



## Think India (Quarterly Journal)

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in collaboration with

**Indira Gandhi Government Post Graduate College,**

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### **Need and Importance of Regular Exercise in Modern Life**

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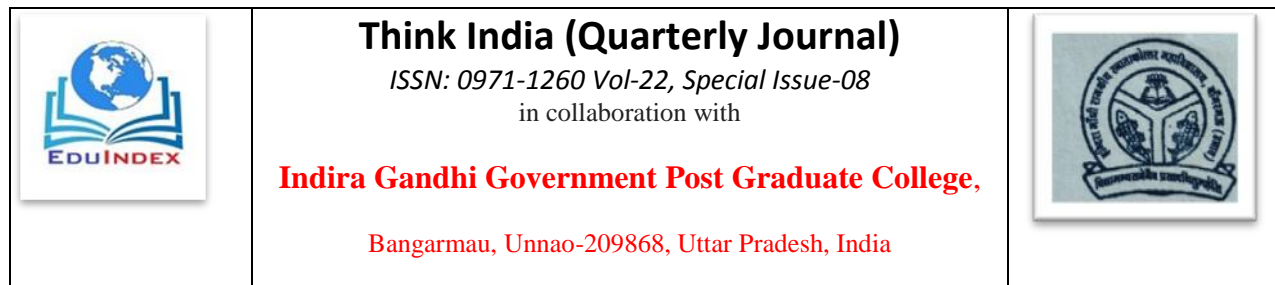
#### **Abstract:**

*Regular Physical activity and exercise can help you stay healthy, energetic and independent as you get older. Exercise play avital role in preventing health diseases and stroke. The health benefits of doing regular Exercise have been shown in many studies. This paper review the evidence of the benefits of exercise for all the body systems. Physical activity and exercise can reduce stress and anxiety, boost happy chemicals, improve self-confidence, increase the brain power, sharpen the memory and increase our muscles and bones strength. It also helps in preventing and reducing heart disease, obesity, blood sugar fluctuations, cardiovascular diseases and Cancer.*

**Keywords:** Sports, Need, Exercise, Benefits, Physical activity, Importance.

#### **1. Introduction:**

Physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure. The term “Physical activity” is not equal to “exercise”. Exercise is a subcategory of physical activity which is structured, repetitive, and purposeful <sup>[1]</sup>. “A sound body has a sound mind” It means that if a person is weak, dull, and sick, he is not able to do his work efficiently and quickly. It is very important to have a fresh mind before any work, like office work, study or some creative work. The people who make exercise as essential part of their routine are more happy and efficient than others. Exercise does not mean to go to gym or some club for daily activity; it only means to do some physical activity no matter how and where. Exercise is useful in preventing or treating coronary heart disease, osteoporosis, weakness, diabetes, obesity, and depression. Strengthening exercises provide appropriate resistance to the muscles to increase endurance and strength. Cardiac rehabilitation exercises are developed and individualized to improve the cardiovascular system for prevention and rehabilitation of cardiac disorders and diseases. A well-balanced exercise program can improve general health, build endurance, and slow many of the effects of aging. The benefits of exercise not only improve physical health, but also enhance emotional well-being. Regular physical activity remains an essential behavior for endorsing health, postponing or preventing predominant musculoskeletal disorders such as mechanical low back pain, neck and shoulder pain and decreasing the risk of increasing coronary heart disease, hypertension, diabetes, osteoporosis, obesity and colon cancers <sup>[2, 3]</sup> The period of adolescence represents the transition from childhood to adulthood and lifetime habits such as regular exercise are normally begun at



