



**STAY AND WAIT AT HOME IN COVID-19 PANDEMIC ARENA THAWS THE  
WEIGHT GAIN & PHYSICAL EXERCISE SIMULTANEOUSLY FOCUSES ON BODY  
SHAPE IN CHILDREN**

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**ABSTRACT**

*The fewer people you're around, the lower your chance of infection. When you stay home, you help stop the spread to others, too. Don't go to crowded places. If your community is under shelter-in-place orders, follow proper guidelines for when you can leave your home. Keep a stock of supplies like food and medicine, so you can hunker down when you need to. The main way COVID-19 spreads are from person-to-person contact. "Contact" is more than touching. When someone coughs or sneezes near you, droplets from their nose and mouth go into the air. Droplets from a person with COVID-19 have the virus in them. If you breathe the droplets in, the virus gets into your system. To protect yourself, you should practice social distancing. This includes staying at least 6 feet away from other people. In pandemic situation by covid-19 it has been instructed by government to be protected at home for stay safe & stay tuned. Work from home [academics, teaching, corporate, industry, market place, entertainments etc] reflects a huge psychological ailment in persons [both sexes]. No gatherings, wearing masks, maintaining social distancing, no outside work and only in-home custody reflects adverse effects on mental conditions by following weight gain by obesity & psychological disturbances by mania situation. The working strategy of philomath persons and devoted persons in work culture beyond house create jeopardise situation in pandemics. Fear of corona attack by contacts create adverse effect in mental condition about no work no pay, no outdoor game no recreation, no class no learnings in offline etc. All online devices are all time booked in networking due to work from home status and fear of network failure thinking will hamper the flow of work. All outdoor games [cricket, badminton, tennis, badminton etc] are now reverted into indoor games [carrom, ludo, PUBG, mobile games etc] suppresses the  $VO_{2max}$  and suppress the basal metabolic rate & body mass index and increases the accumulation of lactic acid and other micronutrients and metabolism suppresses and anabolism starts by accumulation of lipids in body and calorie burning is also suppressed. All these factors produce negative effect of ventilation of normal body metabolism. During this period children are suffering from obesity and anxiety. Physical exercise and proper food habit are the solution to be fit.*

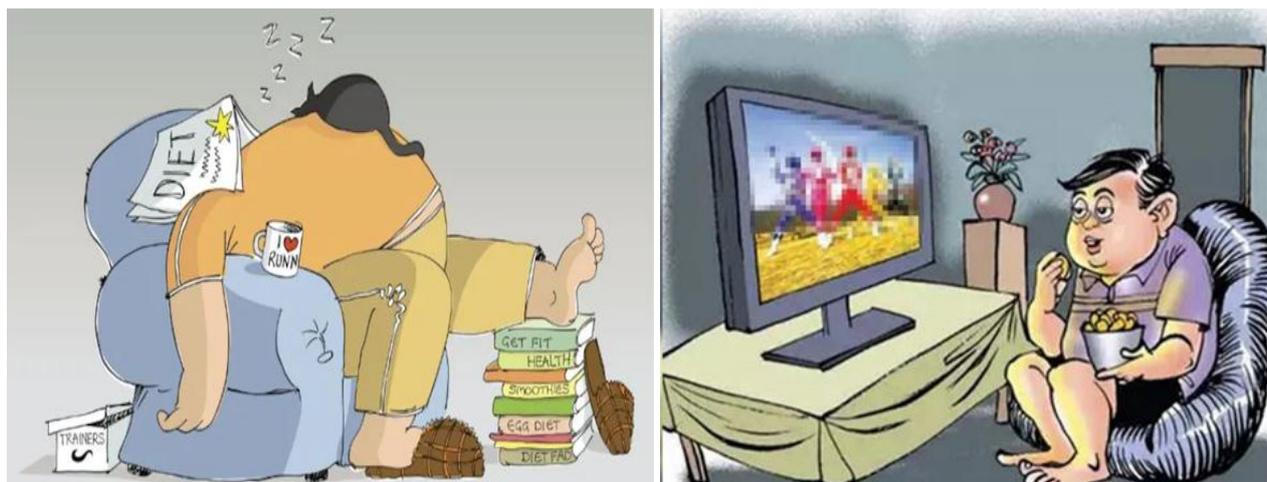
**KEYWORDS:** Coronavirus, COVID-19, Obesity, Social distancing, Mental health, Depression, Anxiety, Stress, Physical exercise.

**OVERVIEW**

The COVID-19 pandemic in India is part of the worldwide pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first case of COVID-19 in India, which originated from China, was reported on 30 January 2020. India currently has the largest number of confirmed cases in Asia, and has the second-highest number of confirmed cases in the world after the United States with more than 10.3 million

reported cases of COVID-19 infection and more than 150,000 deaths as of January 06, 2021.<sup>[1]</sup>

The per day cases peaked mid-September in India with over 90,000 cases reported per day and have since come down to below 40,000 in December. On 12 January 2020, the WHO confirmed that a novel coronavirus was the cause of a respiratory illness in a cluster of people in Wuhan, China, which was reported to the WHO on 31 December 2019.



