



Stroke Prevention through Exercise: Clinical Evidence

Payal Patel*

Department of Cardiology, King George's Medical University, Lucknow, India

Abstract

In developed nations, stroke is not only the third most common cause of disability-adjusted life years, but it is also one of the most costly to treat. Secondary issues in the days and weeks following a stroke, such as: mental health, memory, attention span, pain, sensation loss, mobility and balance issues, and other psychological issues Exercise has been shown to have positive psychological and physical effects on stroke survivors. As a result, the exercise rehabilitation options available to stroke survivors are discussed in detail in this scientific statement. To support this overview, we will use clinical and epidemiological reports, systematic literature reviews, published morbidity and mortality studies, clinical and public health guidelines, patient files, and authoritative statements.

Keywords: Stroke; Exercise; Cardiac rehabilitation

Introduction

The use of various forms of exercise training, such as aerobic, strength, flexibility, neuromuscular, and traditional Chinese exercise, for stroke survivors is clearly supported by the evidence [1]. The primary form of cardiac rehabilitation, aerobic exercise, may have a significant impact on improving stroke patients' aerobic fitness, cardiovascular fitness, cognitive abilities, walking speed and endurance, balance, quality of life, mobility, and other health outcomes. Strength training, which is recommended for general health promotion for stroke survivors and is included in national stroke guidelines, can help post-stroke patients improve their functionality, psychosocial aspects, and quality of life. Flexibility exercises can prevent contractures, improve motor function, and alleviate muscle spasticity issues.

Additionally, stretching exercises can improve a stroke patient's overall function and prevent joint contractures, muscle shortening, spasticity, and stiffness. Through activities that require coordination and balance, neuromuscular exercises can enhance activities of daily living (ADL) [2]. For post-stroke patients, traditional Chinese exercises are used to increase muscle strength and improve walking and balance abilities.

This study combined aerobic exercises, strength training, flexibility exercises, neuromuscular exercises, and traditional Chinese exercises to demonstrate the efficacy of exercise for stroke patients. The findings of this study may inspire stroke survivors to consider the significance of exercise in their recovery.

Fitness, exercise and physical activity after a stroke

All human movement that significantly increases energy expenditure is considered to be physical activity. Physical fitness can only be improved and maintained through regular physical activity. Planned, structured, and repetitive exercise is a subset of physical activity that is done with the intention of improving physical fitness. Cardiorespiratory fitness, muscle strength, and power are important indicators of physical fitness. These determine our physical activity tolerance and performance capacity [3].

Potential benefits of fitness and exercise following a stroke

Physical activity is advised for general population health, fitness, and function in people of all ages. It improves physical fitness and the capacity to participate in day-to-day physical activities, as well as reduces mortality and the risk of noncommunicable diseases. These

advantages hold true for stroke patients as well as healthy individuals.

Disability and common post-stroke functional limitations, such as walking, are linked to fitness impairments these connections could be causal, meaning that fitness impairments cause or exacerbate disability [4]. As a result, increasing physical activity after stroke including exercise could improve fitness and address common functional issues after stroke [5].

Psychosocial benefits can also come from physical activity, especially when done in a group setting. Additionally, physical activity and exercise may reduce the risk of recurrent stroke and other comorbid conditions because physical inactivity and cardiorespiratory fitness are risk factors for first-ever stroke [6].

There are numerous plausible benefits if stroke survivors can engage in physical activity or exercise; some might not be dependent on getting fitter. The majority of treatment effects research is based on specific, narrowly focused questions that then yield evidence outcome by outcome. Taking stock of the many effects, including risks, that exercise could have on life after stroke as a whole is beneficial, given the complexity of post stroke issues and the wide range of plausible benefits from exercise [7].

Discussion

There is a lack of direct evidence linking exercise interventions to improvements in aphasia or visual issues. However, it is possible that, in theory, exercise could result in improvements in the brain that would, in turn, benefit these impairments and others that result from stroke. In animal models, for instance, exercise has reduced the size of the infarct. Aerobic exercise increases the secretion of a brain-derived neurotrophic factor, which aids in neuroplasticity but may also mediate motor adaptations to rehabilitation in humans. It also plays a larger role in the health and function of the brain.

