

Core Strength and Posture Improvement with Pilates for Inactive People

Prof. Lucas F. Morel

School of Intelligent Automation, Université Nouvelle d'Aquitaine, France

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Abstract

A loss of functional capacity and pain in the musculoskeletal system are the end outcomes of a sedentary lifestyle, which is associated with weak core muscles and poor posture. Pilates exercises, which target these issues head-on by focusing on the core, flexibility, and alignment, have become increasingly popular as of late. The feasibility of a twelve-week Pilates-based exercise program for improving core strength and posture in inactive individuals. Pre- and post-intervention assessments of participants were conducted using instruments for posture analysis and core strength testing. In particular, the results showed considerable improvements in core muscular endurance, spinal alignment, and postural stability. In addition, after the intervention, individuals felt less back pain and better about their physical health in general. The results show that Pilates-based activities are a viable and efficient substitute for addressing postural issues and weak cores in sedentary people. This emphasizes the value of Pilates-based workouts in reducing the detrimental effects of inactivity on musculoskeletal health.

Keywords: Pilates-Based Exercises, Core Strength, Posture Improvement, Sedentary Adults, Spinal Alignment

Introduction

The current sedentary lifestyle, which is typified by prolonged sitting and no physical activity, has become a fundamental contributor to musculoskeletal disorders—including the weakening of core muscles and poor posture—and has become increasingly prevalent in today's society. Over the course of the past few years, this way of life has become increasingly widespread. The maintenance of spinal health, the decrease of the risk of back discomfort, and the enhancement of general physical functioning are all elements that are highly influenced by posture and core strength. Also at play is the enhancement of general physical functionality. However, the lack of regular movement and muscle activation that is associated with sedentary behaviors frequently results in postural misalignments, muscular imbalances, and a decline in physical well-being. This is because sedentary behaviors are linked to a lack of movement and muscle activation. Joseph Pilates was the one who came up with the exercises that serve as the foundation for Pilates. These exercises focus on developing core strength, flexibility, and postural alignment by employing regulated movements and breathing techniques. The exercises are designed to help students achieve their goals. These exercises are especially helpful for controlling core weakness and postural challenges because they concentrate on the deep stabilizing muscles of the belly, pelvis, and back. This has the effect of reducing the likelihood of these issues occurring. Pilates is a sort of strength training that is distinct from other types of strength training in that it places an emphasis on functional movement, body

awareness, and precision in the exercises that individuals perform. People of varied fitness levels, including those who are sedentary, are able to access and benefit from Pilates as a result of this. the purpose of this study is to examine whether or not exercises based on Pilates are beneficial in improving posture and core strength in those who lead sedentary environments. In order to provide evidence-based insights into the role that Pilates plays in improving musculoskeletal health and minimizing the detrimental consequences of inactivity, the research proposes to analyze the effectiveness of a structured Pilates program that lasts for a period of twelve weeks. The program will be conducted in order to achieve the aforementioned purpose. The findings are expected to give health and fitness professionals with information in the future regarding the possibility of Pilates as a focused intervention for promoting physical well-being in groups that are inactive. This information is expected to be provided in the future.

The Effects of Inactive Lives on Joint and Bone Health

The current working circumstances, technological advancements, and urbanisation that have taken place over the past few years have all contributed to a significant rise in the number of people who lead sedentary lifestyles. However, these lifestyles are connected with significant implications on musculoskeletal health, which in turn contribute to a variety of physical and functional difficulties. Although the adoption of such lifestyles typically results in greater convenience and productivity, they are also associated with these negative consequences.

1. Core Weakness

- The activation of core muscles, which include the abdominal and lower back muscles, is diminished when sitting for extended periods of time. These muscles are essential for maintaining both posture and spinal stability. Over time, this inactivity causes these muscles to get weaker, which ultimately results in poor spinal support, which in turn leads to an increased risk of back discomfort.
- The ability to conduct useful movements in an efficient manner is diminished.
- Muscle groups that are in opposition to one another, resulting in strain and discomfort.