Figure–1: Wait for Vaccine & Gain Weight.

According to a new study, COVID–19 stay–at–home orders have had a negative impact on health behaviors, including sleep quality, physical activity, weight maintenance, and consumption of sweets. The study, which was published in the journal *Obesity* in this fall, used data gathered in an online survey asking participants about their habits before and after COVID–19. Nearly 8,000 people took the survey. There is a significant amount of stress and anxiety around the pandemic, and this is affecting the way we eat, our motivation to exercise, and our sleep quality. This highlights how the pandemic has changed our health habits, and in particular, the disproportionate levels of anxiety and weight gain in those who are already obese.<sup>[2]</sup> The survey collected information across six domains:

1. Demographics and household information
2. Sedentary behaviours
3. Physical activity
4. Diet
5. Sleep
6. Mental health.

Overall, 20.7% of the participants perceived that they were eating healthier, though 35.6% reported eating less healthy. Of all the people in the sample, 27.3% reported gaining weight. According to their responses, people who are obese demonstrated the greatest improvements to unhealthful dietary behaviours, but they also reported the largest declines in mental health and the highest incidence of weight gain after stay–at–home orders were put in place.

There is a significant amount of stress and anxiety around the pandemic, and this is affecting the way we eat, our motivation to exercise, and our sleep quality. In general, study subjects reported eating less pre–prepared or fried foods and eating more fruit, but also reported eating more sugar and sugary drinks. Respondents also said that they were skipping breakfast less often

and cooking more food at home. A large percentage of participants reported an increase in sedentary activities like TV watching, a decrease in physical activity, a decrease in sleep quality, and an increase in anxiety.

**BMI and Obesity:** In addition to being a severe—sometimes deadly—disease in its own right, COVID–19 may also play a role in worsening non–communicable diseases that are a major threat to our health, like obesity.

Many survey participants indicated an increase in behaviors associated with the development of obesity after the onset of the pandemic. For example, poor quality sleep can lead to increased hunger, decreased insulin sensitivity, and other factors that contribute to the connection between sleep loss and increased risk of obesity.<sup>[3]</sup>

People who are considered to be overweight or obese have a weight that is higher than what is considered to be healthy in relation to their height. People in this weight category are at increased risk for certain chronic health conditions, including: hypertension, high triglycerides, type2 diabetes, osteoarthritis. People who are considered to be obese are at an increased risk of severe COVID–19 illness, as well as more likely to need hospitalization. People who are overweight might also have an increased risk of severe illness if they get the virus. Studies Show Obesity a Major Risk Factor for COVID–19 Complications.

It's well known that older adults and those with underlying health conditions such as hypertension, diabetes mellitus, and cardiovascular disease are vulnerable to COVID–19. But now, researchers and medical experts are looking at other specific conditions that put people at an increased risk of complications and more severe symptoms from the coronavirus. One condition garnering a lot of attention is obesity.

**When am I obese?**

The easiest way to determine whether a person is overweight or obese is through measuring their body mass index (BMI).

$$BMI = \frac{\text{Weight in kg}}{(\text{Height in m})^2}$$

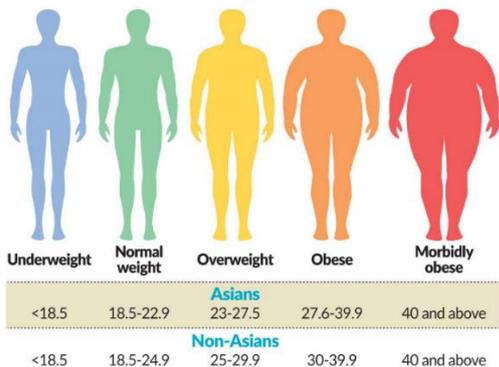


Figure-2: Obesity standard.

