INPLASY PROTOCOL

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None declared.

Efficacy of Pilates in the treatment of lower back pain in adults: a systematic review and meta-analysis

Wang, Z[1]; Yan, Z[2]; Gao, A[3].

Review question / Objective: **Non-specific low back pain (LBP) is a very common condition, and the costs associated with LBP are enormous, creating a significant economic burden on patients, and health systems. Exercise therapy is probably the most commonly used intervention to treat patients with chronic non-specific LBP. Exercise is biologically sound and cost-effective, and it is already recommended in most clinical practice guidelines for chronic LBP. Population: Adults over 18 years of age who have suffered from low back pain for at least 12 weeks. Intervention: Pilates exercise for at least 4 weeks. Comparison: No specific exercises or other exercises. Outcome: Primary outcomes-Pain and disability; Secondary outcomes-Function , recovery and kinesiophobia.**
Information sources: **Database: PubMed, Embase, Cochrane library, Web of science, Ovid, Scopus, ProQuest.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 01 May 2022 and was last updated on 01 May 2022 (registration number INPLASY202250004).

INTRODUCTION

Review question / Objective: **Non-specific low back pain (LBP) is a very common condition, and the costs associated with LBP are enormous, creating a significant economic burden on patients, and health systems. Exercise therapy is probably the most commonly used intervention to treat patients with chronic non-specific LBP. Exercise is biologically sound and cost-effective, and it is already recommended in most clinical practice guidelines for chronic LBP. Population: Adults over 18 years of age who have suffered from low back pain for at least 12 weeks. Intervention: Pilates exercise for at least 4 weeks. Comparison: No specific exercises**

or other exercises. Outcome: Primary outcomes-Pain and disability; Secondary outcomes-Function, recovery and kinesiophobia.

Condition being studied: Low back pain is a symptom, not a disease. Like other symptoms such as headache or abdominal pain, it can have many causes. One of the most common forms of low back pain is non-specific low back pain (LBP). As LBP can significantly affect quality of life and even cause disability, it adds to the economic burden of illness on the patient and society. Exercise therapy is considered to be an easily accessible and effective way of treating LBP. It can not only relieve pain but also improve disability. The right type of exercise can have a positive effect on the prognosis, for example Pilates. However, due to research limitations, there are few high-quality randomized controlled trials of Pilates for LBP and the study population is scattered around the world, which poses an obstacle to objectively assessing the effectiveness of Pilates interventions for LBP. A META analysis is therefore needed to enable systematic evaluation and to guide future clinical practice.

METHODS

Search strategy: PubMed: (((randomized controlled trial[Publication Type] OR randomized[Title/Abstract] OR placebo[Title/Abstract]) AND (randomized controlled trial[Publication Type] OR randomized[Title/Abstract] OR placebo[Title/Abstract])) AND ((((((((((((((((((((((((((Low Back Pain[Title/Abstract]) OR (Back Pain, Low[Title/Abstract])) OR (Back Pains, Low[Title/Abstract])) OR (Low Back Pains[Title/Abstract])) OR (Pain, Low Back[Title/Abstract])) OR (Pains, Low Back[Title/Abstract])) OR (Lumbago[Title/Abstract])) OR (Lower Back Pain[Title/Abstract])) OR (Back Pain, Lower[Title/Abstract])) OR (Back Pains, Lower[Title/Abstract])) OR (Lower Back Pains[Title/Abstract])) OR (Pain, Lower Back[Title/Abstract])) OR (Pains, Lower Back[Title/Abstract])) OR (Low Back Ache[Title/Abstract])) OR (Ache, Low Back[Title/Abstract])) OR (Aches, Low Back[Title/Abstract])) OR (Back Ache, Low[Title/Abstract])) OR (Back Aches, Low[Title/Abstract])) OR (Low Back Aches[Title/Abstract])) OR (Low Backache[Title/Abstract])) OR (Backache, Low[Title/Abstract])) OR (Backaches, Low[Title/Abstract])) OR (Low Backaches[Title/Abstract])) OR (Low Back Pain, Postural[Title/Abstract])) OR (Postural Low Back Pain[Title/Abstract])) OR (Low Back Pain, Posterior Compartment[Title/Abstract])) OR (Low Back Pain, Recurrent[Title/Abstract])) OR (Recurrent Low Back Pain[Title/Abstract])) OR (Low Back Pain, Mechanical[Title/Abstract])) OR (Mechanical Low Back Pain[Title/Abstract]))) AND ((Pilates[Title/Abstract]) OR (((((Pilates-Based Exercises[Title/Abstract]) OR (Exercises, Pilates-Based[Title/Abstract])) OR (Pilates Based Exercises[Title/Abstract])) OR (Pilates Training[Title/Abstract])) OR (Training, Pilates[Title/Abstract]))).

Participant or population: Adults over 18 years of age who have suffered from low back pain for at least 12 weeks.

Intervention: Pilates exercise for at least 4 weeks.

Comparator: No specific exercises or other exercises.

Study designs to be included: Only randomized controlled trials(RCTs) were included.

Eligibility criteria: 1.Randomized controlled trial. 2.Adults over 18 years old. 3.Suffered from low back pain for at least 12 weeks. 4.Participants performed Pilates exercises.

Information sources: Database: PubMed, Embase, Cochrane library, Web of science, Ovid, Scopus, ProQuest.

Main outcome(s): Pain and disability.

Additional outcome(s): Function,recovery and kinesiophobia.

Quality assessment / Risk of bias analysis: Cochrane Risk of Bias Assessment Tool.

Strategy of data synthesis: Given the heterogeneity of the literature and differences in outcome indicator measures, we used standardised mean differences (SMD) for data synthesis.

Subgroup analysis: Subgroup analysis according to different control measures (no specific exercise, other exercise) and period of follow-up after the intervention (short, medium, long, distant period).

Sensitivity analysis: Sensitivity analysis was performed by sequential deletion tests to test the stability of the main results. That is, after the deletion of any one study, the combined results of the remaining literature are not significantly different from those that would have passed the sensitivity analysis if it had not been deleted.

Country(ies) involved: China.

Keywords: Low back pain, Palites, Randomized controlled trial, Effectiveness.

Contributions of each author:
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Author 2 - Zijian Yan.
Author 3 - Aiguo Gao.