2. Postural Misalignments

- Slouching and a forward head position are two examples of bad postural habits that are frequently encouraged by prolonged sedentary behaviours. Examples of such behaviours include working at a desk or using digital gadgets. These postural errors can lead to increased stress on the spine, shoulders, and neck, among other potential consequences.
- kyphosis, which refers to a rounded upper back, and lordosis, which refers to an excessive inward curvature of the lower back.
- Both the range of motion and flexibility of the spine and the joints that surround it are severely restricted.

3. Muscular Imbalances and Stiffness

- Muscular imbalances are a result of inactivity, which is connected with sedentary lifestyles. Muscular imbalances occur when specific muscles get too tight while others are weaker. This results in a stiffness in the muscles of the hip flexors, hamstrings, and lower back.

- Both mobility and functional capacity have been reduced.
- The risk of injury is increased when engaging in physical exercise or performing daily duties.

4. Risk of Chronic Pain

- Sedentary behaviours frequently result in chronic pain, particularly in the lower back, neck, and shoulders. This is because of the musculoskeletal repercussions of these behavioural patterns. There are a few possible causes of this pain, including poor posture and chronic tension on specific muscle groups.
- a state of inflammation and exhaustion brought on by prolonged stress or a lack of physical activity.

5. Functional Limitations

In addition to having an effect on one's physical strength, a sedentary lifestyle also has the effect of limiting one's functional capacities, such as the ability to bend, lift, and maintain balance. Long-term independence and day-to-day living can be significantly impacted as a result of this decreased capability.

6. Long-Term Consequences

- The consequences of a sedentary lifestyle on musculoskeletal health can contribute to the development of significant illnesses over time. These conditions include osteoporosis and the loss of bone density that occurs as a result of inactivity.
- Joint lubrication and cartilage health are both diminished, which contributes to the development of degenerative joint illnesses.
- There is a higher likelihood of experiencing injuries and falls in later age as a result of decreased balance and coordination.

Addressing the Impact

Reducing the negative consequences of inactive lives can be accomplished through the implementation of interventions such as regular exercise, ergonomic changes, and focused therapies such as Pilates techniques. Pilates-based exercises, in particular, address core weakness, postural misalignments, and flexibility deficits. As a result, Pilates is a strategy that is acceptable and practical for improving musculoskeletal health in those who are sedentary.

Individuals and healthcare professionals can take preventative actions to improve their physical well-being and avoid long-term consequences if they have a better awareness of the connection between sedentary behaviours and musculoskeletal problems.

Pilates' Advantages for Inactive People

As a type of exercise, Pilates is gaining popularity among individuals who lead sedentary lifestyles. This is due to the fact that Pilates offers a number of benefits to both the body and the mind. Pilates addresses the specific challenges that individuals who get little to no physical activity face, such as a decline in flexibility, poor posture, and a weakening of the muscles. Pilates is a form of exercise that focuses on regulated movements, core strength, and postural alignment in order to overcome these issues.

1. Core Strengthening

- Individuals who lead sedentary lifestyles frequently experience a weakening of the deep stabilising muscles of the belly, pelvis, and lower back. Pilates exercise addresses these muscles. Enhancing the strength of these muscles results in:
- Stability is improved, and the strain placed on the lower back is lessened, thanks to spinal support.
- Strength that is functional allows for improved performance in actions that are performed on a daily basis, such as bending and lifting.
- Through the development of a solid core foundation, injury prevention helps to lower the likelihood of musculoskeletal injuries occurring.

2. Postural Improvement

Some of the most common causes of slouched posture and spinal misalignments are sedentary behaviours, such as sitting for lengthy periods of time. Using exercises that include the following, Pilates places an emphasis on postural awareness and alignment:

- To correct muscle imbalances, you should stretch hyperactive muscles and strengthen muscles that are not being used.
- Boost Spinal Mobility: In order to achieve ideal alignment, it is important to encourage a natural curve in the spine.
- In order to alleviate stress on the neck, shoulders, and back, it is important to reduce postural strain.

