



Mini Review

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The Importance of Scientific Exercises for the Holistic Well-Being of Geriatric/Old Age Population

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Abstract

It's natural to lose the stamina and agility we once had as we become older. However, growing older does not have to imply being a couch potato and becoming feeble, frail, and ill. All older persons, both men and women, can benefit from regular, moderate scientific exercise/physical activity, according to the Centers for Disease Control and Prevention (CDC). This is also true for persons who have arthritis, heart disease, obesity, diabetes, or high blood pressure. Regular exercise/physical activity is one of the most important things you can do for your health as an older adult. It can prevent or postpone numerous health issues that appear to be associated with ageing. It also helps to strengthen your muscles, allowing you to carry on with your regular duties without relying on others. During the day, older folks should move around more and sit less. Remember that any physical activity is preferable to none. Some health benefits accrue to older persons who sit less and engage in moderate-to-vigorous physical activity. Your health benefits will also rise as you increase your physical activity.

Keywords: Physical exercises, Heart diseases, Diabetes, Aging

Introduction

Many noncommunicable chronic health disorders are linked to physical inactivity in both developed and developing countries. High blood pressure, smoking, high blood glucose, lack of exercises/physical inactivity, and obesity are the top five risk factors for death. According to Paterson, et al., [1], boosting scientific exercises/physical activity levels is the most significant measure for improving population health. It is critical to understand how physical activity/scientific exercises levels and intensity are measured when accessing research-based literature on physical activity and exercise. Pedometers and accelerometers have grown in popularity as accurate techniques of detecting physical activity [2]. Pedometers are low-cost mechanical counters that detect vertical motion when walking to determine the number of steps a person takes through

out the day. Accelerometers detect accelerations in one or more planes of motion and can provide information about the frequency, intensity, and duration of many forms of movement. Pedometers, in particular, are inexpensive, easily available, and unobtrusive, allowing data to be recorded while performing everyday tasks. Because there is significant evidence for the benefits of aerobic and muscle-strengthening workouts, specifics about the type and intensity of these types of exercise are evident. Aerobic exercise is described as any sort of activity that engages large muscular groups and can be sustained over time, such as brisk walking, swimming, or dancing [3].

Aging is characterised by both biological and psychological changes. As a person's function in society evolves, they frequent-

ly shift their goals and motivational priorities as well. Biological changes occur, resulting in molecular and cellular damage and a decrease in physiological reserve, as well as an increased risk of various diseases. Even in fit and active persons, strength, endurance, bone density, and flexibility all diminish at a 10% per decade pace. Muscle strength declines at a faster pace, around 30% every decade [4]. This can result in a reduction in a person's degree of function. A recent study using the International Classification of Functioning, Disability, and Health (ICF) framework to examine one-year changes in physical functioning of older adults found significant declines in muscle strength (both hip abductors and knee extensors), walking capacity, speed, and mobility [5]. At the end of one year, sitting and standing performance, upper extremity function, and balancing performance were evaluated. Despite the fact that no significant changes in levels of engagement in activities of daily life, balance-related activities, or physical activity were detected [6]. We live in an ageing society, with most people projected to live past the age of 60. In 2015, 8.3% of the global population was above the age of 65, a 1% increase from 2005 [7]. This demographic is frequently considered to be sick, yet it may not be. Many chronic disorders and noncommunicable diseases can be avoided or postponed by adopting healthy habits. Despite this, studies show that this age group sits for an average of 10.7 hours per day, with 40% of this age group adopting a sedentary lifestyle [8]. This must be addressed, and older persons must be encouraged to be more active. Physical inactivity has a global prevalence of 21.4% [9]. This corresponds to one in every four to five persons being physically inactive or having activity levels that are below than WHO recommendations [10].

Generalized Benefits of Scientific Exercises for Senior Citizens

It Aids in the Prevention of Chronic Diseases

Exercise can help prevent a variety of chronic conditions, including cardiovascular disease, colon cancer, diabetes, obesity, and hypertension. If you already have a chronic disease, physical activity can help you feel better. It may even aid in the prevention of cognitive deterioration. One study demonstrated that persons over the age of 60 who exercised for 30 minutes each day had lower levels of Alzheimer's biomarkers [11].

Enhancing Mental Health

Exercising has numerous mental health advantages. Endorphins (the "feel good" hormone) are released during exercise, which work as stress relievers and leave you feeling pleased and content. Furthermore, exercise is linked to better sleep, which is especially significant for older persons who frequently suffer from insomnia and disordered sleep patterns [12].

Reduced Chance of Falling

Falls are more likely in older persons, which can be terrible for independence. Exercise increases strength and flexibility, which improves balance and coordination and minimises the chance of fall-

ing. Seniors recover from falls significantly more slowly, therefore anything that can assist them avoid them is beneficial [13].

Participation in Social Activities

Exercise can be an enjoyable social event, whether you join a walking group, group fitness courses, or a gardening club. It is critical for ageing persons to have strong social ties in order to feel worthwhile and prevent emotions of loneliness or depression. Above all, choose an activity that you enjoy, and it will never feel like a chore again [14].

Better Cognitive Function

Physical activity and fine-tuned motor abilities both boost cognitive functions. Numerous studies show that physically active people have a lower risk of dementia, regardless of when they begin their routine [15].

Improves Immunity

A 2018 study found that moderate exercise was associated with lower incidence of acute respiratory disease and fewer sick days at work. According to certain researchers, the anti-inflammatory benefits of exercise science/physical activity allow for improved immune function. Exercise can also boost immune cell function [16].