**Obesity and COVID-19**

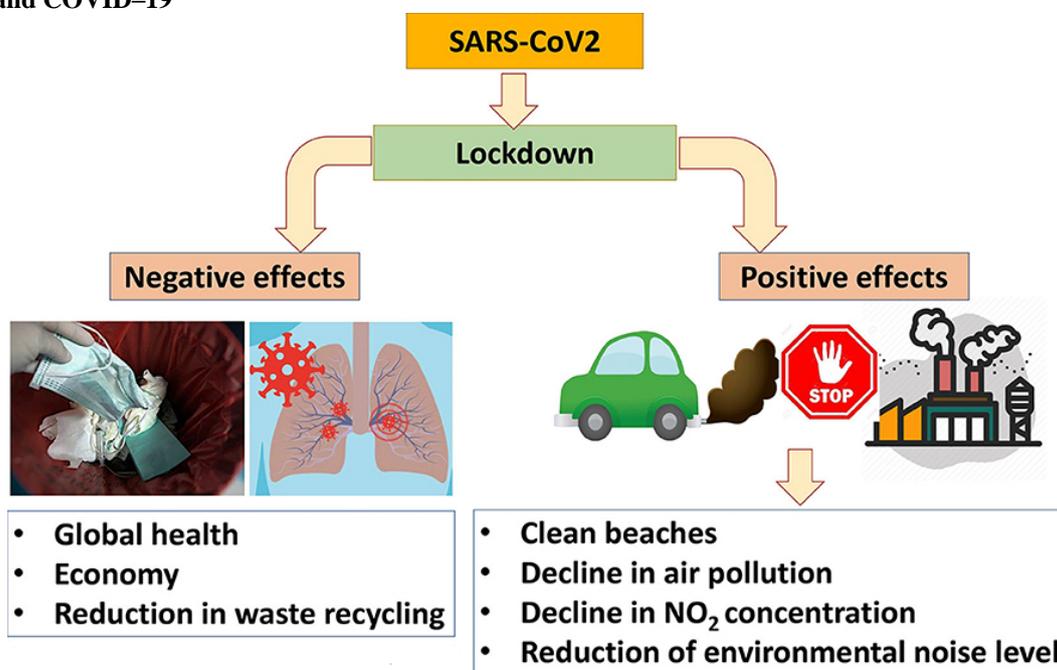


Figure-3: (+ve) & (-ve) effect of COVID-19.

According to the Centers for Disease Control and Prevention (CDC), people with underlying medical conditions, such as obesity, might be at higher risk for severe illness and complications from COVID-19. It is now increasingly clear with emerging medical literature that severe obesity is an independent factor for serious coronavirus infection.

Two categories of obesity can put you at risk of complications from COVID-19: Obesity and severe obesity. If you have a body mass index (BMI) of 30 or above, you are considered obese. A BMI of 40 or above is considered severely obese, which can put you at risk of acute respiratory distress (ARDS), which is a serious breathing problem. The CDC says ARDS, a major complication of COVID-19, creates challenges for doctors when trying to provide respiratory support.<sup>[4]</sup>

Obesity is most commonly caused by a combination of excessive food intake, lack of physical activity and genetic susceptibility. A few cases are caused primarily by genes, endocrine disorders, medications or mental illness. Evidence to support the view that obese people eat little yet gain weight due to a slow metabolism is not generally supported. On average, obese people have greater energy expenditure than their thin counterparts due to the energy required to maintain an increased body mass. Body Mass Index (BMI) or Quetelet's index is a person's weight in kilograms divided by the square of height in meters. A high BMI can be an indicator of high body fatness. BMI can be used to screen for weight categories that may lead to health problems but it is not diagnostic of the body fatness or health of an individual. BMI is a person's weight in kilograms divided by the square of height in meters. The BMI is an attempt to

quantify the amount of tissue mass (muscle, fat and bone) in an individual and then categorize that person as underweight, normal weight, overweight or obese based on that value. However, there is some debate about where on the BMI scale the dividing lines between categories should be placed. Commonly accepted BMI ranges are underweight: under 18.5, normal weight: 18.5–25, overweight: 25–30, obese: over 30. BMI  $[m \div h^2] = \text{mass}(\text{kg}) \div \text{height}^2(\text{m}) = \text{mass}(\text{lb}) \div \text{height}^2(\text{in}) \times 703$ . BMI is usually expressed in kilograms per square meter, resulting when weight is measured in kilograms and height in meters. To convert from pounds per square inch multiply by 703  $(\text{kg}/\text{m}^2) \div (\text{lb}/\text{in}^2)$ . The most commonly used definitions, established by the World Health Organization (WHO) in 1997 and published in 2000, provide the values listed in the Table–1. Some modifications to the WHO definitions have been made by particular bodies. The surgical literature breaks down

"class III" obesity into further categories whose exact values are still disputed. Any BMI  $\geq 35$  or  $40 \text{kg}/\text{m}^2$  is severe obesity. Any BMI of  $\geq 35 \text{kg}/\text{m}^2$  and experiencing obesity-related health conditions or  $\geq 40\text{--}44.9 \text{kg}/\text{m}^2$  is morbid obesity. Any BMI of  $\geq 45$  or  $50 \text{kg}/\text{m}^2$  is super obesity. As Asian populations develop negative health consequences at a lower BMI than Caucasians, some nations have redefined obesity; the Japanese have defined obesity as any BMI greater than  $25 \text{kg}/\text{m}^2$  while China uses a BMI of greater than  $28 \text{kg}/\text{m}^2$ .<sup>[5]</sup>

BMI  $(\text{kg}/\text{m}^2)$   
 0–18.5 Underweight  
 18.5–25.0 Normal or Healthy Weight  
 25.0–30.0 Overweight  
 30.0–35.0 Class I Obesity (Severe Obesity)  
 35.0–40.0 Class II Obesity (Morbid Obesity)  
 40.0 More Class III Obesity (Super Obesity)



Figure–4: Obese and slim body.

