

ROLE OF PHYSICAL EXERCISE IN DIFFERENT LIFE STYLE DISORDERS

Ruchi Srivastava¹, Atul Sharma², Dr. Rajendra Prasad³

Research Scholar Banaras Hindu University¹

TGT Physical education Kendriya Vidyalaya Bhurkunda Jharkhand (Corresponding Author)²

Professor Deptt. Of Kayachikitsa, IMS, BHU, Varanasi³

ABSTRACT

More and more people are turning to exercise as a means of achieving long-term health. The World Health Organization has endorsed this concept. Regular physical exercises are also associated with lower mortality rates. Appropriate physical exercise may be a valuable tool in therapeutic regimens for the control and amelioration of cardiovascular disease, coronary artery disease, hypertension, obesity, diabetes mellitus, stress, anxiety and depression, arthritis (cervical spondylosis, back ache, lordosis, scoliosis, kyphosis) etc. Patients with risk factors for coronary artery disease need more intensive pre exercise evaluation than those not at risk, and those with known or suspected cardiovascular disease need the most intensive evaluation and follow-up. Participation in vigorous sports activities, such as jogging, swimming, tennis, etc., helps to protect against the development of hypertension, even when other predisposing factors are present. Several studies have been conducted on the use of exercise in the treatment of hypertension. Physical exercise also contributes to the control of body weight. Consideration of the metabolic abnormalities in patients with type II (adult onset) diabetes indicates that they would make excellent candidates for an exercise programme. Obesity afflicts a significant and possibly growing proportion of people in developed as well as developing societies. It has emerged as the most prevalent serious public health problem of the new millennium can also be very well by physical exercises.

Keywords: Cardiovascular disease, coronary artery disease, hypertension, obesity, diabetes mellitus, stress, anxiety and depression, arthritis, cervical spondylosis, back ache, lordosis, scoliosis, kyphosis, physical exercise jogging, swimming, tennis.

Here we will discuss some important and common life style disorders along with role of physical exercises in their cure as well as prevention.

1. Hypertension (HTN or HT) also known as high blood pressure (HBP), is a long-term medical condition in which the blood pressure in the arteries is persistently elevated.

Etiology:

- Obstructive sleep apnea, Kidney problems, Adrenal gland tumors
- Thyroid problems
- Certain congenital defects in blood vessels
- Certain medications, such as birth control pills, cold remedies, decongestants, over-the-counter pain relievers and some prescription drugs

- Illegal drugs, such as cocaine and amphetamines
- Physical inactivity
- A salt-rich diet associated with processed and fatty foods
- low potassium in the diet
- Alcohol and tobacco use

Sign & symptoms- Dull headaches, dizzy spells, migraine, severe anxiety, chest pain, vision changes, shortness of breath, nosebleeds, flushing, dizziness, blood in the urine, fatigue or confusion, irregular heartbeat, pounding in your chest, neck, or ears

Following exercises can be best advised to cure Hypertension Walking, Cycling, Jogging, Aerobic training program, Strength training, Stretching, Household chores (such as mowing the lawn, raking leaves, gardening or scrubbing the floor), Active sports, such as basketball or tennis, Climbing stairs, Swimming, Dancing.

2. Diabetes- a disease in which the body's ability to produce or respond to the hormone insulin is impaired, resulting in abnormal metabolism of carbohydrates and elevated levels of glucose in the blood.

Possible Etiology of Type II-

Lack of exercise, Unhealthy meal planning choices, Overweight/Obesity, Smoking.

Sign & symptoms- Increased thirst and frequent urination, Increased hunger, Weight loss, Fatigue, Blurred vision, Slow-healing sores or frequent infections, Areas of darkened skin, Dry mouth, Headaches, Loss of consciousness (rare).

It can be diagnosed by-

- Glycated hemoglobin (A1C) test
- Random blood sugar test.
- Fasting blood sugar test
- Oral glucose tolerance test

Types 2 Diabetes can be controlled or cured by-

Aerobic Exercises, Jogging/Running, Swimming, Tai Chi, Brisk walking (outside or inside on a treadmill), Dancing, Playing tennis, Basketball, badminton, volleyball, handball etc, Stair climbing, Rowing, Ice-skating or roller-skating, Cross-country skiing, Moderate-to-heavy gardening.

Prevention of DM II

Healthy lifestyle choices can help you prevent type 2 diabetes. Even if you have diabetes in your family, diet and exercise can help you prevent the disease. If you've already received a diagnosis of

diabetes, you can use healthy lifestyle choices to help prevent complications. And if you have prediabetes, lifestyle changes can slow or halt the progression from prediabetes to diabetes.

