INPLASY PROTOCOL

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Support: **None.**

Review Stage at time of this submission: **The review has not yet started.**

Conflicts of interest:
None.

Cardiorespiratory and muscular fitness and its association with mortality in cancer survivors

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Review question / Objective: **The aim of this study will be to determine if cardiorespiratory and muscular fitness are associated with mortality in cancer survivors.**
Condition being studied: **Cardiorespiratory and muscular fitness.**
Information sources: **The search will be conducted independently by two authors, using MEDLINE, EMBASE and SPORTDiscus electronic databases from inception to April 2020. Searching will be restricted to published articles in the English and Spanish languages.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 07 May 2020 and was last updated on 07 May 2020 (registration number INPLASY202050025).

INTRODUCTION

Review question / Objective: **The aim of this study will be to determine if cardiorespiratory and muscular fitness are associated with mortality in cancer survivors.**

Condition being studied: **Cardiorespiratory and muscular fitness.**

METHODS

Participant or population: **Cancer survivors.**

Intervention: **None.**

Comparator: **None.**

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Study designs to be included: Prospective cohort studies.

Eligibility criteria: (i) exposure: cardiorespiratory or muscular fitness measured using a cardiorespiratory exercise text, an exercise tolerance test (e.g. standard Bruce Protocol procedure), a functional test (e.g. six-minute-walk-distance), or a validated strength test (e.g. handgrip test) or similar; (ii) participants: patients with a previous confirmed diagnosis of cancer; (iii) outcomes analyzed: all-cause mortality or overall survival; and (iv) study design: prospective cohort studies with at least 6 months of follow-up.

Information sources: The search will be conducted independently by two authors, using MEDLINE, EMBASE and SPORTDiscus electronic databases from inception to April 2020. Searching will be restricted to published articles in the English and Spanish languages.

Main outcome(s): All-cause mortality, or overall survival.

Quality assessment / Risk of bias analysis: The Quality Assessment Tool for Observational Cohort and Cross-sectional Studies will be used to evaluate the risk of bias. The checklist comprises 14 items for longitudinal research. Each item of methodological quality will be classified as "yes", "no" or "not reported", and study quality will be reported as good, fair or poor.

Strategy of data synthesis: Researchers will create tables to summarize the articles meeting the selection criteria, included the following information: (i) study characteristics (the first author's name, publication year, enrollment year, study location, sample size, study design); (ii) participants' information (sex and age); (iii) measurements details (method of assessment of cardiorespiratory or muscular fitness); and (iv) analysis and study results (adjusted variables, outcome of interest and main results). STATA software will be used to analyze the extracted data. Depending on the presence of heterogeneity, a fixed or random-effect model will be used.

Subgroup analysis: The subgroups will be stratification according to the exposure (i.e., type of stratification for cardiorespiratory and muscular fitness) and type of cancer.

Sensibility analysis: Sensitivity analyses will be conducted to ascertain the impact of individual studies on the analysis on the pooled Hazard Ratio estimate.

Language: English.

Country(ies) involved: Spain.

Keywords: Handgrip; aerobic capacity; strength; prognosis; neoplasms.

Contributions of each author:
Author 1 - Yasmin Ezzatvar.
Author 2 - Robinson Ramírez-Vélez.
Author 3 - Mikel Izquierdo.
Author 4 - Antonio García-Hermoso.

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