EXERCISE – A PREVENTIVE MEASURE TO LIFESTYLE DISORDERS

Dr. Smita Vinod Zambare*

Assistant Professor, Swasthvritta Dept, Shri Dhanvantari Ayurved College, Mathura 281401(UP).

ABSTRACT

Worldwide there has been a large shift towards less physically demanding work. This has been accompanied by increasing use of mechanized transportation, a greater prevalence of labor-saving technology in the home and fewer active recreational pursuits. Personal lifestyle changes however can correct the lack of physical exercise. Research in 2015 indicates integrating mindfulness to physical exercise interventions increases exercise adherence, self-efficacy and also has positive effects both psychologically and physiologically. Exercising looks different in every country, as per the motivations behind exercising. In some countries, people exercise primarily indoors, and in others, people exercise primarily outdoors. People may exercise for personal enjoyment, health and well-being, social interactions, competition or training, etc. These differences could potentially be attributed to geographic location, social tendencies, or otherwise. Active recovery is recommended after participating in physical exercise because it removes lactate from the blood more quickly than inactive recovery. Removing lactate from circulation allows for an easy decline in body temperature, which can also benefit the immune system, as an individual may be vulnerable to minor illnesses if the body temperature drops too abruptly after physical exercise. Proper nutrition is as important to health as exercise. When exercising, it becomes even more important to have a good diet to ensure that the body has the correct ratio of macronutrients while providing ample micronutrients, in order to aid the body with the recovery process following strenuous exercise.

KEYWORDS: Healthiness, Fitness, Obesity, Strength, Muscles, Chankraman, Ayurveda.
Definition of Health according to WHO (1948)

“Health is the state of complete physical, mental, and social well-being and not merely an absence of disease or infirmity”[1]

Physical Exercise

Any physical activities or body movements carried out to maintain or enhance physical fitness and overall wellness, is called physical exercise. Apart from helping in growth and development, exercise strengthens muscles and the cardiovascular system, prevents aging and also helps in weight control. Childhood obesity is a growing global concern, and physical exercise may help decrease some of the effects of childhood and adult obesity. Because of its wide variety of benefits to many individuals, some care providers call exercise the "miracle" or "wonder" drug. Besides the health advantages, the benefits may include different social rewards for staying active while enjoying the environment of one’s culture. Many individuals choose to exercise publicly outdoors where they can congregate in groups, socialize, and appreciate life. Some studies indicate that exercise may increase life expectancy and the overall quality of life. Every adult should participate in moderate exercise, such as walking, swimming, and household tasks, for a minimum of 30 minutes daily. In the United Kingdom two to four hours of light activity are recommended during working hours.[2]

Definitions of Exercise According to Ayurveda

According to Ayurveda Science Vyayam means Exercise. In Ayurveda, Vyayam is advised in the daily regimen (Dinacharya) as the preventive concept to maintain healthiness. According to Sushrutacharya, the action which produces tiredness in the body is called as Vyayama.[3]

According to Charakacharya, The actions when performed in the required amount, enhances the strength of the body is defined as Exercise or Vyayama.[4] Exercise is the one of the best among strength promoters.[5]

Chankraman

Chankraman is defined in Sushrut Samhita. but in today era Brisk walking is advisable which is called as Paribhraman or we can defined it as mild exercise.[6]

Paribhraman or morning brisk walking does not cause any kind of trouble to the body. At least 30 to 45 minutes Brisk walk before morning breakfast is advisable to everyone. It is
very simple no training is needed, no cost to be incurred. Morning Brisk walk is the King of exercise.

It shows good improvement in our metabolism rate and digestion. It reduces weight, bad cholesterol, controls blood pressure. This is very simple cardiac exercise, so results in the improvement of coronary reserve capacity of heart. Intake of oxygen increases, so everyone feels enthusiastic and happy. Thus Morning brisk walk helps to decrease the stress level in mind and body. It increases the life span, strength, intelligence, gastric fire and perceptive power of sense organs.

