

INPLASY

Effectiveness of water- versus land-based exercise on specific measures of physical fitness in healthy older adults. A brief systematic review

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 November 2023 and was last updated on 20 November 2023.

INTRODUCTION

Review question / Objective To analyze research findings related to the effects of Land versus Water-based exercise programs on specific physical fitness measures in healthy older individuals.

Rationale To the best of our knowledge, no review has thoroughly examined relevant information in healthy older populations. This information is essential for tailoring exercise programs and optimizing health outcomes by empowering healthcare professionals to make informed choices, ensuring that exercise remains a safe and effective tool for promoting health and longevity.

Condition being studied The studies included in this review were conducted in healthy older (aged 60 and older) individuals.

METHODS

Search strategy PubMed, Scopus, MEDLINE, and Web of Science, using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

Participant or population Healthy individuals aged >60 years old of both sexes.

Intervention Studies with training interventions with at least two study groups in participants who received either a Land- or a Water-based exercise program, with no chronic disease, aged 60 or older, on physical fitness outcome measures.

Comparator Control group, different exercise groups.

Study designs to be included Mostly randomized controlled trial studies.

Eligibility criteria Studies with training interventions, and at least two study groups with no chronic disease, aged 60 or older, on physical fitness outcome measures, until 2023/09/25, and only written in the English and Spanish language. No restriction regarding publication period.

Information sources Electronic databases, contact with authors, citation tracking, hand-searching.

Main outcome(s) There is currently no conclusive evidence for recommending one specific category of exercise that takes place either in water or on land when focused on improving health-related physical fitness parameters in healthy older adults. Possibly, integrating both training approaches may lead to a wider range of benefits for this age group population.

Additional outcome(s) Both exercise modalities may offer significant health-related benefits in healthy older subjects.

Quality assessment / Risk of bias analysis A quality assessment checklist was created and developed for this brief systematic review, after pilot testing including a subset of studies. Nine different criteria were applied, each one evaluated in every selected study. Those with positive scores >5 (assigned with the mark “+”) were characterized as “high quality”, while in a different case, the study was described as “low quality”.

Strategy of data synthesis 1. Data Extraction. 2. Quality Assessment. 3. Synthesis of Findings. 4. Subgroup Analysis. 5. Assessment of Publication Bias. 6. Interpretation and Conclusions.

Subgroup analysis Intervention type.

Sensitivity analysis Effects of different methodological qualities.

Language restriction English, Spanish.

Country(ies) involved Greece, Spain.

Keywords Aquatic exercise; exercise on land; fitness parameters; older individuals; short review.

Contributions of each author

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