If you are obese, this is a good time to get control of your weight to lessen complications if you were to contract the virus. Steps You Can Take to Reduce Your Risk: Recognition of risk factors is a critical first step to determine prevention strategies. It's also a key factor in targeting high-risk populations for potential therapeutics. With that in mind, addressing obesity as it relates to COVID–19 will require a partnership between patients and doctors — and not just one that deals with the medical side of obesity, but one that also takes a deep dive into the mental and emotional impact of obesity. We need to expand our definition of what makes a treatment team and push to include mental health experts, exercise physiologists, and registered dietitians. The good news is obesity is a modifiable risk factor. Unlike age and male sex, we have the ability to change our health and vulnerability to COVID–19 by losing weight and decreasing our BMI. The National Institute of Diabetes

and Digestive and Kidney Disease (NIDDK) explains that common treatments for obesity include:

**Making other lifestyle changes:** They also stress the importance of setting short- and long-term goals and having a support system. The people you choose to include in your support system can be friends, family, or medical experts supporting you on your journey. Soliciting the help of medical and mental health experts that are trained in obesity and weight loss can help you identify unhealthy eating and exercise patterns and help you stay on track to meet your goals. In addition to diet, exercise, and lifestyle changes, the NIDDK also says that some people may benefit from more structure interventions such as formal weight management programs, weight loss medicines, or weight loss devices like gastric balloon system or a gastric emptying system, or surgery such as bariatric surgery.<sup>[6]</sup>



**Figure–5: Losing weight through healthy eating & being more physically active.**

The basic definition of  $VO_{2max}$  is the maximum amount of oxygen your body can use during exercise.  $VO_{2max}$  (also maximal oxygen consumption, maximal oxygen uptake, peak oxygen uptake or maximal aerobic capacity) is the maximum rate of oxygen consumption as measured during incremental exercise, most typically on a motorized treadmill. Maximal oxygen consumption reflects the aerobic physical fitness of the individual, and is an important determinant of their endurance capacity during prolonged, sub-maximal exercise. The name is derived from V–volume,  $O_2$  – oxygen, max – maximum.  $VO_{2max}$  is expressed either as an absolute rate in (for example) liters of oxygen per minute (L/min) or as a relative rate in (for example) milliliters of oxygen per kilogram of body mass per minute (e.g., mL/(kg·min)). The latter expression is often used to compare the performance of endurance sports athletes. However,  $VO_{2max}$  generally does not vary linearly with body mass, either among individuals within a species or among species, so comparisons of the performance capacities of individuals or species that differ in body size must be done with appropriate statistical procedures, such as analysis of covariance.

$VO_{2max}$  is defined as the maximal volume of oxygen that the body can deliver to the working muscles per minute. This is an excellent measure of physical fitness because it provides a metric of efficiency. So if we think about the body as a machine, the muscles collectively are the engine. Just like a car engine, the muscles require a constant delivery of fuel (carbohydrates and fats) and oxygen (to aid in "burning" the fuel). One of the functions of blood is to transport the fuel and oxygen to the muscles. The heart acts as a fuel pump, sending oxygen and nutrient rich blood out to the tissues via arteries and bringing back  $CO_2$  and metabolic wastes via veins. So, you can see that there are several components involved in the operation of the system. This is reflected in the equation for calculating  $VO_{2max}$ .  $VO_{2max} = HR_{max} \times SV_{max} \times (AO_{xy} - VO_{xy})$ . This looks much worse than it really is.  $HR_{max}$  is the maximal heart rate at peak exertion. It is measured as beats/minute.  $SV_{max}$  is the volume of blood pumped by the heart out to the muscles after each beat and is measured as liters/beat. If we multiply  $HR_{max}$  and  $SV_{max}$  we get maximal cardiac

output ( $Q_{max}$ ), measured as liters/minute of blood pumped out to the muscles. The last part of the equation is  $AO_{xy} - VO_{xy}$ . This is called the A/V oxygen difference and it is a measure of how much oxygen is taken out of the blood as it travels through the exercising muscles. The final unit for  $VO_{2max}$  is liters of oxygen per minute. Aerobic exercise improves  $VO_{2max}$  significantly. Interestingly, much of this improvement results from an increase in the size of the heart. So clearly,  $VO_{2max}$  is a great measure of physical fitness. But it is a poor predictor of athletic performance. If you measured the  $VO_{2max}$  of eight world-class cyclists before a race, you would be hard pressed to predict which of them would win if you only had their respective  $VO_{2max}$  values. This is where the LT comes into the picture.<sup>[7]</sup>

Healthy weight loss, according to the CDC, should be gradual and steady. In fact, they say that people who lose about 1 to 2 pounds per week are more successful at keeping weight off. Plus, adding exercise can also help you meet your goals and keep the weight off. That said, make sure to get the green light from your doctor before engaging in physical activity. Once you're cleared for working out, follow the Physical Activity Guidelines for Americans, which recommend that adults should do at least 150 minutes to 300 minutes of moderate-intensity (30 to 60 minutes, five days a week), 75 minutes to 150 minutes a week (15 to 30 minutes, 5 days a week) of vigorous-intensity aerobic physical activity or an equivalent combination of both. When it comes to dietary modifications, the NIDDK says sticking with an eating plan is often more important than the type of plan you're following. In other words, find something that works for you and make it a lifestyle change.

