INPLASY

Network Meta-analysis of the Intervention Effects of Different Exercise Measures on Muscle Atrophy in Cancer Patients

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ADMINISTRATIVE INFORMATION

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY2023110025

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 06 November 2023 and was last updated on 15 November 2023.

INTRODUCTION

*R*eview question / Objective This study aims to investigate the impact of three exercise interventions (aerobic exercise, resistance exercise, aerobic combined with resistance exercise) on the physical performance of cancer patients. So far, the existing drug treatments have not been entirely satisfactory, and the accompanying side effects and high medical costs have restricted the clinical Application of such therapies. Therefore, the search for a cost-effective, low-side-effect non-pharmaceutical alternative has become increasingly important. Several studies suggest that exercise interventions can effectively delay the onset of muscle atrophy in cancer patients, improve their quality of life, and extend their survival periods, making it the most efficient measure for treating muscle atrophy.

Condition being studied Muscle atrophy, or amyotrophy, is a systemic syndrome characterized primarily by the weakening or losing of muscle mass and function.So far, the existing drug treatments have not been entirely satisfactory, and the accompanying side effects and high medical costs have restricted the clinical application of such therapies. Therefore, the search for a cost-effective, low-side-effect non-pharmaceutical alternative has become increasingly important. Several studies suggest that exercise interventions can effectively delay the onset of muscle atrophy in cancer patients, improve their quality of life, and extend their.

METHODS

Participant or population Encompassing 503 patients diagnosed with malignancies, with 310 male and 193 female participants.

Intervention Aerobic exercise, resistance exercise, aerobic combined with resistance exercise.

Comparator Routine care.

Study designs to be included RCT.

Eligibility criteria Muscle atrophy, or amyotrophy, is a systemic syndrome characterized primarily by the weakening or losing of muscle mass and function.

Information sources PubMed, EMBASE, Web of Science, and The Cochrane Library.

Main outcome(s) Lean mass, fat mass, and Leg extension test.

Quality assessment / Risk of bias analysis Cochrane tools.

Strategy of data synthesis The Stata software, version 15.1, was employed for the NMA summary and analysis, utilizing the Bayesian Markov Chain Monte Carlo algorithm. To assess consistency, node splitting was applied, with a threshold of a p-value greater than 0.05 indicating the use of the consistency model; otherwise, the inconsistency model was employed.

Subgroup analysis Subgroup analyses were not available.

Sensitivity analysis Stata software was used for sensitivity analysis, and the change of effect size was deleted to reflect the sensitivity of each article.

Country(ies) involved China.

Keywords Tumor; Muscle Atrophy; Exercise Intervention; Network Meta-analysis.

Contributions of each author
Author 1 - Liu Rui - drafted the manuscript.
Author 2 - Wang Li - Statistical expertise provided by the authors.
Author 3 - Gao Xueying - The authors contributed to the development of selection criteria and risk of bias assessment strategies.