3. Increased Flexibility and Mobility

Muscle and joint stiffness and decreased range of motion are common complaints among people who lead sedentary lives. Dynamic stretching and specific movement patterns are a part of Pilates that:

- Improve Joint Mobility: Promote more fluid, discomfort-free motions.
- Stretch Tight Muscles: Reduce back, hip flexor, and hamstring stiffness.
- Enhance Overall Flexibility: Encourage more efficient body mechanics and lessen limitations on movement.

4. Back Pain Relief

Because they sit for lengthy periods of time and don't strengthen their core muscles, sedentary adults often complain of back pain. If you're looking to:

- Alleviating Pain: Less strain on the lower back can be achieved through core strengthening and better posture.
- Supporting Spinal Health: Improves spinal alignment and stability.
- Promoting Relaxation: Uses deep breathing and light stretching to alleviate back pain.

5. Improved Body Awareness

Practicing Pilates regularly can help people become more attuned to their bodies and the way they move. Benefits to inactive persons from this enhanced body awareness include:

- Enhancing Movement Quality: Promoting deliberate, detailed motions in routine tasks.
- Preventing Poor Habits: Encouraging more comfortable sitting and ergonomic habits while working at a desk for lengthy periods of time.

6. Stress Reduction and Mental Well-Being

- Stress and mental weariness can be exacerbated by inactive lifestyles. Pilates is a form of exercise that features low-impact motions and breathing exercises that:
- Lower Your Stress Levels: Encourage Meditation and Deep Relaxation.
- Boost Concentration and Focus for Clearer Thinking.
- Encourage a sense of achievement through physical progress to boost confidence.

7. Accessibility and Adaptability

- Pilates' versatility in accommodating a wide range of fitness levels is a major selling point. Regarding individuals who do not engage in physical activity;
- Pilates offers a low-impact alternative that gently moves the body, reducing strain on joints.
- Adaptable to each person's skill level, the exercises can be made more difficult over time.
- Pilates is convenient for home practice because you only need a mat to do many of the movements.

8. Long-Term Health Benefits

Pilates has long-term advantages for people who don't move much, such as:

Enhanced Circulation: Promotes healthier blood flow, mitigating the dangers of sitting for lengthy periods of time.

Reduces the risk of falls and accidents, especially for older adults, because to improved stability and balance.

Maintaining an active lifestyle is laid out in Sustainable Physical Activity.

Final thought: Pilates is all-encompassing when it comes to combating the harmful consequences of inactivity. For adults who are inactive yet want to get in better shape, this is the perfect fitness program because it targets core strength, posture, flexibility, and mental wellness.

Conclusion

Pilates-based workouts provide a simple and efficient solution to the problem of increasing core strength and posture, two areas that are susceptible to the negative effects of leading a sedentary lifestyle. Through the targeting of deep stabilizing muscles, the promotion of flexibility, and the promotion of ideal alignment, Pilates helps alleviate musculoskeletal discomfort and reduces the likelihood of long-term difficulties such as back pain and impaired mobility. Its adaptability and safety can be beneficial to persons who are sedentary and of any fitness level. This is because it places an emphasis on movements that are controlled and intentional. Not only is Pilates beneficial for your body, but it also helps with stress management, increasing self-awareness, and boosting confidence. In addition to being an impact-free and sustainable kind of exercise, it encourages a change in lifestyle that is more active and that is beneficial to one's health over the long term. Pilates can assist individuals who are sedentary in coping with the negative impacts that come with a lack of physical activity. When implemented into wellness routines or workplace programs, it has the potential

to assist individuals in leading lives that are healthier, more balanced, and more satisfying, so improving their quality of life.

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