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Short Communication

Physical exercises trailblazer effects on body systems

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Abstract

Regular exercise is widely recognized for its ability to promote overall health, with a growing population, maintaining a high quality of life presents a significant challenge. Additionally, a gradual decrease in physical activity, can further weaken their functional abilities and daily living skills. So, our aim is to is to show the new generations how the physical exercises is not luxury and declare its marvelous effect on all body systems.

Keywords: physical; exercises; activity; effect; system

Introduction

Regular exercise is widely recognized for its ability to promote overall health, but its benefits extend beyond cardiovascular fitness and weight management. [1] Advancements in healthcare are contributing to a rapidly growing population in the current era. With a growing population, maintaining a high quality of life (QOL) presents a significant challenge. Additionally, a gradual decrease in physical activity, combined with major life events such as hospitalization and surgery, can further weaken their functional abilities and daily living skills. [2]

Viewpoints:

There are benefits of respiratory and abdominal strength training exercises for patients recovering from abdominal surgeries. These exercises iearly postoperative period can enhance overall rehabilitation, helping to prevent complications, reduce hospital stays, and improve both physical and mental well-being.[2]

Physical exercises reduce the risk of gum disease as it reduces inflammation by regulating the body's inflammatory response, which is a critical factor in the development of periodontal disease. Regular physical activity can improve blood flow, including to the gums, enhancing the delivery of essential nutrients and the removal of waste products. Exercise also bolsters the immune system, which plays a vital role in defending the body against infections, including those that affect the gums and teeth. A strengthened immune response can help prevent the growth of harmful oral bacteria that contribute to gum inflammation and dental decay. However, balance is needed as excessive physical activity without adequate rest can suppress immune function, potentially making individuals more susceptible to infections, including oral infections. Lower Risk of Chronic Diseases that

Impact Oral Health Stress is a contributor to various oral health issues, including bruxism (teeth grinding) and temporomandibular joint disorders (TMJ). Exercise is a natural stress reliever, reducing the release of stress hormones such as cortisol, which can negatively impact oral and overall health. stress relief with regular physical activity, causes fewer stress-related oral health problems and maintain better overall dental health. [1] Strenuous exercise and dehydrated states would be the causes of gastrointestinal symptoms referred by 70% of the athletes. Gut ischemia would be the main cause of nausea, vomiting, abdominal pain and (bloody) diarrhea. The frequency is almost twice as high during running than during other endurance sports as cycling or swimming and 1.5-3.0 times higher in the elite athletes than the recreational exercisers.[3]

Physical exercise modulates gastrointestinal motility, permeability, immune responses, and microbiota composition, with both beneficial and adverse effects depending on intensity and duration. Regular moderate exercise is associated with improved quality of life in IBD and IBS, reduced colorectal cancer risk, and potential symptom relief in constipation. However, high-intensity exercise may exacerbate gastroesophageal reflux symptoms and increase the risk of gastrointestinal bleeding. [4]

Prevalence of IBS among students was 11%.[5]

The progress of any nation depends on the academic achievement and professional development of its young, and for this reason every nation emphasizes on the achievements and development of its students. [6]

The liver, considered the centre of life, was examined by well trained "religious experts". [7] Two million deaths each year by liver diseases and account for 4% of all deaths globally. Physical exercise is a promising approach to maintain and restore homeostasis, prevent and mitigate liver diseases. Also, regulating lipid homeostasis, modulating immune function and improving insulin sensitivity [8] NAFLD is now considered as the hepatic manifestation of the metabolic syndrome, where insulin resistance plays a crucial role in its development [9]

Patients with advanced chronic kidney disease (CKD), especially those on long-term dialysis, often suffer from muscle wasting and excessive fatigue. It is known that inactivity, muscle wasting and reduced physical functioning are associated with increased mortality in CKD. Known causes include uraemic myopathy and neuropathy, inactivity, and anaemia. Exercise in patients receiving regular dialysis treatment for end-stage renal disease was first introduced 3 decades ago, but is still only offered in a minority of rental units around the world, despite a significant body of evidence to support its use. Work is needed to increase awareness of the potential benefits of increased physical activity for patients with advanced CKD. [10]

Physical exercises cause changes in renal function [11]

Significant amelioration of post-exercise proteinuria on vitamin C and E supplementation in apparently healthy volunteers [12]

Regular physical activity is one of the most powerful tools available for maintaining and improving brain health throughout your life. Simple activities, such as walking, climbing stairs, or playing with grandchildren, can provide meaningful benefits when done regularly [13]

Muscular exercise has an impact on endocrine functions. A single bout of exercise (for example, running for 30 minutes) activates certain endocrine systems required to maintain body homeostasis. Moreover, the effects of exercise persist after the end of exercise, continuing during the recovery period. Training, i.e., regularly repeated exercise, can affect endocrine functions by modifying hormonal responses to exercise and/or by modifying endocrine functions in at rest. The understanding of such modifications should allow avoiding unwarranted hormonal substitution in sportsmen and sportswomen. [14]

Aerobic activities like walking, running or jumping rope give your heart and lungs the kind of workout they need to function efficiently. Physical activity can reduce your risk of serious illness, including heart disease, stroke, diabetes and some forms of cancer, including lung cancer. Also, it can reduce feelings of anxiety and depression, improve attention and memory, and reduce the risk of dementia, including Alzheimer's disease [15]

Johns Hopkins stated that aerobic exercise and resistance training are the most important for heart health and although flexibility doesn't contribute directly to heart health, it's nevertheless important because it provides a good foundation for performing aerobic and strength exercises more effectively. [16] People with heart conditions who exercise are at lower risk for complications, needing care in a hospital, and sudden cardiac death. Dr. Desai said that what you're trying to do is stall further cardiovascular injury and improve the body's ability to manage any existing cardiac injury, exercise also helps people with heart damage function better in everyday life as it improves your ability to cope with heart dysfunction, because exercise helps your muscles use oxygen more efficiently. Heart function and exercise tolerance get better in people who exercise. [17]

Research in mice shows that the anti-inflammatory properties of exercise may arise from immune cells mobilized to counter exercise-induced inflammation. Immune cells prevent muscle damage by lowering levels of interferon, a key driver of chronic inflammation, inflammatory diseases, and aging [18]

Conclusion and recommendations:

The new generations should know that the physical exercises are not luxury. It has marvelous effect on all body systems, even needed before surgery, so it should take place again in their hobbies and gradually replace useless others whether in schools, universities or stadiums aiming for a better future.

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