INPLASY PROTOCOL

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Review Stage at time of this submission: **Formal screening of search results against eligibility criteria.**

Conflicts of interest:
None declared.

Effect of exercise programs on physical performance in community-dwelling older adults with and without frailty. Systematic review and meta-analysis

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Review question / Objective: **The aim of this systematic review is to present a synthesis of knowledge about the effect of physical exercise programs on physical performance in community-dwelling older adults with and without frailty. For this reason, the following question will be addressed: Is similar the effect of exercise programs on physical performance in community-dwelling older adults with and without frailty?**
P: Community-dwelling older adults; I: Physical exercise programs; C: No physical exercise program; O: Physical performance (SPPB, Short Physical Performance Battery).

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 14 May 2023 and was last updated on 25 August 2023 (registration number INPLASY202350053).

INTRODUCTION

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Rationale: Changes in body composition related to aging, coupled with a sedentary life, are associated with decreased functional capacity and physical performance in old age, which decreases the person's ability to independently carry out activities such as such as bathing, dressing, eating, personal hygiene, cleaning the home, shopping and using transportation, working and traveling, among others. Because of that, self-care community intervention programs focused on promoting healthy aging have been developed through keeping and optimizing the intrinsic and functional capacity, in order to reach out a maximum of health and wellbeing. In this sense, the efficacy of physical exercise programs has been shown to maintain and improve physical performance in older adults, a key element in preventing disability and promoting healthy aging. In this sense, although there are systematic reviews published on the subject, the effect of exercise programs on physical performance in older adults without and with frailty living in the community has not been contrasted. In addition to not searching on Ibero-American scientific platforms, such as SciELO and LILACS and grey literature.

Condition being studied: To age in a healthy way, it is necessary the optimization of the intrinsic and functional capacity during the aging process and old age. World Health Organization published the guidelines on community level interventions in order to address priority conditions associated to a decrease of the intrinsic capacity. This review provides a synthesis of the knowledge of the effect of exercise programs on physical performance in community-dwelling older adults with and without frailty through a systematic search for randomized clinical trials (ECA) and interventions related to the impact of exercise programs on the physical performance of adults (SPPB, Short Physical Performance Battery).

METHODS

Search strategy: Search terms for PubMed, Web of Science, Scopus, were: (exercise programs in community-dwelling older adults) AND (functional capacity OR healthy aging OR Short Physical Performance Battery) for SciELO and LILACS: (self-care program OR community program OR intrinsic capacity OR "ICOPE") AND (functional capacity OR healthy ageing OR "SPPB"), for Cochrane: "community program AND (functional capacity OR intrinsic capacity) AND older adult", and TESIUNAM: "Capacidad funcional AND adulto mayor".

Participant or population: Community-dwelling older adults ≥ 60 years.

Intervention: Training of exercise programs in community-dwelling older adults.

Comparator: Without training of exercise programs in community-dwelling older adults.

Study designs to be included: Clinical trial, quasi-experimental or pre-experimental studies.

Eligibility criteria: Age (≥ 60 years old), study design, intervention of physical exercise programs in the community that impact physical performance, effect over functional capacity (SPPB), Language: English, Portuguese, and Spanish.

Information sources: A systematic search was performed of scientific data on seven data bases: PubMed, Web of Science, Scopus, Cochrane, SciELO, LILACS, TESIUNAM.

Main outcome(s): Improvement and/or maintenance of the physical performance of the elderly after participating in physical exercise programs evaluated through the Short Physical Performance Battery (SPPB).

Additional outcome(s): Non.

Data management: For this review, studies will be classified according to the frailty or non-frailty status of older adults. Additional subgroups will be carried out if necessary to create groups by periods of implementation of the activity and to be able to estimate the effect. Two reviewers will participate on the study selection to decide their inclusion. When there is discrepancy, a third party intervenes.

Quality assessment / Risk of bias analysis: Cochrane bias risk tool will be used to assess quality.

Strategy of data synthesis: A systematic review chart will be elaborated, considering the elements of the achromic PICO. Software Revman version 5.4.1 will be used to create the possibility to carry out a meta-analysis and a model of random effects to estimate the effect size.

Subgroup analysis: Subgroup analysis will be done in order to identify the causes of effect variation of the effect size among the different groups (frailty and non-frailty), as well as the period of implementation of the activity.

Sensitivity analysis: Sensitivity analysis will be performed if the combined result has a high risk of heterogeneity.

Language restriction: They will only be considered for inclusion studies quasi experimental or pre-experimental, published in English, Portuguese, and Spanish.

Country(ies) involved: México.

Keywords: Older adults; physical exercise, community intervention; intrinsic capacity, functional capacity.

Dissemination plans: At the end of the review, it will be published in a peer-reviewed magazine. Furthermore, results will be presented in a disclosure event.

Contributions of each author:
Author 1 - Cristina Flores -Bello - Review conception, review design, review coordination, data collection, data management, data analysis, data interpretation, protocol or review writing.
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