Aerobic literally means "with oxygen", and refers to the use of oxygen in muscles' energy-generating process. Aerobic exercise includes any type of exercise, typically those performed at moderate levels of intensity for extended periods of time that maintains an increased heart rate. In such exercise, oxygen is used to "burn" fats and glucose in order to produce adenosine tri-phosphate, the basic energy carrier for all cells. Initially during aerobic exercise, glycogen is broken down to produce glucose, but in its absence, fat starts to decompose

instead. This latter is a slow process and is accompanied by a decline in performance level. Aerobics is an effective physical exercise which is often done to music. It can be defined as "any activity that uses large muscle groups, can be maintained continuously and is rhythmic in nature." Aerobic exercise is any repetitive activity that you do long enough and hard enough to challenge your heart and lungs. In order to work your heart and lungs hard enough, you must get your largest muscle groups involved. They include your legs, gluts, back and chest. It is a type of exercise that overloads the heart and lungs and causes them to work harder than at rest. The important idea behind aerobic exercise today, is to get up and get moving!! There are more activities than ever to choose from, whether it is a new activity or an old one.

Oxygen Maximum  
Volume → **VO<sub>2</sub>max**  
Maximal volume of oxygen  
your body can utilise

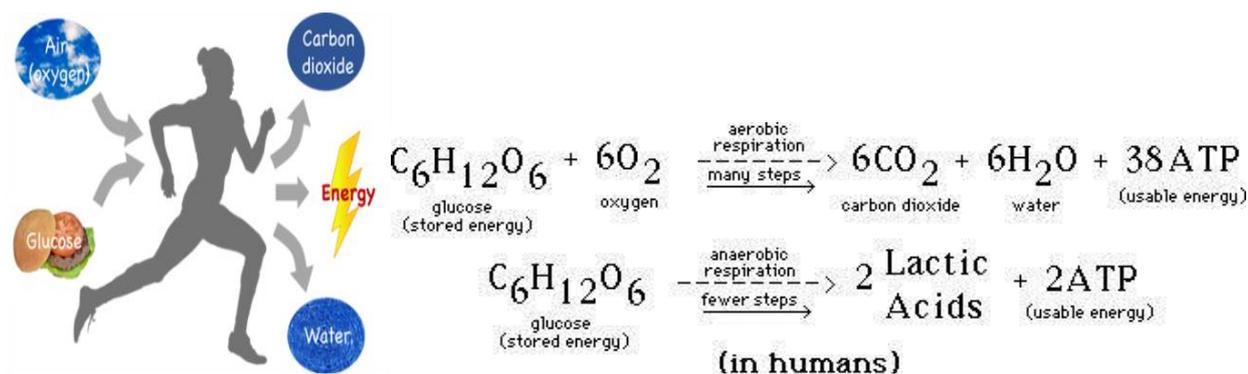
Find something you enjoy doing that keeps your heart rate elevated for a continuous time period and get moving to a healthier life. There are various types of aerobic exercise. In general, aerobic exercise is one performed at a moderately high level of intensity over a long period of time. For example, running a long distance at a moderate pace is an aerobic exercise, but sprinting is not. Playing singles tennis, with near-continuous motion is generally considered aerobic activity, while golf or doubles tennis, with their more frequent breaks, may not be. Aerobic exercise is a fabulous workout that not only helps in maintaining your fitness level, but also makes your heart stronger. There are distinct forms of aerobics like cycling; biking, jogging, running, swimming, dancing etc.<sup>[8]</sup>



Figure-6: VO<sub>2</sub>max.

You can also carry out your aerobic workout on different machines in the gym like treadmill, stationary exercising bike, stair-stepper etc. Aerobic exercise is like Aerobic Dance, Bicycling, Cross Country Skiing, In-Line Skating, Fitness Walking, Jumping Rope, Running, Stair Climbing, Swimming. The benefits of aerobics are (1) Increased maximal oxygen consumption (VO<sub>2</sub>max) (2) Improvement in cardiovascular/cardio respiratory function (heart and lungs) (3) Increased maximal cardiac output (amount of blood pumped every minute) (4) Increased maximal stroke volume (amount of blood pumped with each beat) (5) Increased blood volume and ability to carry oxygen (6) Reduced workload on the heart (myocardial oxygen consumption) for any given sub maximal exercise intensity (7) Increased blood supply to muscles and ability to use oxygen (8) Lower heart rate and blood pressure at any level of sub maximal exercise (9) Increased threshold for lactic acid accumulation, Lower resting systolic and diastolic blood pressure in people with high blood pressure (10) Increased HDL Cholesterol (the good cholesterol) (11) Decreased blood triglycerides (12) Reduced body fat and improved weight control (13) Improved glucose tolerance and reduced insulin resistance. Health benefits of aerobics are Aerobic exercise confers many health benefits. Burning calories effectively and increasing the