this time <sup>[4]</sup>. But unfortunately research indicated that physical activity rates decline consistently during the adolescent years <sup>[5, 6]</sup>. No matter what your age or shape, you should exercise daily. Not only does exercise so you can wear your favorite dress, it strengthens your muscles, keeps your bones strong, and improves your skin, increased relaxation, better sleep and mood, strong immune function, and more. Daily exercise helps in strengthening of heart muscles. It helps maintain desired cholesterol levels. Daily physical activity reduces one's chances of stroke and the risk of heart disease. Regular exercise lowers blood pressure and improves blood circulation. Exercise helps in reduction of excess body weight leading to lower blood pressure. Exercise results in the burning of calories. If supplemented with proper nutrition, exercise is the way to prevent obesity. Any healthy person may become unfit physically if he does not practice exercise regularly. The efficiency of our muscles reduces if we are not doing regular physical workout. So we must do physical fitness exercises every day. Exercise is linked with many physical and physiological benefits that help an individual to function effectively and feel good. Exercise provides an entertaining way to spend enjoyable time. People of all age who are usually inactive can improve their health and well-being by becoming active at a level of moderate intensity in daily basis. Regular Exercise significantly reduces the high blood pressure, risk of developing heart disease, stroke, some cancers, diabetes, and may help to remove the stress, anxiety, and depression. At any age, being physically fit is an advantage to your overall health.

## 2. Exercise

Exercise is a subcategory of physical activity that is planned, structured, and repetitive for the purpose of conditioning any part of the body. Exercise is used to improve health, maintain fitness and is important as a means of physical rehabilitation. Also we can define exercise as any bodily movement performed in order to develop or maintain physical fitness and overall health.

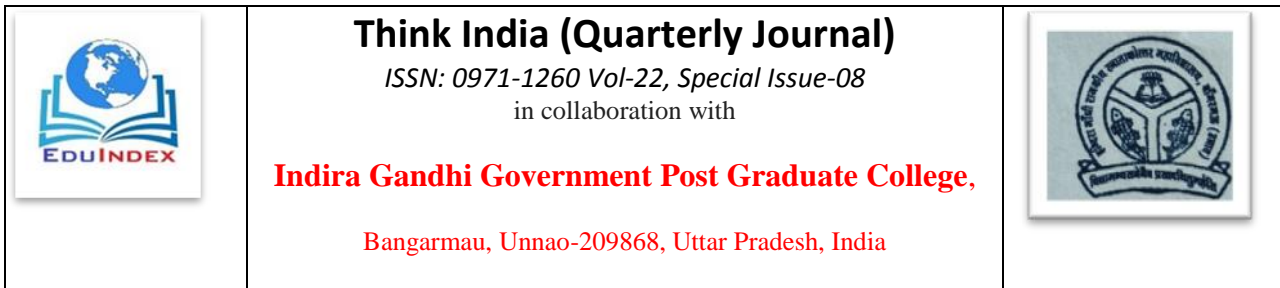
## 3. Types of exercise:

Exercise and physical activity fall into four basic categories— endurance, strength, balance, and flexibility. Most people have a habit of to focus on one activity or type of exercise and think they're doing enough for their health. Each type of exercise is different, however, doing them all will give you extra benefits. Mixing it up also helps to reduce boredom and stop the possibility of injury.

### 3.1 Endurance:

Endurance, or aerobic, activities increase your breathing and heart rate. They keep your heart, lungs, and circulatory system healthy and improve your overall fitness. Building your endurance makes it easier to carry out many of your everyday activities. Walking or jogging, mowing, raking, digging and Dancing are kinds of this type.

### 3.2 Strength:



Strength exercises make your muscles stronger. Even small increases in strength can make a big difference in your ability. We can find this type of exercise in Lifting weights, using a resistance band with your own body weight. 3.3 Balance Balance exercises help prevent falls, a public problem in older adults. Many lower-body strength exercises also will improve your balance. This type can be noticeable in Standing on one foot, Heel-to-toe walk and Tai Chi.

#### **3.4 Flexibility:**

Flexibility exercises stretch your muscles and can help your body stay limber. Being flexible gives you more freedom of movement for other exercises as well as for your everyday activities. Some examples for that in Shoulder and upper arm stretch, Calf stretch and Yoga.