- **Eat healthy foods-** Choose foods lower in fat and calories and higher in fibre. Focus on fruits, vegetables and whole grains.
- **Get physical-** Aim for a minimum of 30 minutes of moderate physical activity a day. Take a brisk daily walk. Ride a bike. Swim laps. If you can't fit in a long workout, spread 10-minute or longer sessions throughout the day.
- **Lose excess pounds-** If you're overweight, losing 7 percent of your body weight can reduce the risk of diabetes. To keep your weight in a healthy range, focus on permanent changes to your eating and exercise habits. Motivate yourself by remembering the benefits of losing weight, such as a healthier heart, more energy and improved self-esteem.

3. Obesity- Well above one's normal weight. A person has traditionally been considered to be obese if they are more than 20% over their ideal weight. That ideal weight must take into account the person's height, age, sex, and build.

Etiology- Obesity occurs when your body consumes more calories than it burns, Genetics, Overeating, A diet high in simple carbohydrates, Frequency of eating, Physical inactivity, Medications, Psychological factors, Poor Sleep, Engineered Junk Foods Sugar, Family lifestyle, Medical problems, Age, Pregnancy, Quitting smoking

Sign & symptoms- Breathing disorders (e.g., sleep apnea, chronic obstructive pulmonary disease), certain types of cancers (e.g., prostate and bowel cancer in men, breast and uterine cancer in women), coronary artery disease, depression, diabetes, gallbladder or liver disease, gastroesophageal reflux disease (GERD), high blood pressure, high cholesterol, joint disease (e.g., osteoarthritis), stroke.

Obesity can be suspected simply by observation, other measure can be adopted are:

- Taking your health history
- A general physical exam
- **Measuring your waist circumference-** Fat stored around your waist, sometimes called visceral fat or abdominal fat, may further increase your risk of diseases, such as diabetes and heart disease. Women with a waist measurement (circumference) of more than 35 inches (80 centimeters, or cm) and men with a waist measurement of more than 40 inches (102 cm) may have more health risks than do people with smaller waist measurements. Like the BMI measurement, your waist circumference should be checked at least once a year.
- **Checking for other health problems**
- **Blood tests.** What tests you have depend on your health, risk factors and any current symptoms you may be having. Tests may include a cholesterol test, liver function tests, a fasting glucose, a thyroid test and others. Your doctor may also recommend certain heart tests, such as an electrocardiogram.
- **Body mass index (BMI)**

Category	BMI
Underweight	< 18.5
Normal weight	18.5 to 24.9
Overweight	25.0 to 29.9
Obesity class 1	30-34.9
Obesity class 2	35-39.9
Obesity class 3	>40

Method to Calculate BMI- Weight in kg / Height² In mts

Obesity can be controlled or cured by fast walking, jogging, swimming, using a step-trainer or similar at gym, Tai Chi/ Mind-Body Exercise, Strength Training, You can start lifting weights at home, but this is one instance where joining a gym or hiring a trainer may be especially helpful, Tai Chi/ Mind-Body Exercise, Playing tennis, Basketball, badminton, volleyball, handball etc, Rolling Plank Exercise, Crunches, Sit Ups

PREVENTION OF OBESITY

Whether you're at risk of becoming obese, currently overweight or at a healthy weight, you can take steps to prevent unhealthy weight gain and related health problems. Not surprisingly, the steps to prevent weight gain are the same as the steps to lose weight: daily exercise, a healthy diet, and a long-term commitment to watch what you eat and drink.

- **Exercise regularly-** You need to get 150 to 300 minutes of moderate-intensity activity a week to prevent weight gain. Moderately intense physical activities include fast walking and swimming.
- **Follow a healthy eating plan.** Focus on low-calorie, nutrient-dense foods, such as fruits, vegetables and whole grains. Avoid saturated fat and limit sweets and alcohol. Eat three regular meals a day with limited snacking. You can still enjoy small amounts of high-fat, high-calorie foods as an infrequent treat. Just be sure to choose foods that promote a healthy weight and good health most of the time.
- **Know and avoid the food traps that cause you to eat.** Identify situations that trigger out-of-control eating. Try keeping a journal and write down what you eat, how much you eat, when you eat, how you're feeling and how hungry you are. After a while, you should see patterns emerge. You can plan ahead and develop strategies for handling these types of situations and stay in control of your eating behaviors.
- **Monitor your weight regularly.** People who weigh themselves at least once a week are more successful in keeping off excess pounds. Monitoring your weight can tell you whether your efforts are working and can help you detect small weight gains before they become big problems.
- **Be consistent.** Sticking to your healthy-weight plan during the week, on the weekends, and amidst vacation and holidays as much as possible increases your chances of long-term success.

