also presented in two main aspects, *Vyayamshakti* and *Vyadhikshamatva* (immunity).

*Acharya Charak* in *Vimansthana* directs the method to examine the *Bala*. It is to be assessed by *Vyayamshakti*.<sup>[7]</sup> *Chakrapani*, while commenting on *Karmashakti* states that karma *bharvahanadi shakti* is karmashakti. This *Bharvahana* can be interpreted as weight lifting from ground, weight carrying around.<sup>[8]</sup> *Dalhanacharya* states that *bala* is *Karmasadhana shakti* means power to perform work which has to be deducted from *Vyayama*.<sup>[9]</sup> *Acharya Sushruta* includes Vyayam i.e. Physical exercise as prevention of future ailments in the chapter *Anagtabadhapratisesham Adhyay* of *Chikitsasthan*. This particular chapter includes karmas which can be done constantly after getting up from bed by wise that is healthy and desires absence of disorders. The above two references from *Dhanurveda* and *Ayurved compendia* indicates that flexibility, anaerobic and aerobic exercises were part of daily routine of an individual to keep himself physically and also mentally fit. As the time passes physical inactivity has tremendous negative effect on fitness of an individual. Life style disease is one of the ill effects of it. So it is the need of hour to understand the concept of Vyayam.

**DEFINITION OF VYAYAM:** The bodily movement which is meant for producing firmness and strength is known as (physical exercise) Vyayam.<sup>[10]</sup> The work involving exertion of the body is known as 'Vyayama'. Physical exercise causes physical development, luster, compactness of body parts, stimulation of digestive power, absence of idleness, firmness, lightness, cleanliness, tolerance to fatigue, exhaustion, thirst, heat, cold etc. and provides optimum immunity<sup>[11]</sup>.

**BENEFITS OF VYAYAM:** By Vyayam one gets lightness, capacity to work, firmness, tolerance to difficulties, diminution

of impurity and stimulation of *Agni*.<sup>[12]</sup> There is no anti-obesity measure equal to physical exercise; one who performs physical exercise regularly cannot be overcome by enemies, he cannot be attacked and subdued suddenly by senility and his musculature becomes firm. Diseases do not move towards him, like trifling animals to lion, which sweats with exercise followed by pressing with feet. It makes a person charming even if devoid of age, look, and qualities. Properly practiced *Vyayam* is the ultimate solution to prevent lifestyle diseases because incompatible food, cooked or uncooked can be digested without any difficulty in persons performing exercise daily. Physical exercise is always wholesome for those who are strong and take unctuous food.

#### **Rules to Perform *Vyayam* i.e. Physical Exercise:**

1. Physical exercise should be performed by persons desiring their wellbeing by *Balardha* (half of strength) otherwise it harms. When (Prana) Vayu situated in heart comes out to mouth while performing exercise –it is the sign of *Balardha* (half strength).<sup>[13]</sup>
2. Physical exercise should be performed after considering age, physique, place, time and diet otherwise one is afflicted with severe disorder.
3. Demerits given up gradually and merits adopted in the same way become ever prevented and unshakable respectively.<sup>[14]</sup> The above rules are not followed during various physical tests carried out for police recruitment. The participant runs more than their physical strength ignoring *balardha* rule. Many times they have not eaten enough, travelled overnight journey for recruitment. Such things create *Vata Prakopa* (vitiation of *Vatadosha*) and harm the body.

**Untoward Effects of Excessive Exercise:** Wasting, thirst, anorexia, vomiting, intrinsic hemorrhage, giddiness, exhaustion, cough, consumption, fever and dyspnea are the untoward effects of excessive exercise.<sup>[15]</sup>

#### **Contraindications for Physical Exercise:**

Physical exercise should be avoided by one suffering from intrinsic hemorrhage, emaciation, consumption, dyspnea, and cough, after taking food, waste due to sex and afflicted with thirst and giddiness.<sup>[16]</sup>