#### **3.5 Depending on the overall effect on the human body Physical exercises can be generally grouped into two types: [7]**

##### **Aerobic exercise**

Aerobic exercise is any physical activity that uses large muscle groups and causes the body to use more oxygen than it would while resting. The goal of aerobic exercise is to increase cardiovascular endurance <sup>[8]</sup>. Examples of aerobic exercise include cycling, swimming, brisk walking, skipping rope, rowing, hiking, playing tennis, continuous training, and long slow distance training.

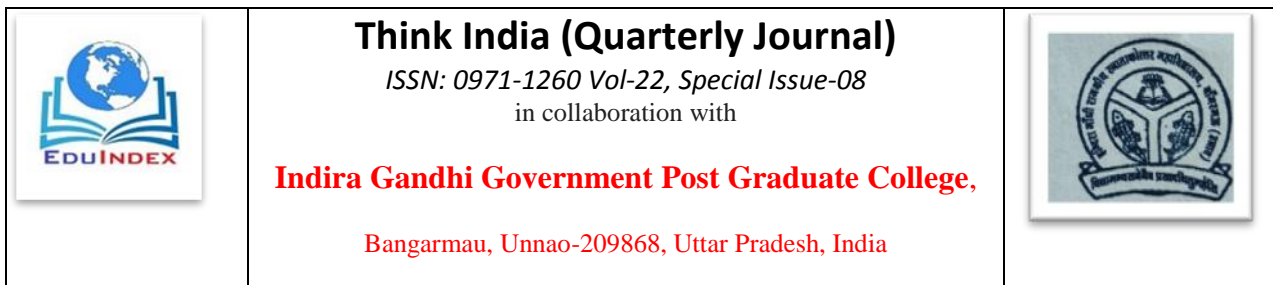
##### **Anaerobic exercise:**

which includes strength and resistance training, can firm, strengthen, and tone muscles, as well as improve bone strength, balance, and coordination. Examples of strength moves are push-ups, lunges, and bicep curls using dumbbells. Anaerobic exercise also include weight training, functional training, eccentric training, Interval training, sprinting, and highintensity interval training increase short-term muscle strength <sup>[9]</sup>.

#### **3.6 According to the intensities of the exercise it can also divided to three categories, heart Rate is typically used as a measure of exercise intensity [10]. Heart rate can be an indicator of the challenge to the cardiovascular system that the exercise represents [11, 12] .**

**Light exercise:** Does not induce sweating unless it's a hot, humid day. There is no obvious change in breathing patterns, sleeping, writing, desk work, typing, very slow walking, are examples for the first category.

**Moderate exercise:** It should raise your heart rate, make you breathe faster and make you feel warm enough to start to sweat after performing the activity for about 10 minutes. Breathing becomes deeper and more frequent. You can carry on a conversation but not sing, bicycling, very light effort, calisthenics, home exercise, light or moderate effort are examples for the second one.



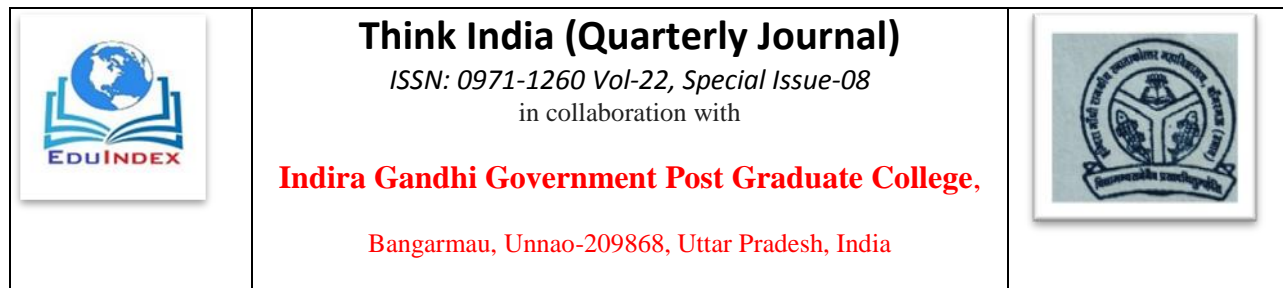
**Vigorous exercise:** will make you breathe hard, increase your heart rate significantly and make you hot enough to sweat profusely after 3-5 minutes. Breathing is deep and rapid. You can only talk in short phrases, the examples for this type include running, jogging, jogging in place, calisthenics (e.g. pushups, sit-ups, pullups, jumping jacks), heavy vigorous effort, rope jumping.