Relieves the Pain of Osteoarthritis

Although it may appear to be paradoxical, increased exercise can help decrease arthritic pain and stiffness. Low-impact aerobic activity, strength training, and range-of-motion exercises are all examples of arthritis-friendly exercise. How might exercise assist with arthritis? It lowers pressure on aching joints by strengthening the muscles around them. Physical activity can also help reduce joint inflammation and lubrication, resulting in less pain and stiffness [17].

Stops Bone Loss

Men and women both lose bone density as they become older, with postmenopausal women losing up to 2% every year. Strength training has been demonstrated to reverse bone density loss and actually repair it. Stronger bones result in fewer fractures and can aid with balance. Exercise can help seniors live independently for longer by lowering the risk of falls and injury [18].

Choosing the Right Exercises for the Older Adults-Guidelines of World Health Organization

WHO has established special guidelines (2020) for persons over the age of 65, recommending both aerobic exercise and strength training. Adults and older adults (>65) should engage in at least 150-300 minutes of moderate-intensity aerobic physical activity per week, or 75-150 minutes of vigorous-intensity aerobic physical activity per week, or an equivalent combination of moderate-intensity and vigorous-intensity activity [19]. Adults and older adults (>65) should engage in muscle-strengthening exercises that

involve all main muscle groups on two or more days per week, as these provide significant health benefits.

To improve functional capacity and reduce falls, older persons should engage in varied multicomponent physical activity that emphasises functional balance and strength training at a moderate or higher intensity three or more days per week [20]. Aerobic exercise- On most, if not all, days, older people should do at least 30 minutes of aerobic exercise, such as walking, swimming, water exercises, and stationary cycling. Treadmill walking has been shown in studies to improve the postural balance of institutionalized elderly persons [21].

Strength training- The regimen outlined below assists the individual to maintain bone and muscle strength. To continue to strengthen muscle and bone, gradually increase the intensity (weight) of the activity. Recommendations include Strength training two to three times a week, with a day off in between. Weight lifted should be increased when repetitions can be completed in good technique with ease [22]. The specific activity chosen will, of course, differ from person to person. It is critical to evaluate medical issues, as well as the patients' fitness and degree of function. If someone is new to exercising, they should first discuss it with their health care physician before beginning a gradual increase programme. Exercise, as advised by WHO, should involve both aerobic and strength training, but it should also ideally contain a component of balance training and flexibility practise. Hiking, walking, swimming, gym, dance, tai chi, or chair exercises are all possibilities. It is critical to discover something that each person appreciates and can continue on their own [23].

A qualitative study investigating how older people participating in an evidence-based exercise intervention describe their relationship with their therapists and how this relationship may contribute to their motivation for exercise suggests that the 'Therapeutic Alliance' is an essential part of therapy, and that relational knowledge and competence are required for transferring professional knowledge in therapy. The findings are beneficial to clinical therapists, particularly those who work with vulnerable groups [24]. Aerobic activity, strength/resistance training, and stretching/flexibility exercises should all be included in older individuals' exercise programmes. For older folks, trendy fitness programmes and high-intensity regimens are not a viable or safe option.

Safety Tips

Before beginning an exercise plan, consult your doctor if you are over 50 and have never exercised before. Other reasons to consult your doctor before beginning an exercise regimen include the following. Shortness of breath or dizziness Pain or pressure in the chest, Clots in the blood, A contamination Sores that refuse to heal, joint edoema, recent surgery and hernia Wear loose-fitting, comfortable clothing and sturdy shoes. To absorb shock, your shoes should have strong arch support and an elevated and cushioned heel. Check if the shoes are designed for the type of physical activity

you'll be doing [25]. Walking, running, tennis, and dancing shoes, for example, are uniquely constructed. If you are not currently involved, start gently. Begin with exercises that you are already familiar with. Starting cautiously reduces your chances of injuring oneself. Starting slowly also aids in the prevention of soreness. Exercise is only beneficial if you are in good health. If you have a cold, the flu, or another ailment, wait to exercise until you feel better. If you haven't exercised in more than two weeks, begin carefully again. Even if you don't feel thirsty, drink water before, during, and after exercise [26].

Safety Checks

If your muscles or joints feel sore the next day after exercising, you may have overexerted yourself. Your body will adjust to this with time, but if the ache is unbearable, reduce your intensity. Consult your doctor if the pain or discomfort persists. If you experience any of the following symptoms while exercising, consult your doctor. Chest pain or pressure, difficulty breathing, or extreme shortness of breath are all symptoms of asthma. dizziness or light-headedness Balance problems and nausea [27].

Conclusion

Physical activity and scientific workouts are excellent for you, and you should aim to incorporate them into your routine. Numerous studies have shown that scientific exercise has major health benefits, which become more essential as we age. Regular physical activity and exercise for seniors promotes both mental and physical health, which will help you preserve your independence in old life. Scientific workouts will play an important role; it's just a matter of making them a priority and a habit in your everyday life. Most persons over the age of 65, including those with chronic diseases and mobility difficulties, can exercise safely. Before beginning any exercise programme, consult with your doctor to decide which options are best for your health and activity level. Then you'll be ready to reap the numerous and well-documented benefits of exercise firsthand. Exercise has been demonstrated to prevent disease, lower the incidence of falls, promote mental health and well-being, strengthen social relationships, and improve cognitive performance in an older population. Finally, it can provide us with greater vitality and confidence, allowing us to embrace our older years with enthusiasm. "OLD IS ALWAYS GOLD," and "OUR ELDERS ARE OUR REAL ASSET," as the saying goes.

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