Types of Physical Exercise

According to its overall effect on the human body, the exercises are generally grouped into three types:[7]

i. **Aerobic Exercise**: The objective of aerobic exercise is to increase cardiovascular endurance. In this type of physical activity we use large muscle groups so that the body uses more oxygen than it would while resting. Examples of aerobic exercise include cycling, swimming, brisk walking, skipping rope, rowing, hiking, playing tennis, continuous training, and long slow distance training.

ii. **Anaerobic Exercise**: The objective of this type of exercise is to firm, strengthen and tone muscles and improve bone strength, balance and coordination. It includes strength and resistance training. Examples of strength moves are push-ups, pull-ups, and bicep curls using dumbbells. Anaerobic exercise also includes weight training, functional training, eccentric training, interval training, sprinting, and high-intensity interval training to increase short-term muscle strength.

iii. **Flexibility Exercises**: The purpose of flexibility exercise is to stretch and lengthen muscles. Stretching help to improve joint flexibility and keep muscles limber. The goal is to improve the range of motion which can reduce the chance of injury.

**Time limit of Vyayam**

How much exercise should a person do?

*Maharshi Sushrut* advised that those who want to lead healthy life in all seasons, should do exercise daily, but use only half of their strength to perform the exercise.[8]
The majority of the benefits from exercise are achieved with around 3500 metabolic equivalent (MET) minutes per week. For example, climbing stairs 10 minutes, vacuuming 15 minutes, gardening 20 minutes, running 20 minutes, and walking or bicycling for transportation 25 minutes on a daily basis would together achieve about 3000 MET minutes a week. According to the American Heart Association, exercise reduces blood pressure, LDL and total cholesterol and body weight. It increases HDL cholesterol, insulin sensitivity and exercise tolerance.\textsuperscript{[9]}

**Features of proper exercise**
Sweating, increase in respiration rate, lightness in body parts, increased heart rate or breathlessness are the features of proper exercise. After these features, one should stop the exercise.\textsuperscript{[10]}

**Exercise Therapy**
Exercise in active and passive forms used to expand and renew stiff, immovable and restricted joints to lead a normal life, is called exercise therapy. Morbid and Toxins accumulated in our body due to immovable lifestyle, get removed through excretory system when our body gets engaged in various activities. Exercise therapy is also used for accelerating recovery from injuries and diseases which have affected the normal way of life.

**Effects of Exercise as Mode of Treatment**
i. It promotes activities to minimize effects of inactivity.
ii. Patient is encouraged to perform normal activities for speedy recovery.
iii. Improves efficiency of muscles or group of muscles to regain normal movements of joints.

**Effects of Regular Exercise on the body**
**General Health:** People who participate in moderate to high levels of physical exercise have a lower mortality rate compared to individuals who are not physically active. Moderate levels of exercise have been correlated with preventing aging by reducing inflammatory potential. The majority of the benefits from exercise are achieved with around 3500 metabolic equivalent (MET) minutes per week.

1. **Respiratory System:** By exercise, intake of oxygen increased as respiration rate increased along with deep breathing the pulmonary circulation becomes faster.
2. **Circulatory System:** There is a direct correlation between physical inactivity and cardiovascular mortality. Physical inactivity is an independent risk factor for the development of coronary artery disease. Physical exercise improves the functioning capacity of heart. Physical exercise increases VO2 Max (the maximum volume of oxygenated blood supply by heart). With the help of exercise, we can also improve the coronary reserve capacity of heart to act as natural bypass. Thus, we are increasing the survival chances in case of heart attacks. The low level of physical exercise increases the risk of cardiovascular diseases mortality. Heartbeat rate and force are enhanced. Regular exercise enhances circulation of blood and lymphatic system. It also enhances SpO2, Oxygen supply to the body tissues.

3. **Musculoskeletal System:** Due to exercise, tone up muscles are formed. It enhances the strength and makes them stout and strong. The muscle nutrition gets improved and there is improvement in the growth of muscles.

4. **Cutaneous System:** The perspiration rate is increased.

5. **Elementary System:** Exercise enhances the appetite, gastric fire, and assimilation of food. The bowel movements are regulated so helps in prevent constipation.

6. **Urinary System:** Exercise works on the excretory system like quantity of urine is diminished but blood urea level is unaltered. Excretion of uric acid is enhanced.

7. **Nervous system:** Due to daily exercise stress is reduced, mind is refreshed and power of observation, precision, and tolerance get enhanced.[11]

8. **Overall Fitness:** Increase in physical activity levels increases fitness of an individual. Increase in muscle size from resistance training is primarily determined by diet and testosterone. Studies have shown that exercising in middle age leads to better physical ability later in life.