#### **4. Need of Exercise:**

Everybody knows that the need of exercise in our daily lives, but we may not know why or what exercise can do for us. Exercise means, the daily practice of doing some physical work. Exercise is the key to good health and fresh mind <sup>[13]</sup>. The daily practice of some physical work does not mean to take stress on body, but it is actually the stress relieving activity. A good health is obligatory for doing a good work. A famous quote is there is awesome evidence that people who lead active lifestyles are less likely to suffer from illness and more likely to live longer. Exercise not only makes you physically fitter but it also improves your mental health and general sense of well-being. Getting fit is not just about running on a treadmill for hours in your local gym, it can be a dance class or a new hobby like fencing or mountain biking. It could be a group or team activity like football or a karate class. Whatever form of exercise you choose, you'll practically certainly meet new people and may make new friendships. These recommendations can be achieved through 30-60 minutes of moderate-intensity exercise (five times a week) or 20-60 minutes of vigorous-intensity exercise (three times a week) or a combination of both types. One continuous session combined with multiple shorter sessions (of at least 10 minutes) is also acceptable <sup>[14]</sup>.

#### **5. Importance of Exercise :**

Each one of us has a physical body made of muscles, blood, bones and various other living tissue. When any of these are injured or not working properly then we get ill. Nobody likes to be ill. So, it is important that we keep our body healthy and fit. Exercising the body is one way of keeping it healthy. If we do not exercise then our muscles become weaker and we are less able to do things properly. Also the bones can become weaker and thus break easily. It is performed for various reasons, including increasing growth and development, preventing aging, strengthening muscles and the cardiovascular system, honing athletic skills, weight loss or maintenance, and merely enjoyment. Frequent and regular physical exercise boosts the immune system and helps prevent "diseases of affluence" such as cardiovascular, type 2 diabetes, and obesity <sup>[15, 16]</sup>. It may also help prevent stress and depression, increase quality of sleep and act as a non-pharmaceutical sleep aid to treat diseases such as insomnia, help promote or maintain positive self-esteem, improve mental health, maintain steady digestion and treat constipation and gas, regulate fertility health, and augment an individual's sex appeal or body image, which has been found to be linked with higher levels of self-esteem <sup>[17, 18]</sup>. Childhood obesity is a growing global concern, <sup>[19]</sup> and



physical exercise may help decrease some of the effects of childhood and adult obesity. Some care providers call exercise the "miracle" or "wonder" drug—alluding to the wide variety of benefits that it can provide for many individuals [20, 21].