***Corresponding author:** Payal Patel, Department of Cardiology, King George's Medical University, Lucknow, India, E-mail: Payal.p@yahoo.com

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The current evidence supports a role for exercise in a group setting with other stroke survivors that combines cardiorespiratory training (such as walking as an exercise mode) and strength training (particularly involving the upper body). Even though no task-specific exercise programs might have central benefits like improved fitness and cognition, task-related training would seem to be more effective because it would make it possible to keep these benefits and give you a functional advantage [8,9].

The type of exercise (cardiorespiratory or resistance training), the mode of exercise (walking, circuits training, etc.), and various dose parameters (duration, frequency, intensity, and progression) are just a few of the many components that make up an intricate intervention like exercise [10]. This does imply that there are numerous opportunities to tailor the content in a manner that could result in various response patterns and advantages. For instance, the most effective exercise regimen for enhancing mobility and gait following a stroke may not be beneficial in other areas of need (such as upper limb function).

In science, broad, less specific questions are discouraged, but in this case, they might be beneficial. Instead of limiting questions to more specific outcomes of interest, it is necessary to assess the global effects of exercise interventions. There is a clear argument that more relevant outcome measures should be included in future exercises trials; this is not digging up data.

Conclusion

Exercise and physical activity are still recommended after a stroke. Exercise programs for stroke survivors are being developed and implemented, for example, in the United Kingdom and Australia, despite the fact that there is insufficient evidence. While exercising may have a wide range of benefits, it may not be popular with everyone; To better understand the barriers and motivators that influence participation and the best ways to encourage stroke survivors to be more active over time, additional research is essential.

Acknowledgement

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Conflict of Interest

None

References

1. Pollock A, St George B, Fenton M, Firkins L (2014) Top 10 research priorities relating to life after stroke--consensus from stroke survivors, caregivers, and health professionals. *Int J Stroke* 9: 313-320.
2. Hasan SM, Rancourt SN, Austin MW, Ploughman M (2016) Defining optimal aerobic exercise parameters to affect complex motor and cognitive outcomes after stroke: a systematic review and synthesis. *Neural Plast* 2016: 2961573.
3. Winstein CJ, Stein J, Arena R (2016) Guidelines for adult stroke rehabilitation and recovery: a guideline for healthcare professionals from the American heart association/American stroke association. *Stroke* 47: e98-e169.
4. Pang MY, Charlesworth SA, Lau RW, Chung RCK (2013) Using aerobic exercise to improve health outcomes and quality of life in stroke: evidence-based exercise prescription recommendations. *Cerebrovasc Dis* 35: 7-22.
5. Kurl S, Laukkanen JA, Rauramaa R, Lakka TA, Sivenius J, et al. (2003) Cardiorespiratory fitness and the risk for stroke in men. *Arch Intern Med* 163: 1682-1688.
6. Mead G, Bernhardt J (2011) Physical fitness training after stroke, time to implement what we know: more research is needed. *Int J Stroke* 6: 506-508.
7. Nicholson S, Sniehotta FF, van Wijck F, Greig CA, Johnston M, et al. (2013) A systematic review of perceived barriers and motivators to physical activity after stroke. *Int J Stroke* 8: 357-364.
8. Collaboration BPLT, Turnbull F, Neal B, Ninomiya T, Algert C, et al. (2008) Effects of different regimens to lower blood pressure on major cardiovascular events in older and younger adults: meta-analysis of randomised trials. *BMJ* 336: 1121-1123.
9. Rimmer JH, Rauworth AE, Wang EC, Nicola TL, Hill B (2009) A preliminary study to examine the effects of aerobic and therapeutic (nonaerobic) exercise on cardiorespiratory fitness and coronary risk reduction in stroke survivors. *Arch Phys Med Rehabil* 90: 407-412.
10. Rimmer JH, Riley B, Creviston T, Nicola T (2000) Exercise training in a predominantly African-American group of stroke survivors. *Med Sci Sports Exerc* 32: 1990-1996.