

Crucial importance of regular physical activity in times of a pandemic

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Abstract

The benefits of continuous physical activity are evident all throughout the human life. We have a constant need of movement, whereas our organism's systems function much better when we are constantly active. In coping with depression symptoms, many researchers recommend increasing the quantity of aerobic activities, which raise the heart frequency in a controlled manner as a depression prevention. Physical activities which include exercises for the strength of skeletal muscles have shown in practice a positive effect on the reduction of anxiety. Moderate to high intensity activity and exercising during the day for children and adolescents is connected to increased self-confidence, self-respect, high levels of concentration, corrective posture and better sleep; whereas for adults, light cyclic movements are mandatory for better coping with chronic diseases.

The pandemic caused by the corona virus COVID-19 closed all gyms, fitness clubs, sports playgrounds, pools and child animation centers. This is the key issue in the realization of everyday physical activities, which have a preventive effect on both the physical and mental health. People all over the world have been forced to find an adequate substitute for their regular everyday activities. Thus, as with the other areas of life, physical activity was completely transferred via the social media, as well as other online tools. In such complex circumstances for the entire humanity, everybody has the opportunity to draw a common conclusion that one should turn to the

core value – health, which also refers to regular physical activity.

1 Introduction

The current global pandemic of COVID-19 forced the implementation of strict emergency measures and restrictions to stop the virus from spreading in almost every country around the globe. Some of the measures and quarantines, social distancing, home confinement and the complete shutdown of several cities, including regions and states. These necessary actions to prevent the virus from spreading potentially cause great problems in the mental and physical health of population.

The psychological effects of this pandemic can have long-term consequences that affect people in quarantine. Some of the consequences that have been seen to affect people in quarantine refer to depression, posttraumatic stress, acute stress disorder, exhaustion, detachment from others, anxiety, emotional exhaustion, trauma related mental health disorders. However, physical activity has been shown to have positive impacts in most of these situations, as well as beneficial effects on dealing with problems during quarantine like dissatisfaction and boredom.

2 Starting an exercise program during a pandemic

Public health recommendations for social distancing and hygiene practices are of immense significance when starting a physical activities or exercise program. Becoming physically active can easily be achieved by avoiding sitting for long periods of time, taking short breaks, online exercise classes, and using mobile technologies such as mobile phone applications and wearable sensors to encourage movement. Some of the examples home exercises which do not require large spaces or equipment while easily implemented all during the day refer to walking, stair climbing, lifting and carrying groceries, chair squats, pushups, sit-ups, rope jumping, yoga, Pilates, and Tai Chi. Furthermore, A beginning exercises should start at low intensities for short intervals and increase gradually to more intense physical activities or exercise periods of longer durations. Since such activities can be practiced at home, the issue of finding space and appropriate equipment are easily overcome.

The goal of a beginning physical fitness program is to gradually increase the intensity to achieving at least a half an hour moderate physical exercise every day or at least twenty minutes of intense physical exercise every other day of the week. Ideally, strengthening-type activities are included in daily activities at least twice a week. People prone to chronic diseases like cardiovascular or pulmonary disease should consult health care providers regarding safe exercise programs. Recommendations for children and youth aged 5 to 17 years are achieving at least 60 minutes of moderate - to high-intensity daily physical exercise. Moreover, high-intensity exercise that strengthen muscle and bone are recommended at least three times per week.

However, abruptly starting high intensity exercise program or performing highly intense prolonged exercise is not wise, since this type of training may adversely affect immune function. Therefore, for individuals who already practice regular exercising it is recommended that they gradually increase the intensity as well as the duration of training so that they would avoid negative effect on their overall immune system.

3 Physical activities and programing during pandemic

Physical activity may include: active recreation, sports participation, cycling, walking, dancing, gardening, house cleaning, carrying heavy shopping. During the COVID-19 pandemic it is even more important for all people to be physically active. Even if it is only a short break from sitting at your desk and doing some walking or stretching. Even simple things such as those mentioned can significantly reduce mental stress, improve blood circulation, and provide for routine physical exercise in these pandemic times.

A study conducted in 2020 found a significant reduction in the likelihood of developing severe COVID-19 among infected patients who had consistently met the recommended physical activity guidelines in the preceding couple of years. Moreover, COVID-19 patients who had engaged in less physical activity than recommended had lesser risks of developing severe disease outcomes or dying, than COVID-19 patients who were consistently inactive.

Although, physical activity has proved to be a tremendous challenge for people from all ages, it is of immense importance to mindfully schedule and follow a form of exercise program during the COVID-19 crisis. Despite the fact that regular movement in the place we live and beyond may be entirely restricted, people must strive for inventive ways to include physical activity as part of their daily routine.

4 New training trends

With the onset of the COVID – 19 pandemic, the population came to understand the importance of physical activity and the effects it has on people's life and health. People, regardless of their previous physical activities started seriously considering physical activity plans or intensifying their already established routine in this context to achieve a complete defocusing from the pandemic. To this end, all fitness clubs, centers as well as trainers and instructors were made to first adjust their way of working, switching almost entirely to online training sessions, easily available to everyone.

