INPLASY PROTOCOL

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None declared.

The Effect of different exercise methods in the treatment of cancer-related fatigue: a network meta-analysis

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Review question / Objective: **To compare the clinical effects of different exercise methods for cancer fatigue by using mesh Meta-analysis, and to choose the best exercise method for cancer fatigue.**
Condition being studied: **Cancer-related fatigue.**
Eligibility criteria: **Inclusion criteria: (1) Study subjects: the patients is caused by fatigue.(2) Intervention: A group of patients used exercise intervention. (3) Study type: RCT. (4) Outcome index: Cancer-related fatigue score.(5) Grey literature is available.(6) Language in Chinese or English.Exclusion criteria:(1) Using oral drugs. (2) It can not provide complete data. (3) Repeatedly published literature. (4) Conference papers. (5) Literature with inconsistent data types: (1) Using oral drugs. (2) It can not provide complete data. (3) Repeatedly published literature. (4) Conference papers. (5) Literature with inconsistent data types.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 02 November 2022 and was last updated on 02 November 2022 (registration number INPLASY2022110004).

INTRODUCTION

Review question / Objective: **To compare the clinical effects of different exercise methods for cancer fatigue by using mesh Meta-analysis, and to choose the best exercise method for cancer fatigue.**

Condition being studied: **Cancer-related fatigue.**

METHODS

Search strategy: **We retrieve Pubmed, The Cochrane Library, Embase, Web of science, CNKI and Wanfang database, from the establishment of the database to**

September 2022. The retrieval method is the method of combining topic words with free words. “fatigue [Mesh]” “lassitude”、“cancer-related fatigue”, “neoplasms[Mesh]” “neoplasia”“tumor” “cancer”“malignanc”“malignant neoplasm” “neoplasm, malignant” “benign neoplasm” “neoplasmbenign” “exercise therapy[Mesh]”“remedial exercise” “exercise remedial” “therapy,exercise” “rehabilitation exercise”“exercise rehabilitation” “physical activity” “resistance training”“resistance movement”“resistance exercise”“aerobic” “aerboic exercise”“taichi” “Yoga” “qigong” “muscle relaxation training” “relaxation” “randomized controlled trial”,The search languages are Chinese and English.

Participant or population: The patients is caused by can-related fatigue.

Intervention: Exercise intervention.

Comparator: Exercise measures or other treatment measures different from the observation group.

Study designs to be included: RCT.

Eligibility criteria: Inclusion criteria: (1) Study subjects: the patients is caused by fatigue.(2) Intervention: A group of patients used exercise intervention. (3) Study type: RCT. (4) Outcome index: Cancer-related fatigue score.(5) Grey literature is available. (6) Language in Chinese or English.Exclusion criteria:(1) Using oral drugs. (2) It can not provide complete data. (3) Repeatedly published literature. (4) Conference papers. (5) Literature with inconsistent data types:(1) Using oral drugs. (2) It can not provide complete data. (3) Repeatedly published literature. (4) Conference papers. (5) Literature with inconsistent data types.

Information sources: Pubmed, The Cochrane Library, Embase, Web of science, CNKI and Wanfangdatabase.

Main outcome(s): The main content of this study is cance-related fatigue. There are many tools to assess cancer-related fatigue,including fatigue Inventory (MFI), and Functional Assessment of Cancer Therapyfatigue (FACT/FACIT-fatigue); unidimensional scales such as the Brief Fatigue Inventory (BFI).This study does not limit the assessment tool for cancer-related fatigue.

Quality assessment / Risk of bias analysis: Two researchers (JTS and HFL) independently selected the studies, imported the retrieved literature into Endnote X9 software to remove duplicate literature, initially screened through the reading title and abstract, and then read the full text of the initial screening literature, excluding unrelated literature and inaccessible full text and complete data.Two researchers then extracted the included literature, and any differences were resolved by consensus and arbitration by the review panel (JTS, HFL, and LLP).The two researchers (JTS and HFL) each extracted the data independently according to the unified data extraction table. The extracted data mainly include: (1) the first author, study time, country, study type of intervention measures, and CRF score. (2) research methodological quality information.The evaluation included random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, selective reporting, and other biases.

Strategy of data synthesis: We chose the RevMan5.3 for a meta-analysis for direct comparison. The score of cancer-related fatigue was a continuous variable. Differents researchers used different scales, so SMD and 95%CI were used as the effect analysis statistic. The test for heterogeneity is determined by the calculation of I2 and p-values. When I2= 50% and p≤0.05, it indicates the heterogeneity among the studies and a random effect model will be analyzed. Otherwise a fixed effect model will be used. A p-value (two-tailed value) less than 0.05 will be considered statistically significant.To compare the effects of

different non-pharmacological interventions on the CRF in cancer patients, we will use a frequentist-based network meta-analysis approach.First, we chose Stata 16.1 to draw the network map of the data. The network map is mainly used to understand the direct comparison between the selected study and between the measures, the indirect comparison, and the contribution degree of the different measures.In the network graph, the size of nodes coincides with the sample size of relevant interventions.The thickness of the connection between the different points is somewhat consistent with the number of studies of the relevant measures.Second, we will generate a contribution graph to calculate and summarize the contribution of each direct comparison to each network estimate.Third, we will investigate the consistency between the direct and indirect comparisons.The inconsistency factor (IF) is calculated and IF and p values are used to determine any inconsistency.If the IF is near 0, the 95%CI contains 0 and p>. 05, and there are no global inconsistencies in the direct comparison.Finally, we will use funnel plots to determine if a selection bias exists in the inclusion studies.

Subgroup analysis: When I2=50% and p≤0.05, it indicates the heterogeneity among the studies and a random effect model will be analyzed.

Sensitivity analysis: When I2=50% and p≤0.05, it indicates the heterogeneity among the studies and a random effect model will be analyzed.

Country(ies) involved: China.

Keywords: exercise method; cancer fatigue; network Meta;effects.

Contributions of each author:

Author 1 - Zhang zhixia - Author 1 drafted the manuscript.
Email: 3483195837@qq.com
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Author 5 - li jing.