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Review Article

OVERVIEW OF VYAYAMA (PHYSICAL EXERCISE)

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ABSTRACT

The aim of this study was to look for ancient Indian literature on science of exercise along with recent work done on exercise to prevent and cure various diseases. Ayurveda is distinctive as a holistic system of remedial approach which was gradually developed among the Brahmin sages of ancient India some 3000-5000 years back and vyayama is broadly described in Ayurvedic literature. Vyayama is not only resultant of the physical exercise, body power for exertion, collectedness, power of long-term need; but also it eliminates all toxin of the body and increases the digestive fire, physical and mental strength. So, preventive and curative means of Vyayama has been proved so earlier. It is the oldest living medical science which is still being practiced extensively worldwide. Concept of vyayama is very well explained in Ayurveda. Lot of work has been done for the prevention and management of different diseases by Vyayama like diabetes, hypertension, obesity, stress disorders etc. Therefore the aim of this work is to review and explore significance of Vyayama and bring together scientific explanation of the research work carried out in Ayurveda.

Keywords: Vyayama, Ayurveda, Vihar.

INTRODUCTION

Vyayama or physical exercise is an important preventive, curative and rehabilitative measure. We have searched mainly oldest Ayurvedic literature: Charaka Samhita, Sushruta Samhita and Astanga Hrdyayam, Gherand Samhita. Vyayama means the activity by which specific and particular control has been done in the body. The basic meaning of Vyayama is to pull or drag or draw. M.M. Williams has quoted some important meanings of exercise i.e. strength or struggle, make great effort, exertion, take exercise¹. Apte Vaman has suggested some other important meanings of Vyayama i.e. contention, struggle extending out, stretching out, gymnastic or athletic exercise, fatigue, labor², effort exertion and a measure of distance. Charaka has explained that Vyayama produces lightness in the body, provides ability to bear troubles, reduces aggravated Dosha and improves the digestive power.³ It has been defined by Sushrut that the activity which produces ayasa (tiredness) in the body is known as Vyayama.⁴ Charaka has described that the effort which produces stability and strength in the body is known as Vyayama.⁵ Vagbhatta has also followed the Charaka's view.⁶ Vyayama is most helpful in prevention of psycho- somatic disorders.⁷

How it affects the Body Physiology

Vyayama helps in the appropriate nourishment of the body, induces good skin complexion and increases Agni. It helps individuals to accomplish well shaped body contour and enables a person to bear pain, sorrow, fatigue, excessive tiredness, thirst, cold and heat. It assists the individuals to achieve good health. There is no other means to reduce excessive weight equivalent to Vyayama.

Individuals practicing daily Vyayama causes physical development, lustre, compactness of body parts, stimulation of digestive power, non existence of idleness, firmness, lightness, cleanliness, tolerance to fatigue, exhaustion, thirst, heat, cold and provides optimum immunity.⁸

Consequences of Overindulgence of exercise on the Body

Physical exercise in surplus causes exertion, exhaustion and consumption, thirst, bleeding from different parts of the body (Raktapitta), Pratamaka, cough, fever and vomiting. Vagbhatta has described that Vyayama produces lightness in the body, increases working capacity, induces Agni and helps to remove excessive fat from the body. So, it has been advised in Ayurvedic text that one should not practice exercise and night walking in excess even if one is used to these.⁹

Symptoms of Completion of Correct Exercise as per Ayurvedic Perspective

Perspiration, enhanced respiration, lightness of the body, inhibition of the heart and other organs of the body are indicative of the exercise being performed correctly.¹⁰

Application of Vyayama as per Seasons to avoid its Hazardous Effect

Vyayama should be practiced only up to half of the strength daily. Vyayama is especially beneficial in winter and autumn seasons.¹¹ It has been explained that in winter and autumn seasons individuals should practice Vyayama up to half of the strength while in rest of the seasons one should practice it minimally.¹² Charaka has explained that one should practice vyayama in adequate quantity only.¹⁰