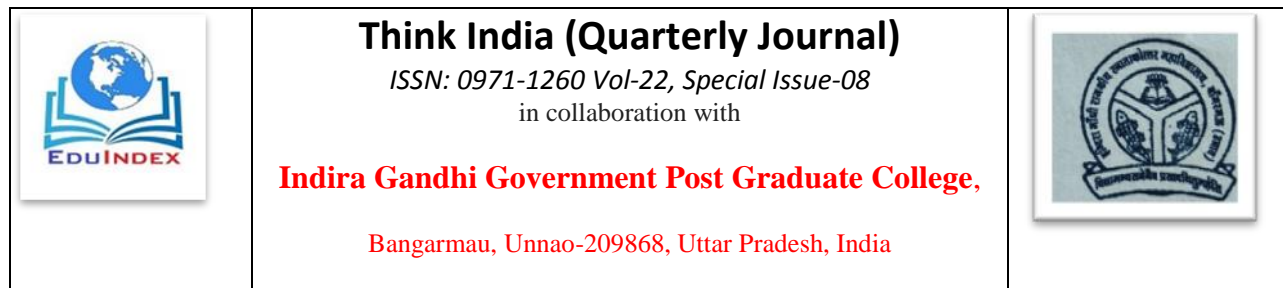
In the United Kingdom two to four hours of light activity are recommended during working hours [22]. This includes walking and standing. In the United States, the CDC/ACSM consensus statement and the Surgeon General's report states that every adult should participate in moderate exercise, such as walking, swimming, and household tasks, for a minimum of 30 minutes daily [23]

## 6. Benefits of Exercise:

Regular exercise makes the heart stronger and the lungs fitter, enabling the cardiovascular system to deliver more oxygen to the body with every heartbeat and the pulmonary system to increase the maximum amount of oxygen that the lungs can take in. Exercise lowers blood pressure, slightly decreases the levels of total and low-density lipoprotein (LDL) cholesterol (the bad cholesterol), and increases the level of high-density lipoprotein (HDL) cholesterol (the good cholesterol). These helpful effects decrease the risk of heart attack, stroke, and coronary artery disease. In addition, colon cancer and some forms of diabetes are less likely to occur in people who exercise regularly [24]. Exercise makes muscles stronger, allowing people to do tasks that they otherwise might not be able to do or to do them more easily. Every physical task requires muscle strength and some degree of range of motion in joints. Regular exercise can improve both of these qualities. Exercise stretches muscles and joints, which in turn can increase flexibility and help prevent injuries. Exercise may also improve balance by increasing strength of the tissues around joints and throughout the body, thus helping to prevent falls. Weight-bearing exercise, such as brisk walking and weight training, strengthens bones and helps prevent osteoporosis. Other health benefits include the following:

### 6.1 Reduce stress and anxiety:

Stress relief is one of the most common mental benefits of exercise. Regular Exercise can help to manage physical and mental stress. Exercise also increases concentrations of norepinephrine, a chemical that can moderate the brain's response to stress. Being active greatly causes a reduction in stress levels. Aerobic and anaerobic physical training helpful for overall health. Study suggests that 30 Minutes Exercise for 5 or more days in a week, it helps in lowering the desperation and mental stress [25]. On the other hand Physical activity makes you more tired so you're more ready to sleep. Good quality sleep helps improve overall wellness and can reduce stress. Regarding anxiety, the warm and chemicals that are released during and after any physical exercise can help



people with anxiety disorders calm down <sup>[26]</sup>. Jumping on the track or treadmill for some moderate-to-high intensity aerobic exercise can reduce anxiety sensitivity.

### **6.2 Boost happy chemicals:**

Exercise releases endorphins, which create feelings of happiness and euphoria. Studies have shown that exercise can even improve symptoms among the clinically depressed. For this reason, doctors recommend that people suffering from depression or anxiety. In some cases, exercise can be just as effective as antidepressant pills in treating depression. Higher energy levels resulting from exercise help a person in remaining fresh and happy. Following a suitable exercise program can add some fun and brightness to the day. Working out for just 30 minutes a few times a week can instantly boost overall mood.

### **6.3 Improve self-Confidence and self-Image:**

Physical fitness can boost self-esteem and improve positive self-image. Regardless of weight, size, gender, or age, exercise can quickly elevate a person's perception of his or her attractiveness, that is, self-worth . It has been proved that in less time of aerobic exercise and resistance training method definitely will help to improve self-image. One of the latest research was in consistency with most of the previous studies which found significant relationship between physical activity and self-esteem by using different study designs and self-esteem scales. This finding can be considered to recommend increased physical activity participation for college student who face self-esteem problems. Even if you will take your workout outside and start Exercising in the great outdoors can also increase self-esteem even more.