9. **Immune System:** Immune cell functions are impaired following acute sessions of prolonged, high-intensity exercise, and some studies have found that athletes are at a higher risk for infections. Studies have shown that strenuous stress for long durations, such as training for a marathon, can suppress the immune system by decreasing the concentration of lymphocytes. Studies of marathon runners found that their prolonged high-intensity exercise was associated with an increased risk of infection occurrence.

10. **Neurobiological Effects:** The effects of exercise on cognition have important implications for improving academic performance in children and college students, improving adult productivity, preserving cognitive function in old age, preventing or treating certain neurological disorders, and improving overall quality of life. Aerobic
exercise induces short- and long-term effects on mood and emotional states by promoting positive effect, inhibiting negative effect and decreasing the biological response to acute psychological stress.

11. Effects on Depression: Physical exercise has established efficacy as an antidepressant in individuals with depression. The current medical evidence supports the use of exercise as both a preventive measure against and an adjunct therapy with antidepressant medication for depressive disorders.

12. A 2010 review of published scientific research suggested that exercise generally improves sleep for most people, and helps sleep disorders such as insomnia. According to a 2005 study, exercise is the most recommended alternative to sleeping pills for resolving insomnia. Exercise can be a healthy, safe and inexpensive way to achieve more and better sleep.[12]

Effects of Excessive Exercise

i. Inappropriate exercise can do more harm than good, with the definition of “inappropriate” varying according to the individual. Without proper rest, the chance of stroke or other circulation problems increases, and muscle tissue may develop slowly. Extremely intense, long-term cardiovascular exercise may cause enlargement of the left and right ventricle volumes, increased ventricle wall thickness, and greater cardiac mass. These changes further result in myocardial cell damage in the lining of the heart, leading to scar tissue and thickened walls.

ii. For many activities, like running and cycling, there are significant injuries that occur with poorly regimented exercise schedules.

iii. Unaccustomed overexertion of muscles leads to damage to muscle, most often seen in new army recruits.

iv. Stopping excessive exercise suddenly may create a change in mood. Exercise should be controlled by each body's inherent limitations. While one set of joints and muscles may have the tolerance to withstand multiple marathons, another body may be damaged by 20 minutes of light jogging. This must be determined for each individual.

v. Too much exercise may cause a woman to miss her periods, a symptom known as amenorrhea. This is a very serious condition which indicates a woman is pushing her body beyond its natural boundaries.[13]

vi. Excessive exercise leads to diseases like thirst, emaciation, increased breathlessness, bleeding, tiredness, dry cough, fever and vomiting.
vii. Excessive exercise causes nervous and muscular fatigue, palpitation, hypertrophy of left ventricle and reduction in pulse rate i.e. Bradycardia.

viii. The voluntary muscles get exhausted due to lack of oxygen supply and nutrients.14&15

Benefits of Vyayama
i. Lightness in the body,
ii. Increase in the strength, ability to work more, body building, muscles forming properly.
iii. Increased stability in strength of the body.
iv. Increases endurance power.

v. Increased in the tolerance capacity to face misery, worries unhappiness.
vi. Alleviation of doshas.

vii. Increased appetite or digestive fire.16

viii. Decreases laziness, becomes more active.
ix. Useful in detoxification.
x. Most important to get healthy life throughout the life, one should follow exercise daily.

REFERENCES
3. Sushrut samhita, Ayurved tatva sandipika Hindi commentary by Dr Ambikadatta shastri, Publisher Chukhamba Sanskrit Sansthan, Varanasi, edition reprint 2010, chikitsasthana, chapter 24, sutra 38 page 134.
6. Sushrut samhita, Ayurved tatva sandipika Hindi commentary by Dr Ambikadatta shastri, Publisher Chukhamba Sanskrit Sansthan, Varanasi, edition reprint 2010, chikitsasthana, chapter 24, sutra 79-80 page 137.
8. Sushrut samhita, Ayurved tatva sandipika Hindi commentary by Dr Ambikadatta shastri, Publisher Chukhamba Sanskrit Sansthan, Varanasi, edition reprint 2010, chikitsasthana, chapter 24, sutra 47 page 134.