Contraindications of Vyayama

As Vyayama has so many beneficial responses but there are the conditions mentioned in Ayurveda in which exercise should not be performed. Individuals who are having Raktapitta, Shvasa, Kasa and are excessively weak should not practice vyayama.¹³ Individuals indulged in excessive sexual activities, one who bears excessive weight, excessively weak persons, elderly persons and individuals having Vata Prakriti also should not practice Vyayama¹⁴ According to Ayurvedic concept exercise should be avoided in old age. The Ayurvedic approach to exercise is aimed for the following physical benefits: Improves circulation, better energy, strength and liveliness augments flexibility and coordination, good posture, augments ability to breathe deeper, infusing more oxygen into the system, a feeling of lightness in the body, improves toned muscles and body, greater efficiency of the digestive system and a balanced appetite, augments efficiency in eliminating toxins from the body. Exercise is also aimed for the following benefits for mind, heart and spirit i.e. it enhances mental alertness, mental strength and enhances focus and ability to concentrate, sense of emotional equilibrium, enhances self-esteem and respect for the body, self-awareness and ability to cope stress.¹⁵

Role of Vyayama in Certain Psychosomatic Disorders Importance of Vyayama(physical exercise) with reference to Diabetes mellitus (madhu meha)

Walking is part of Vyayama which can be prescribed for all age group patients mainly in diabetes, hypertension and obesity.^{16,17} In advanced phase Prameha, they should put into practice physical exercise, wrestling, sports, riding elephant, horse and chariot, travelling on foot and moving around and also feats of archery therefore; walking is mainly designated in Madhumeha (diabetes mellitus).¹⁸ Those who are not doing exercise (physical activity) and taking high calorie diet are mostly prone for prameha.¹⁹ As per Bhela Samhita routine without exercise is also a cause of Prameha.²⁰ It has been reported that diastolic blood pressure decreases after isotonic exercise in Vata Kapha and Vata Pitta individuals.²¹⁻²³ Taber's cyclopedic medical Dictionary has defined the term physical activity and exercise as "A general term for any sort of muscular effort but especially the kinds intended to train condition or increase flexibility of the muscular and skeletal systems of the body" yet, according to the discussion made above, it is clear that the Vyayama or physical exercise mentioned in Ayurveda is not mere external physical exercise which supports the muscular and skeletal systems of the body.²⁴

Effect of Vyayama on Different Systems

Cardiovascular System (Hypertension)

Some previous studies have reported significant reduction in diastolic blood pressure after isotonic aerobic exercise²¹⁻²³ but no significant change was observed in systolic blood pressure.

Metabolic Systems (Obesity)

Vyayama has been described as important part of the treatment of obesity. Studies have concluded that exercise training is helpful for weight reduction and disproportionately lowering the CRP level.^{25,26} Aerobic

fitness and exercise programs such as walking, jogging, and aerobics have been encouraged as a means to reduce total cholesterol, low-density lipoprotein cholesterol (LDL-C) and triglycerides while elevating the "good" high-density lipoprotein cholesterol (HDL-C). Few studies are suggestive that resistance training may also improve lipid and lipoprotein profiles.²⁷ Decrease in total cholesterol and LDL-C have been reported in both male and female, while women also showed a significant decrease in triglycerides, from resistance training. Decrease in weight was observed after isotonic exercise.²⁷

Digestive System

Vyayama improves the digestives power.⁸ Even if we take the balanced and nutritious diet the improper digestion will make it ineffective. When proper digestive fire is there, digestion process will be well maintained and the body will receive the required nutrients.²⁸

Respiratory System

Tiwari *et al* reported significant decrease in Respiratory rate, FVC and SVC after 3 months of breathing exercise in their study but these changes were within normal limits.²⁹

Nervous System

Recurrent and regular exercise has also been shown to prevent or to recover major illnesses such as insomnia and depression. Exercise is also found to improve brain function.

Response of exercise as per Prakriti

Tiwari *et al* observed maximum response in VP Prakriti individuals in reference to decreased blood pressure and sugar level.²³ Patel Kavita *et.al* reported maximum changes in Kapha and Pitta Prakriti individuals in terms of decreased weight and BMI in Type 2 diabetes mellitus³⁰ but Shukla *et.al* observed highly significant changes in weight and BMI in Kapha Vata prakriti obese individuals.³¹ Piyush *et.al* studied the fall in DBP recorded immediately after performing the isotonic exercise for five minutes which varied significantly in relation to Prakriti groups and this fall was significant among VK group in comparison to VP and PK groups.²¹