basal metabolic rate, accomplished by regular aerobic exercise, both aid in weight loss. There are innumerable health benefits of aerobics, some are given below: (1) It helps in utilizing oxygen more efficiently, thereby paving way for increased fat burning (2) The chances of having diabetes and other diseases are largely reduced (3) If you are keeping unwell, then aerobics exercise can help you a great deal in faster recovery (4) Aerobic also acts as a fantastic stress relieving therapy (5) Strengthening the muscles involved in respiration, to facilitate the flow of air in and out of the lungs (6) Strengthening the heart muscle, to improve its pumping efficiency and reduce the resting heart rate (7) Toning muscles throughout the body which can improve overall circulation and reduce blood pressure (8) Increasing the total number of red blood cells in the body, to facilitate transport of oxygen throughout the body (9) Regular, vigorous aerobic activity can, as a result, reduce the risk of death due to cardiovascular problems (10) High-impact aerobic activities (such as jogging or jumping rope) can stimulate bone growth, as well as reducing the risk of osteoporosis for both women and men. Thus, it can be said that it helps to maintain your overall fitness, on one hand it enables you to have a beautiful fit body and on the other hand, it ensures that your mind remains stress free.



**Figure–7: Aerobic and anaerobic respiration.**

Aerobic capacity describes the functional status of the cardio respiratory system, including, for example, the heart, lungs or blood vessels. Aerobic capacity is defined as the maximum volume of oxygen which can be consumed by ones muscles during exercise. It is a function both of one's cardio respiratory performance and of the ability of the muscles to extract the oxygen and fuel delivered to them. To measure maximal aerobic capacity, an exercise physiologist or physician typically directs a subject to exercise on a treadmill, first by walking at an easy pace and then, at set time intervals during graded exercise tests, gradually increasing the workload. The higher a cardio respiratory endurance level, the more oxygen transported to exercising muscles and the longer exercise can be maintained without exhaustion. Higher aerobic capacity means the higher the level of aerobic fitness. In the present times, carrying out aerobics has become the most happening workout trend among the youth. Not only is performing aerobic exercise interesting, but also is very beneficial for health. Aerobics is very popular with women who do it together in a group following an instructor or alone in front of the television. Girls are usually fond of dancing, so why not use hobby to keep one fit. These days; it has actually become a trend of joining aerobic dance classes. The best part about the aerobic dance is that, not only it helps in keeping you in shape, but also it's a fun time activity, for which you don't mind sparing time, because you derive pleasure in doing it. Even a person who always tends to escape from exercising, the right aerobic type is fitness walking. Aerobic is now going to be a part of one's life and very close to be a lifestyle. The benefits of exercise are very well known to all. Scientists and researchers all over the world do not cease to repeat it at every opportunity. One study after other shows the beneficial effects of exercise to our mind and body. Exercise helps us lose weight, eliminate and manage stress, stimulates the immune system and reduces the risk of certain diseases. There are many forms of exercise. These can be classified into two main categories, the aerobics and anaerobic exercises. In particular, the aerobic exercise refers to any low intensity activity that increases the heartbeat rate while the high-intensity physical activity is called anaerobic exercise (e.g. body building). Aerobic exercises include various sports such as martial arts (which also combines anaerobic exercises), running,

walking, cycling, swimming, skiing and of course indoor exercises. The body needs a certain amount of energy to maintain some basic functions such as breathing, blood circulation and for the normal functioning of the different body organs. The energy needed to maintain these functions is known as BMR or basic metabolic rate. Any activity in addition to those basic functions requires additional energy, which is taken by the glycogen (carbohydrates) and deposits of fat in the blood, liver and muscles. The 20 benefits of aerobic exercise. The benefits of aerobic exercise to protect the heart are very well known. But exercise is not only beneficial for the heart and muscles. Other benefits of exercise includes: 1. Better cardiac function: The heart gets more blood per beat. That means that the heart rate is reduced in times of relaxation and during the exercise. 2. Weight loss: During exercise the body burns fat and as a result the total body fat is reduced. 3. Improving mental health: Regular exercise releases the endorphins, the natural painkillers of the body, which among other things reduces stress, anxiety and depression. 4. Helps the immune system: Numerous studies have shown that people who exercise regularly are less prone to mild viral infections such as colds or flu. 5. Reducing diseases: The extra weight is an aggravating factor in the emergence of: heart disease, high blood pressure, stroke, diabetes and certain types of cancer. The risk to develop some of these diseases decreases as we lose weight. There is data showing that walking can reduce the risk of osteoporosis and the complications involved. While exercises such as swimming and water aerobics may help people with arthritis. 6. Increases longevity: Research by the University of Harvard, published in the New England Journal of Medicine in 1986, revealed that for the first time there was a scientific link between exercise and longevity. Since then, other research confirms this initial assessment. 7. Increases body resistance: Maybe during or immediately after exercise you feel tired, but in the long-term exercise increases the strength and the sense of well-being keeping fatigue away. 8. Improves muscle health: Exercise encourages the development of microscopic blood vessels that provide sufficient quantities of oxygen in the muscles and keep away from the muscle's metabolic wastes such as lactic acid. This process can reduce the discomfort felt by those suffering from chronic muscle pain and back pain. 9. Increases the