Those who managed to promptly migrate their programs to the latest online platform were the ones who achieved the most during these pandemic times.

TV and radio campaigns launched in almost all countries in the world played an important role in raising awareness of the significance of physical activities. This stirred interest for physical activity as never before. Many fitness clubs, especially those focused on bodyweight exercise noticed an abrupt increase of clients. During the first quarantines introduced in the Republic of North Macedonia, certain clubs reached up to 10 times increased number of clients, now via the online platforms.

The type of exercises practices during this regime of working contributed to eliminating all minor injuries among almost all types of employed clients, especially those in the IT sector as well as all whose job requires sedentary regime for long stretches of time. Bodyweight exercise aim at strengthening all small and big muscle groups, thus creating a sturdy body fitness and preventing the effects of all micro traumas that one would be incapable of eliminating due to the rapid pace of life.

The vast interest for practicing physical activities reached its peak during the first six months of the pandemic up to the moment when governments gradually started relaxing measures and recommendations providing a chance for the population to resume their regular everyday movement.

By relaxing the measures and providing the opportunity for movement, people gradually switched from exercising in their homes to performing these activities in nature. The next stage or cycle of the pandemic regarding physical activity referred to movement through and familiarizing oneself with the beauty of nature of one's own country, discovering attractive and beautiful places in the process. A great number of people started investing in mountaineering as well as cycling equipment, since nature outings became the new meaning of freedom and all human beings naturally strive towards freedom and independence.

In the period to follow, the number of infected affected the proposed measures and recommendations. Organizing and performing physical activities too a hybrid form which was in a constant process of adaptation to the current state domestically but also globally.

It is important to note that men practice physical activity mainly for social and competitive reasons. Moreover, they prefer to practice sports, outdoor and/or in public places like the gym and fitness clubs. Females have been shown to be more inclined to exercise in home-setting, practicing aerobics, dancing, yoga, pilates or circuits with push-ups, squats, planks and jumping jacks. Furthermore, the lower variation in physical activity levels between before and during quarantine found in women is possibly explained by the higher amount of housework physical activity than males.

5 Benefits of physical activities during pandemic

The main mechanism involved in COVID-19 pathogenesis is respiratory tract inflammation and host immunity system response. Patients infected by COVID-19 commonly have lymphopenia, neutrophilia, thrombocytopenia, high systemic immune inflammation, and increased protein C and interleukin 6 levels. The initial condition of the patient and their immune response seem to be important factors that can harm organs' functioning. Thus, as COVID-19 immunological and physiological processes have been explained, preventive strategies must be discussed to decrease the duration of symptoms and mortality among infected people.

Physical exercise emerges as a strategy to improve cardiorespiratory variables and endurance in people infected by COVID-19, and in those who are not infected. It is worth emphasizing that individuals engaged in physical exercise have an increase of their cardiorespiratory levels, which is considered an important variable to protect against the emergence of

several clinical conditions/diseases, such as hypertension, diabetes, and serious heart conditions. People with these characteristics are at higher risk of severe COVID-19 illness.

Moreover, older people, who are part of the risk group, present an increase of inflammatory cells, such as cytokines and interleukins. It has been shown that physical exercise may control the response of several inflammatory mediators. Adaptations in exercise parameters play a key role in generating benefits on immunity and inflammation systems. It is also to be pointed out that aerobic training has been used to prevent and reduce the risk of several conditions, such as endothelial dysfunction, obesity, diabetes, and high blood pressure. Thus, we believe that this protective nonpharmacological approach can be an important strategy for decreasing symptoms and deaths caused by COVID-19.

In light of the current situation worldwide, certain benefits of physical activity may be specifically pertinent to the COVID-19 pandemic. These benefits refer to physical activity enhancing immune function and reducing inflammation which leads to reducing the severity of infections, improving common chronic conditions that increase the risk for severe COVID-19 (Cardiovascular disease, diabetes), being a great stress management tool by reducing symptoms of anxiety and depression, helping bring cortisol levels in balance. Stress and distress creates a certain imbalance in cortisol levels and this negatively affects immune function and inflammation.

6 Conclusion

Many people have been suffering because of the routine changes caused by the quarantine, constant deaths reports on TV, speculations about new treatments, risk of losing jobs, and no prediction about the end of the pandemic. Physical exercise is a cheap and easy strategy that should be encouraged during the COVID-19 pandemic because it has been worthy to treat and prevent many cardiorespiratory and physical manifestations developed by people.

All studies around the globe show that quarantine causes an immense drop in total weekly physical activity energy expenditure in all age groups and especially in men, and this reduction negatively influences the psychological well-being. In fact, physical activity has a profoundly positive impact on psychological health, by enhancing self-esteem and resilience to stress and reducing depression and anxiety. Given the spread of COVID-19, stay at home is a fundamental step to halt the pandemic.

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