Significance of Vyayama

Vyayama is very emerging topic in Ayurveda in relation to current scenario. In the aphorism "mithyahaaraviharabhyam" Ahara described first and then Vihar to emphasize the importance of physical exercise. Mithyahaaravihar is root cause of the every disease in Ayurveda. It is the main etiological factor for every disease.³² Ayurveda as the science of life, which is based on the principles of natural world, focuses on the equilibrium of the normal functions to perfect health. Vata, Pitta and Kapha characterizes the variations, inappropriate interactions of sense and sense objects; noxious acts performed by body, mind and speech, all are responsible for the disturbance of doshas. Ahara (dietic regimen) and Vihara play a vital role towards maintaining the body in a state of perfect health. Physical exercise done in the proper time, considering the season improves not only strength and complexion but also happiness and

span of life. Our Ayurvedic literature advises the physician to examine the 'Vyayamashakti' or capacity for physical exercise while examining a patient. It should be ascertained from the capacity for action. "Vyayamashaktishceti; Vyayamashaktirapi.³³ The judgment on three kinds of strength viz. superior, middling and inferior, is done in the same way. Vyayama is also one of the treatments which have been prescribed in Ayurveda for the twenty types of diseases and disorders caused by phlegm. (sleshma)^{34,35} Again, the Charaka Samhita, in the section of Vimana, has recommended the physical exercise as a treatment for phlegm. There, it prescribes running (dhavana), jumping, leaping (plavana) walking about (parisarana), night-keeping (jagarana), pugilistic combat (boxing- niyudha) and athletic exercise etc. for the disturbed phlegm.³⁶ Vyayama helps to sustain the Dosha equilibrium in the body by which the incidence of diseases can be prohibited up to a certain extent. When the Shamana (Pacifying) treatment is mentioned; the importance of Vyayama, Aatapa (sun light) and Maruta (Wind) is also explained.

Preventive and Curative aspects of Vyayama (Physical Exercise)

One capable with intelligence and keen of happiness both here and hereafter, should, bent upon achieving what is beneficial, bestow great care upon everything connected with food, deportment and physical practices. According to some studies obesity and diabetes etc can be cured or reduced the consequences through Vyayama. According to Charaka Samhita, human is the combination of the body, mind and soul.^{37,38} Ancient texts of Ayurveda suggested Vyayama (exercise) for the body and yoga for mind and soul. Yogasanas can also be practiced as Vyayama. It gives both physical as well as mental fitness to our body. In short one should perform Vyayama as a daily routine so as to get more efficiency.³⁹

Guidelines of Vyayama in Ayurveda

Ayurveda proposes some other specific guidelines regarding exercise: In general, one should utilise about 50 percent of capacity. If individual swims twenty minutes, do only ten minutes; if run 4 miles, run half. Individual's capacity corresponds to the total amount of energy accessible at a given time, beyond which people are completely tired and cannot go any additional. The purpose of exercise is not to drain all the energy but to produce more of it. For this reason, individual should never work out to full capacity; stop while some one still feels energetic and comfortable both mentally and physically. Ayurveda recommends regular daily exercise, preferably seven days a week. The reasons may be that many aerobics workouts are recommended only three or four days per week because it will compensate the required burnout of the calories. Yoga practices are not only beneficial for the muscular, cardiovascular, and metabolic systems but also serve to integrate mind and body to order to create specific and predictable physiological effects.

Purpose of the Study

To collect the perspective of that past and present education inspires youths and all age group to incorporate

healthy body and healthy mind relationship in actual sense. To avoid mistakes of the past and to understand the dynamics of educational change. Every day out of 24 hours every individuals must give at least 24 minutes time for yoga exercise for the betterment of self healthy life style. Radiations have played an important role to understand our past. We are the creator of our own destiny. Now a day some bad habits are creating some problems to our daily life. We need some solutions to manage over them. Ancient literature has given the solutions of our problems⁴⁰. Ayurveda also has agreed an importance to the physical exercise or vyayama regarding the maintenance of good health. It is well known that prevention is better than cure. The physical exercise not only produces lightness of body but also maintains the three humors which otherwise cause illness.

CONCLUSION

Vyayama (physical exercise) is prophylaxis for life threatening diseases like hypertension, diabetes which could be prevented by physical exercise. Further, the time, when the physical exercise to be done, should also be highly considered. The use of the physical exercise is highly effective in maintenance of health and attaining longevity. In nut shell Vyayama or physical exercise has both preventive and curative aspects. Kapha Vata, Pitta Kapha Prakriti has illustrated most significant result. However, the criteria of assessment of 'Prakriti' need to be further standardized.

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