maximum consumption of oxygen by the body. 10. Improves cardiovascular and cardiovascular function. 11. Increasing the supply of blood to muscles and the ability to make better use of oxygen. 12. Lowers heart rate and blood pressure. 13. Lowers the accumulation of lactic acid which causes pain and muscle burning. 14. Lowest systolic and diastolic blood pressure in patients suffering from hypertension (high pressure). 15. Increasing levels of good HDL cholesterol in the blood. 16. Reduces high blood triglycerides. 17. Improvement of glucose metabolism reduces insulin resistance and therefore lowers the risk of diabetes or regulates better the disease if it has already occurred. 18. Reduces psychological stress, improves mood with more vitality, reduces risk of depression or anxiety. 19. Greater resistance to fatigue. 20. Helps us to sleep better. What to do before start exercising:

- The first and most important step before starting any exercise program is to consult your doctor. This is applicable to all ages but especially those over 40 who smoke, drink, do sedentary work, are overweight or have a chronic problem. Tips for a good exercise.
- Exercise 3 To 5 times a week Suggested duration is between 20 to 30 minutes and level of intensity from 50 to 80% of the maximum of your ability. Wear a good

pair of trainers. For any activity you choose, you need the first 5 to 10 minutes to warm up and also devote the last 5 to 10 minutes for stretching after intense exercise to prevent possible injury. Do not forget to that when starting an exercise program, start slowly and gradually increase intensity and duration. It can take some weeks to arrive in 20 to 30 minutes of continuous exercise.

**What This Means For You:** Scientists and medical experts continue to discover new research to help them better understand COVID-19. In addition to social distancing, safe hygiene practices, and wearing a mask, putting your health first and addressing chronic conditions like obesity can help decrease your risk of experiencing severe symptoms and complications if you get sick with COVID-19.

**Staying Well While Staying Home:** While it's especially easy to break healthy habits at home, there are some things that you can do to preserve your physical and mental health as we round out a year of the pandemic.

**How to Stop Mindlessly Snacking:** Blood sugar control, people should make sure that their meals are balanced with protein, healthy carbohydrates (that are high fiber), and healthy fat.



**Figure-8: Meditation and running with maintaining social distance.**

It is suggested aiming for 30 minutes of exercising per day. If you need a quicker solution for manager stress, she advises taking three to five deep breaths when you feel your anxiety levels starting to rise.

**What This Means For You:** The effects of the COVID-19 pandemic extend beyond the risk of contracting the virus. Changes to your lifestyle caused by stay-at-home orders may also play a role in the development of non-communicable diseases like obesity that can be a threat to your health and wellbeing.<sup>[9]</sup>

There are some simple things you can do to take care of your body and mind as you continue to stay at home. Try to find ways to stay active, be mindful about what you

eat, and practice stress management. Yoga is one of the solution to remove the problem.

The ultimate goal of Yoga is moksha (liberation) though the exact definition of what form this takes depends on the philosophical or theological system with which it is conjugated. "Yoga has five principal meanings: (1) yoga as a disciplined method for attaining a goal (2) yoga as techniques of controlling the body and the mind (3) yoga as a name of one of the schools or systems of philosophy (darśana) (4) yoga in connection with other words, such as "hatha-, mantra-, and laya-," referring to traditions specialising in particular techniques of yoga (5) yoga as the goal of yoga practice." Yoga as an analysis of perception and cognition. Yoga as the rising and

expansion of consciousness. Yoga as a path to omniscience. Yoga as a technique for entering into other bodies, generating multiple bodies and the attainment of other supernatural accomplishments. "Yoga" is a complete way of life including – Gyan Yoga or philosophy, Bhakti Yoga or path of devotional bliss, Karma Yoga or path of blissful action and Raja Yoga or path of mind control. Raja Yoga is further divided into eight parts, of which only one part is Asana or derived from the Sankrit word "yuj" which means "to unite or integrate"; yoga is a 5000 year old Indian body of knowledge. Yoga is all about harmonizing the body with the mind and breath through the means of various breathing techniques, yoga postures (asanas) and meditation. Pranayama is the extension and control of one's breath. Practicing proper techniques of breathing can help bring more oxygen to the blood and brain, eventually helping control prana or the vital life energy. Pranayama also goes hand in hand with various yoga asanas. The union of these two yogic principles is considered as the highest form of purification and self-discipline, covering both mind and body. Pranayama techniques also prepare us for a deeper experience of meditation. Many yoga teachers recommend that Pranayama techniques be practiced with care and that advanced pranayama techniques should be practiced under the guidance of a teacher. For example, people with low blood pressure must perform it cautiously or may even have to avoid it. On the other hand, pranayama may be helpful for someone with high blood pressure as the practice has been shown to lower resting blood pressure and heart rate. These cautions are also made in traditional Hindu literature. Pregnant women may have to forgo pranayama. Exercises which incorporate the Valsalva manoeuvre, a moderately forceful attempt to exhale against a closed airway, usually done by closing one's mouth, pinching one's nose shut while pressing out as if blowing up a balloon, have been medically associated in emergency room practice with subcutaneous emphysema, development of pockets of air in the body outside the lungs, for example under the skin or in the abdomen. An incidence of rectus sheath hematoma which required emergency surgery to repair a ruptured inferior epigastric artery and removal of 750 ml of blood from a woman's abdomen occurred during vigorous pranayama practice by an older woman with high blood pressure.

