

INPLASY PROTOCOL

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None declared.

INTRODUCTION

Review question / Objective: This study aimed to find biomarkers related to functional improvement in blood and cerebrospinal fluid of stroke patients after rehabilitation therapy and to provide ideas for the treatment and evaluation of stroke patients.

Condition being studied: Stroke is the second leading cause of death worldwide and the number one cause of death in

Biomarkers associated with functional improvement after stroke rehabilitation: a systematic review and meta-analysis of randomized controlled trials

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Review question / Objective: This study aimed to find biomarkers related to functional improvement in blood and cerebrospinal fluid of stroke patients after rehabilitation therapy and to provide ideas for the treatment and evaluation of stroke patients.

Condition being studied: Stroke is the second leading cause of death worldwide and the number one cause of death in China. Surviving a stroke brings with it a host of sequelae that add to the global medical burden. Rehabilitation plays a crucial role in the functional recovery of patients after stroke.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 13 February 2023 and was last updated on 13 February 2023 (registration number INPLASY202320058).

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METHODS

Participant or population: Stroke patients.

Intervention: Rehabilitation therapy.

Comparator: The control group received sham rehabilitation therapy or no rehabilitation treatment.

Study designs to be included: RCT.

Eligibility criteria: Outcomes include measurements of biomarker concentrations in peripheral blood or cerebrospinal fluid.

Information sources: English-related research published in PubMed, Web of Science, and Embase.

Main outcome(s): Qualitative analysis or quantitative analysis of the effect of rehabilitation on biomarkers in the blood (serum, plasma) and cerebrospinal fluid of patients with stroke.

Quality assessment / Risk of bias analysis: PEDro scale, the Grading of Recommendation Assessment, Development and Evaluation (GRADE).

Strategy of data synthesis: Standardized mean differences (SMDs) of change scores (endpoints minus baseline scores) and their corresponding 95% confidence intervals (CIs) were used to summarize the effects.

Subgroup analysis: If nearly 10 observations were available, we then used 3 subgroup analyses to explore the factors influencing changes in biomarker concentrations due to stroke rehabilitation: (1) stroke stage (2) rehabilitation method, and (3) number of treatments.

Sensitivity analysis: Sensitivity analysis was performed using Stata MP 14.0 software.

Country(ies) involved: China.

Keywords: Meta-analysis; rehabilitation; Biomarker; Blood; Serum; Plasma; Cerebrospinal fluid; function; stroke.

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