### **6.4 Increase brainpower:**



Various studies on mice and men have shown that cardiovascular exercise can create new brain cells (aka neurogenesis) and improve overall brain performance. Studies suggest that a vigorous workout increases levels of a brain-derived protein (known as BDNF) in the body, believed to help with decision making, higher thinking, and learning.

### **6.5 Sharpen memory:**

Regular physical activity increases memory and ability to learn new things. Getting sweaty increases production of cells in hippocampus responsible for memory and learning. For this reason, research has linked children's brain development with level of physical fitness, but exercise-based brainpower isn't just for kids, regular exercise can boost memory among adults, too. A study showed that running sprints improved vocabulary retention among healthy adults.

### **6.6 Improves muscles and bones strength:**

Exercise involves a series of sustained muscle contractions, of either long or short duration, depending on the nature of the physical activity. Muscle-strengthening activities can help you increase or maintain your muscle mass and strength. Strong muscles and ligaments reduce your risk of joint and lower back pain by keeping joints in proper alignment. Additionally, with

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exercise improvements to the circulatory and respiratory systems can facilitate better delivery of oxygen and glucose to the muscle. Research shows that doing aerobics bonestrengthening physical activity of at least a moderately-intense level can slow the loss of bone density that comes with age, along with that hip fracture is a serious health condition that can have life-changing negative effects, especially if you're an older adult. But research shows that people who do 120 to 300 minutes of at least moderate-intensity aerobic activity each week have a lower risk of hip fracture.

**6.7 Reduce the Risk of Heart Diseases:**

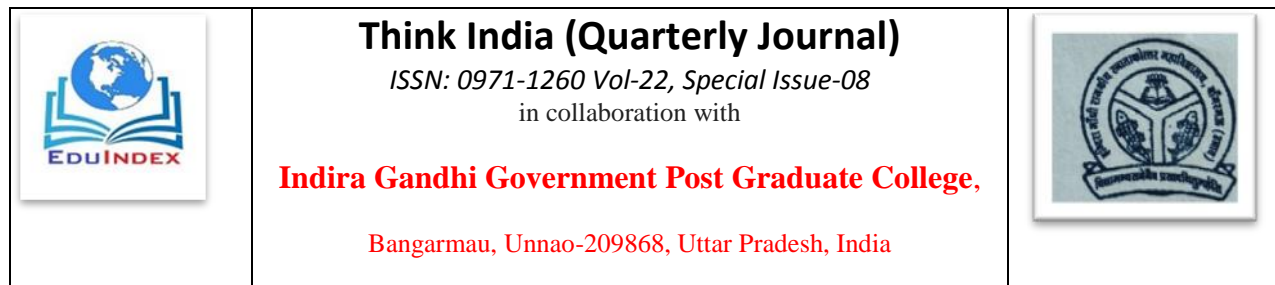
The heart is a muscle and needs exercise to stay in shape. When it's exercised, the heart can pump more blood through the body and continue working at optimal efficiency with little strain. This will likely help it to stay healthy longer. Regular exercise also helps to keep arteries and other blood vessels flexible, ensuring good blood flow and normal blood pressure. Daily exercise helps in strengthening of heart muscles. It helps maintain desired cholesterol levels. Daily physical activity reduces one's chances of stroke and the risk of heart disease. According to the American Heart Association (AHA), exercising 30 minutes a day, five days a week will improve your heart health and help reduce your risk of heart disease. You can even break it up into quick and manageable 10- minute sessions, three times a day .