**Basic requirements to start exercise:** Warm up improves muscles stiffness. Muscles stiffness is directly related to muscles injury and during warm up it increases body temperature. Stretching exercise are two types (i) dynamic exercise (ii) Static stretching

(i) Dynamic exercise may be classified in different ways, a. movements of different joints of human body like Fingers, Wrist, Elbows, Shoulders, Neck, Trunk and shoulder blades, Hips, Knees, Ankles, Feet and toes.

(ii) Static Exercise is more effective in cool down exercise at end of the running. These are chest stretch, upper back stretch, shoulder stretch, side bends, hamstring stretch, calf stretch, hip and thigh stretch.

Warm up increases the contraction and relaxation of muscles, metabolism, muscle temperature, blood flow and reduce the muscles stiffness.

Cool down exercise decreases body temperature, reduce the heart rate and remove the lactic acid. Breakdown of glycogen in the cell with the release of energy is called cellular respiration. When breakdown of glycogen occurs with the use of oxygen it is called aerobic respiration and without use of oxygen it is called anaerobic respiration. During heavy exercise, fast running, cycling, walking for many hours, marathon or heavy weight lifting, energy requirements is high but supply of oxygen is limited then anaerobic respiration takes place. In case of anaerobic respiration muscle cramps are happening due to formation of lactic acid. Muscle cramps may be removed by using hot water bath or recovery exercise by improving oxygen supply to the muscle for complete from lactic acid to carbon dioxide and water.<sup>[10]</sup>

**More benefits of exercise:** Exercising regularly can improve your mood and reduce feelings of anxiety and depression. Exercise is crucial to supporting a fast metabolism and burning more calories per day. It also helps you maintain your muscle mass and weight loss. Physical activity helps you build muscles and strong bones. It may also help prevent osteoporosis. Engaging in regular physical activity can increase your energy levels. Daily physical activity is essential to maintaining a healthy weight and reducing the risk of chronic disease. Moderate exercise can provide antioxidant protection and promote blood flow, which can protect your skin and delay signs of aging. Regular exercise improves blood flow to the brain and helps brain health and memory. Among older adults, it can help protect mental function. Regular physical activity, regardless of whether it is aerobic or a combination of aerobic and resistance training, can help you sleep better and feel more energized during the day.

**Benefits of running:** Running has become extremely common in our society in the last few decades. The excellent benefit of this sort of exercise is its intensity. It boosts fitness fast and burns more calories than other activities, making it appealing to individuals who wish to control their weight loss. Due to its strength, running releases endorphins, producing the runner's high, which many describe as an "energy buzz," a great antidepressant. Together with improving the lungs and the heart's state, running is a weight-bearing physiological action that promotes bone health. Running may also decrease stress levels. Running is a high-intensity workout that employs the body's bigger muscle groups, leading to high-calorie burn for weight reduction.



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### CONCLUSION

C: Culprit, O: Of, R: Ridiculous, O: Offensive, N: Natural, A: Air is **C-O-R-O-N-A**. The worldwide massacre created this virus is most unwanted virion in world because it caused pandemic situation and the word *work from home* has been generated which produced weight gain and that reflects aftermath in current arena. Reflection of CORONA produced COVID-19 as it has been generated in 2019. C: Corruption, O: Of, V: Vulnerable, I: Indigenous, D: Device is **C-O-V-I-D**. It is most unwanted mutant genome which plays in own style to produce biochemical ailments. The drugs provided for their habitat is under pipeline in Phase-IV. COVID-19 pandemic situation helped us to learn how to survive in unfavourable situation to be safe. Like the previous catastrophes on the planet Earth, the humans will win over this pandemic in due course of time; however, people should know the limits to which they can thrust nature before it is too late. Environmental changes are arguably the most vital and severe challenge of the twenty-first century. Despite the continuous efforts by governmental and non-governmental organizations to restore and repair nature, humans can only move a few steps forward and yet there are enormous challenges. However, being a blessing in disguise, the Covid-19 pandemic during the past few months has successfully recovered the environment to a much larger extent and has improved the mutually effective link between nature and humans. While at the same time the lockdown and social distancing have contributed positively toward the environment, though, it is essential to take into account the negative effects such as mortality, impacts on social aspects, and the dramatic economic effects as well. The viral pandemic has produced both positive and negative indirect effects on the environment. At present, it is important to control the disease, reduce the transmission, and proactively save lives. Although the positive impacts on the environment may be temporary, the governmental, non-governmental organizations, and the individuals should learn from this lockdown on how to reduce and minimize the pollution on a long-term basis. During this period children are suffering from obesity and anxiety. Physical exercise and proper food habit are the solution to be fit.

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