



“Efficacy Of Pilates Exercises Improve Balance In Patients With Multiple Sclerosis: An Evidence Based Review”

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Abstract: Multiple sclerosis (MS) is a chronic autoimmune, inflammatory neurological disease of the central nervous system (CNS). Multiple Sclerosis attacks the Myelinated axons in the Central nervous system destroying the myelin and the axons to varying degrees. Multiple sclerosis prevalence rates from 10 to 80 cases per 100,000 Population. Pilates is a mind-body exercise that has been used since the 1920 but it has increasingly become a popular exercise method in rehabilitation. **AIM:** The purpose of this study was to review the available recent studies on the effect of Pilates exercises improve balance. **STUDY DESIGN:** Evidence based review. **RESULT:** After reviewing pilates exercise showed significant improvement in Multiple sclerosis. The efficacy of Pilates exercises improve balance patients with multiple sclerosis is supported by the literature, with Evidence indicating that it can improve balance and core stability and improve quality of life. **CONCLUSION:** The Evidence based review of 9 article suggests that Pilates exercise are effective to improve core strength and balance in participants having multiple sclerosis.

I. INTRODUCTION

Multiple sclerosis (MS) is a chronic autoimmune, inflammatory neurological disease of the central nervous system (CNS). Multiple Sclerosis attacks the Myelinated axons in the Central nervous system destroying the myelin and the axons to varying degrees. Multiple sclerosis prevalence rates from 10 to 80 cases per 100,000 Population. Balance problems are widespread in people with multiple sclerosis (MS). Approximately 75% of people with multiple sclerosis from early stage of the disease to advanced stage may experience balance problems throughout the course of the disease. Maintenance of balance relies on central nervous system controlled functions and some or all of these functions can be affected in MS. Impaired balance is characterized by reduced ability to maintain position, decreased ability to move towards the limits of stability, and delayed responses to postural adjustments. Pilates comprises six main components: centering, concentration, control, precision, flow, breathing and focuses on improving flexibility, strength, core stability, muscle control, posture, and breathing. It has varied with the extension of its use in different conditions. Exercises are performed with floor-based, or specialized equipment which provide modifiable spring resistance. It is performed in standing, sitting, and lying positions which promote endurance, strength and flexibility. Pilates may have a beneficial effect in persons with Multiple sclerosis because activation of core muscles could combat difficulties with mobility and balance.

II. MATERIALS AND METHODOLOGY

Relevant studies of Multiple sclerosis with physiotherapy management from 2017 to 2022 through an extensive computerized search of the following database : Google scholar , PubMed ,Pedro and Research Gate. The key words for search Pilates exercises , Multiple sclerosis , balance , RCT , systematic review and meta analysis including combination of these words.

STUDY SELECTION CRITERIA

- Level of evidence 1A to 1 B.
- Studies included male & female
- Condition : Multiple Sclerosis
- Article publish in time period between 2017 to 2022
- Free text available
- Individual case control studies or case series.
- Poor quality cohort studies.

DATA SYNTHESIS AND ANALYSIS

Total Article found on digital database (n=170)



Article Screened on the basis of the title and abstract (n= 59)



Articles excluded on the basis of full- text and eligibility criteria
(n=12)



Article Included in this study n=9

RESULT

- After reviewing pilates exercise showed significant improvement in Multiple sclerosis.
- The efficacy of Pilates exercises improve balance patients with multiple sclerosis is supported by the literature, with Evidence indicating that it can improve balance and core stability and improve quality of life.

DISCUSSION

- The Present Study, effects of Pilates exercises in participants with Multiple sclerosis. Evidence Shows that Pilates Exercise are more effective to improve balance to compare to another therapy.
- In this Study 9 Article are included based on therapy and eligibility criteria. In 4 study review Improvement of balance in Multiple sclerosis and 5 studies compare with different exercises.
- In that 9 studies, Pilates exercise show statically significant changes in improvement of balance patients with multiple sclerosis.

CONCLUSION

- The Evidence based review of 9 article suggests that Pilates exercise are effective to improve core strength and balance in participants having multiple sclerosis.