**6.8 Preventing Obesity :**

Obesity and overweight are associated with increased risk for hypertension, osteoarthritis, abnormal cholesterol and triglyceride levels, type 2 diabetes, coronary heart disease, stroke, gallbladder disease, sleep apnea, respiratory problems and some cancers . Obesity is a significant health problem all over the world for all ages. Genetics can play a role in the possibility that a person will become obese, the condition occurs when the amount of calories consumed exceeds the amount of calories expended over a long period of time. The more you exercise, the easier it is to keep your weight under control. Excess calories are stored as fat in the body, and with long-term caloric excess, an individual eventually becomes obese. Exercise can help prevent excess weight gain or help maintain weight loss. When you engage in physical activity, you burn calories. The more intense the activity, the more calories you burn. Regular exercise (and proper nutrition) can help reduce body fat. Weight loss will achieve most effectively when we follow a cardiovascular exercise of moderate intensity activity accumulated over 5-7 days per week. Eating a healthy diet are ways in which to combat obesity.

**6.9 Exercise and Diabetes:**

Diabetes and exercise go hand in hand, at least when it comes to managing your diabetes. Exercise can help you improve your blood sugar control, boost your overall fitness, and reduce your risk of heart disease and stroke. But diabetes and exercise pose unique challenges, too. To exercise safely, it's crucial to track your blood sugar before, during and after physical activity.



You'll learn how your body responds to exercise, which can help you prevent potentially dangerous blood sugar fluctuations. The affect physical activity has on your blood glucose will vary depending on how long you are active and many other factors. Physical activity can lower your blood glucose up to 24 hours or more after your work out by making your body more sensitive to insulin.

### **6.10 Exercise and Cancer:**

Exercise is one of the most important actions you can take to help guard against many types of cancer. Up to one-third of cancer-related deaths are due to obesity and a sedentary lifestyle, including two of the most common cancers in the United States, breast and colon cancer . Many people exercise to prevent heart disease, but exercise can also play a key role in preventing and reducing the danger of many cancers. It is estimated that 30 to 60 minutes of moderate to vigorous physical activity per day is needed to protect against colon cancer, endometrial cancer and lung cancer. Most studies suggest that 30 to 60 minutes per day of moderate- to high-intensity physical activity is associated with a reduction in breast cancer risk also, there is one recent study suggested that regular vigorous activity could slow the progression of prostate cancer in men age 65 or older .

### **7. Conclusion:**

Exercise not only makes you physically fitter but it also improves your all body health and general sense of well-being. Physical activity or exercise can reduce the risk of developing several diseases like type 2 diabetes, cancer and cardiovascular disease. Daily exercise can reduce stress and anxiety, boost happy chemicals, improve self-confidence, increase the brain power, sharpen the memory and increase our muscles and bones strength. Physical activity and exercise can have immediate and long-term health benefits. Most importantly, regular activity can improve your quality of life. A minimum of 30 minutes a day can allow you to enjoy these benefits.

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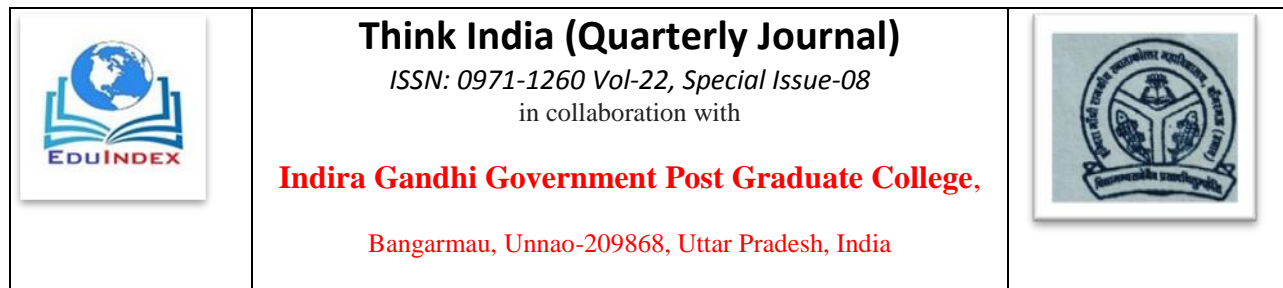
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