#### **Signs of Proper Physical Exercise:**

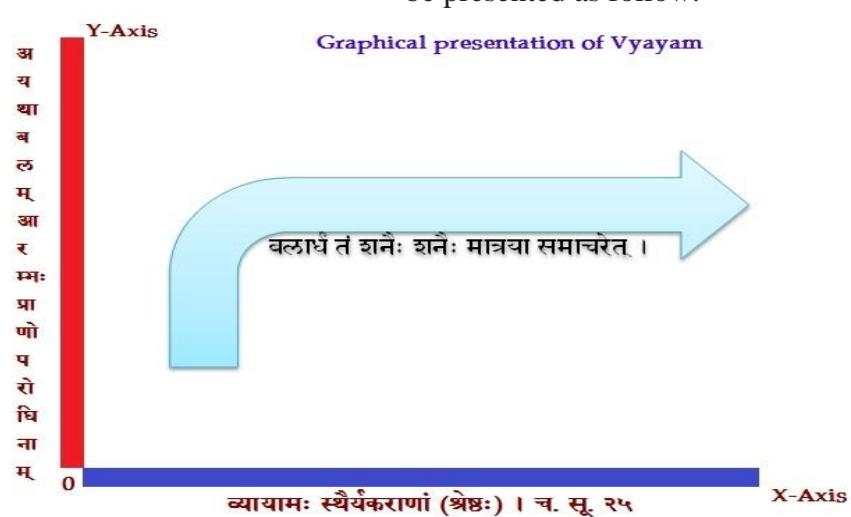
*Swedagama* (Appearance of perspiration), *Shwasvruddhi* (increased respiration), *Gatranam Laghavam* (lightness of organs), *Hradayuprodhach* (feeling of obstruction in cardiac region) etc. are a sign of proper physical exercise.<sup>[17]</sup> *Swedagama* indicates increased circulation of blood with increased gaseous demand by tissues. *Shwasvruddhi* indicates respiratory increase for satisfying extra demand of gaseous ventilation. *Gatranam Laghavam* indicates perfect distribution of body fluids resulting due to exercises. *Hradayuprodhach* is a feature which needs little explanation. *Uprodha* means an obstruction, trouble, check, binding, protection. All these meanings are meaningful in case of exercises. Immediate result of exercises is increased heartbeats. This, with increased respiration may be troublesome for some time in case of beginners. Nevertheless cardiac output increases, during and after exercises. Cardiac circulation also increased. Hence ultimate effect of exercises is to protect heart under normal conditions. If the person works out regularly heart rate at rest becomes remarkably low. This checks expenditure of energy of cardiac muscles.

**DISCUSSION:** Exercise has multiple short-term and long-term effects on your

cardiovascular system. The primary role of cardiovascular system is to circulate oxygen-rich and glucose-rich blood to your cells and to remove cellular waste products such as carbon dioxide from the muscles. Regular exercises increases cardiac output, stroke volume, reduces ischemic injury. Regular exercises reduce sarcopenia, maintain vascular health. BMI and HbA1c get reduced and thus increase insulin sensitivity of cells. Regular exercise training increases aerobic capacity, increases autonomic function. Triglycerides level, C-reactive protein, inflammatory cytokines get reduced due to regular exercise.

**VYAYAM vs. PHYSICAL EXERCISE:** Acharya Charaka in seventh chapter of *Sutrasthan* defines the concept of *Vyayam*. The peculiarity of the verse is that the word 'Cheshta' is used twice by Acharya. The first word 'Cheshta' means Physical activity (*Sharirik karma*) and second one means the activity which is desired by the body itself. (*Abhishta karma*). Many times the exercise is practiced, though our body is not tolerating it. Inner desire of the body, to exercise, is very important to avoid untoward effects of excessive exercise.

**STHAIRYAM vs. CARDIORESPIRATORY ENDURANCE:** Acharya Charaka in 25<sup>th</sup> *adhyay* of *Sutrasthan* mentioned *Vyayam* as one of the best stabilising regimen for the body.<sup>[18]</sup> The benefits of *Vyayama* induce the ultimate 'Sthairyam' in various systems of the body. *Sthairyam* is nothing but keeping balance, coordination among various systems of the body especially cardiorespiratory system. So *Sthairyam* can be fairly correlated with cardiorespiratory endurance. Cardiorespiratory endurance is the level at which your heart, lungs, and muscles work together when you are exercising for an extended period of time. This shows how efficiently your cardiorespiratory system functions, and is an indicator of how physically fit and healthy you are. Increasing cardiorespiratory endurance has a positive effect on your overall health. The word *Sthairyam* is the ultimate indicator of Cardiorespiratory Endurance which allows you to exercise for longer periods without getting tired. Most people can increase their cardiorespiratory endurance by doing regular exercise. Creating 'Sthairyam' in the body is the one of the solutions to prevent Life Style Diseases. Graphically it can be presented as follow.



**IMPORTANCE OF PROPER PHYSICAL EXERCISE:** Practicing proper *Vyayam*, following the rules to perform proper exercise, is very important because *Acharya* described the signs like *Swedagama*, *Shwasvrudhi* etc. to avoid *Ativyayam* and *Avyayam*. As *Ativyayam* is the *hetu* of *Vataj Hrudroga* and *Ayayayam* is the *hetu* of *Prameha*.<sup>[19]</sup> So balancing the intensity of exercise is very crucial. *Acharya Charaka* described such conditions like ‘One who indulges excessively in these or similar other activities perishes suddenly like lion dragging an elephant.<sup>[20]</sup>

**CONCLUSION:** Practicing proper *Vyayam*, following the rules to perform *Vyayam* to attain ‘*Sthairyam*’ in the various systems of the body is very crucial to achieve cardiorespiratory endurance. Such endurance will play an important role in preventive as well as curative treatment of life style disease.

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