4. Arthritis- Arthritis is a joint disorder featuring inflammation. A joint is an area of the body where two bones meet. A joint functions to allow movement of the body parts it connects. Arthritis literally means inflammation of one or more joints. Arthritis is frequently accompanied by joint pain. Joint pain is referred to as arthralgia.

Etiology- Bone spurs, Dehydrated spinal discs, Herniated discs, Injury, Ligament stiffness, Overuse, Tingling, numbness, and/or weakness in the arms, hands, legs, or feet, Lack of coordination and difficulty walking, Abnormal reflexes, Muscle spasms, Age, Lack of exercise, Excess weight, Improper lifting, Psychological conditions, Smoking.

Sign & symptoms- Stiffness, Swelling, Redness, Decreased range of motion, Joint pain, tiredness, loss of appetite, Anaemia, Muscle ache, Shooting or stabbing pain, Pain that radiates down your leg, Pain that worsens with bending, lifting, standing or walking, Pain that improves with reclining, weight loss, Fever, Inflammation or swelling on the back, Persistent back pain, where lying down or resting does not help a recent injury, blow or trauma to the back, Urinary incontinence, Difficulty urinating, Fecal incontinence, or loss of control over bowel movements, Numbness around the genitals, Numbness around the anus, Numbness around the buttocks

Different kinds of arthritis can be diagnosed by following investigations-

- X-rays
- Computerized tomography (CT)
- Magnetic resonance imaging (MRI)
- Ultrasound
- Blood tests

Problems of arthritis can be relieved by following exercises:

Regular exercise will keep your joints flexible, Swimming is often a good form of exercise for people with arthritis because it doesn't put pressure on your joints the way running and walking do. At-home exercises you can try the head tilt, neck rotation, and other exercises to relieve pain in your neck, finger bends and thumb bends to ease pain in your hands, leg raises, hamstring stretches, and other easy exercises for knee arthritis. Muscle-strengthening **exercises** include lifting weights, working with resistance bands. Doing daily flexibility exercises helps maintain range of motion.

5. A psychosomatic disorder- is a disease which involves both mind and body. Some physical diseases are thought to be particularly prone to be made worse by mental factors such as stress and anxiety. Your current mental state can affect how bad a physical disease is at any given time.

Etiology- The death of a loved one, Divorce, Loss of a job, Increase in financial obligations, Getting married, Moving to a new home, Chronic illness or injury, Emotional problems, Taking care of an elderly or sick family member, Traumatic event, such as a natural disaster, theft, rape, or violence

against you or a loved one, Moving, starting a new school or job, having an illness or injury, having a baby, mental illness.

Sign & symptoms- Muscle tension, headache, rapid breathing, fast heartbeat, sweating, shaking, dizziness, frequent urination, change in appetite, trouble sleeping, diarrhoea, fatigue, Memory problems, Inability to concentrate, Poor judgment, Seeing only the negative, Anxious or racing thoughts, Constant worrying, Emotional symptoms, Depression or general unhappiness, Anxiety and agitation, Moodiness, irritability, anger, Feeling overwhelmed, Loneliness and isolation, Other mental or emotional health problems, Numbness and tingling, Chest pain, Neck tension, Stomach upset, nervous stomach, Pulsing in the ear, Burning skin, Fear of impending doom, Nausea, Shortness of breath, Electric shock feeling, Shooting pains in the face, Heart palpitations, Weakness in legs, Feeling like you are going crazy, Inability to rest.

Diagnosis of Psychosomatic disorders:

- Do a physical exam to look for signs that your anxiety might be linked to medications or an underlying medical condition
- Order blood or urine tests or other tests, if a medical condition is suspected
- Ask detailed questions about your symptoms and medical history
- Use psychological questionnaires to help determine a diagnosis
- Use the criteria listed in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), published by the American Psychiatric Association.

Psychosomatic disorders can be controlled or cured by Exercises e.g. Walking, dancing, Running, Tai Chi, Qigong, Gardening, Circuit Training, Pilates, Tennis, Breathing exercises.

6. Heart Diseases

Possible Etiology- Congenital heart defects, Coronary artery disease, High blood pressure, Diabetes, Smoking, Excessive use of alcohol or caffeine, Stress, Obesity, Insulin resistance or diabetes, High cholesterol, Family history of heart disease, Being physically inactive, Eating an unhealthy diet, Clinical depression, High-fat diet, Type A personality (impatient, aggressive, competitive).

Symptoms- Fever, Weakness or fatigue, Swelling in legs or abdomen, Changes in heart rhythm, Dry or persistent cough, Skin rashes or unusual spots, Irregular heartbeat, Chest pain, chest tightness, chest pressure and chest discomfort (angina) Pain, numbness, weakness or coldness in your legs or arms if the blood vessels in those parts of your body are narrowed, Pain in the neck, jaw, throat, upper abdomen or back, Breathlessness with exertion or at rest, Fatigue, Irregular heartbeats that feel rapid, pounding or fluttering, Dizziness, light headedness and fainting, Sweating, Nausea.

It can be diagnosed by:

- Electrocardiogram (ECG)

- Holter monitoring
- Echocardiogram
- Stress test
- Cardiac catheterization
- Cardiac computerized tomography (CT) scan
- Cardiac magnetic resonance imaging (MRI)

Treatment of Heart diseases-

Heart disease treatments vary by condition. For instance, if you have a heart infection, you'll likely be given antibiotics. In general, treatment for heart disease usually includes:

- **Lifestyle changes.** These include eating a low-fat and low-sodium diet, getting at least 30 minutes of moderate exercise on most days of the week, quitting smoking, and limiting alcohol intake.
- **Medications.** If lifestyle changes alone aren't enough, your doctor may prescribe medications to control your heart disease. The type of medication will depend on the type of heart disease.
- **Medical procedures or surgery.** If medications aren't enough, it's possible your doctor will recommend specific procedures or surgery. The type of procedure will depend on the type of heart disease and the extent of the damage to your heart.

Heart diseases can be controlled or cured by Exercises e.g. Skating, walking, swimming, Dancing, light jogging, biking, Aerobic exercise, Stretching, Circuit training, Weight Training

REFERENCES

- 1- U.S. Preventive Services Task Force. Screening for and management of obesity in adults. *Ann Intern Med.* 2012; 157(5):373-378.
- 2- Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults: The evidence report. Bethesda, Md.: National Heart, Lung and Blood Institute, 1998; NIH 98-4083.
- 3- Goacher PJ, Lambert R, Moffatt PG. Can weight-related health risk be more accurately assessed by BMI, or by gender specific calculations of percentage body fatness? *Med Hypotheses.* 2012;79(5):656-662.
- 4- Kearney PM, Whelton M, Reynolds K, Whelton PK, He J. Worldwide prevalence of hypertension: a systematic review. *J Hypertens* 2004; 22(1):1-9.
- 5- Authors' Addresses: Dr. Kaushik Bose, Reader & Head, Department, Department of Anthropology, Vidyasagar University, Midnapur – 721 102 West Bengal, India.
- 6- 140. Kim SH, Lee SJ, Kang ES, et al. : Effects of lifestyle modification on metabolic parameters and carotid intima-media thickness in patients with type 2 diabetes mellitus. *Metabolism* 2006;55(8):1053–9.

- 7- 141. King DS, Baldus PJ, Sharp RL, Kesl LD, Feltmeyer TL, Riddle MS: Time course for exercise-induced alterations in insulin action and glucose tolerance in middle-aged people. *J Appl Physiol* 1995;78(1):17–22.
- 8- Kinmonth AL, Wareham NJ, Hardeman W, et al. : Efficacy of a theory-based behavioural intervention to increase physical activity in an at-risk group in primary care (ProActive UK): a randomised trial. *Lancet* 2008;371(9606):41–8.
- 9- 143. Kirk A, Barnett J, Leese G, Mutrie N: A randomized trial investigating the 12-month changes in physical activity and health outcomes following a physical activity consultation delivered by a person or in written form in type 2 diabetes: Time2Act. *Diabet Med* 2009;26(3):293–301.
- 10- Strachey, J. (1953). *The Standard Edition of the Complete Psychological Works of Sigmund Freud, Volume IV (1900): The Interpretation of Dreams (First Part)*. The Hogarth Press and the Institute of Psycho-analysis, London.
- 11- Aksoy N. Psychosomatic diseases and dentistry (report of two psychoneurotic cases) *Ankara Univ Hekim Fak Derg.* 1990;17:141–143.
- 12- Pate RR, Pratt MP, Blair SN, et al. Physical activity and public health: a recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. *JAMA.*, 1995;273: 402–407.