INPLASY PROTOCOL

To cite: Oh et al. Effect of Selective Serotonin Reuptake Inhibitors on Motor Recovery After Stroke: A Systematic Meta-analysis. Inplasy protocol 202260084. doi: 10.37766/inplasy2022.6.0084

Received: 21 June 2022

Published: 21 June 2022

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Support: **None.**

Review Stage at time of this submission: **Completed but not published.**

Conflicts of interest:
None declared.

Effect of Selective Serotonin Reuptake Inhibitors on Motor Recovery After Stroke: A Systematic Meta-analysis

Oh, JS[1]; Choo, YJ[2]; Chang, MC[3].

Review question / Objective: **We conducted a meta-analysis to determine the effectiveness of SSRIs in improving motor outcomes after stroke.**
Condition being studied: **Stroke is a major cause of disability, and motor weakness is one of the most disabling and common complications of stroke. It impairs patients' ability to perform daily activities independently and deteriorates their quality of life. Selective serotonin reuptake inhibitors (SSRIs) have been reported to have a positive effect on motor recovery after stroke, as well as on the prevention or management of post-stroke depression. In contrast, some previous studies have revealed no positive therapeutic effects of SSRIs on motor recovery after stroke. In the current study, to accurately determine the effectiveness of SSRIs for improving motor outcomes after stroke, we only included studies in which SSRIs were administered to patients in the recovery phase after stroke (<6 months after stroke onset).**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 June 2022 and was last updated on 21 June 2022 (registration number INPLASY202260084).

INTRODUCTION

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METHODS

Participant or population: Patients with stroke.

Intervention: Effect of SSRIs on motor recovery.

Comparator: Placebo.

Study designs to be included: Randomized controlled studies were included. However, case reports, case series, protocols, conference presentations, and review articles were excluded.

Eligibility criteria: The inclusion criteria were as follows: (1) original study; (2) inclusion of stroke patients; (3) application of SSRIs during the recovery phase (within 6 months after stroke onset); (4) studies revealing the effect of SSRIs on motor recovery and a comparison of the effect of SSRIs with that in control or placebo groups; (5) published in English; and (6) human participants.

Information sources: The studies were searched in the SCOPUS, PubMed, Embase, and Cochrane Library databases.

Main outcome(s): All available outcomes mentioned in the included studies, they were Fugl-Meyer motor scale score, Barthel index, modified rankin scale score, or adverse effects.

Quality assessment / Risk of bias analysis: Quality assessment was conducted using the Cochrane collaboration tool. The risk of bias was evaluated based on the Cochrane Handbook 5.1 Assessment Tool. A funnel plot and Egger's test were used to evaluate publication bias.

Strategy of data synthesis: Using a standardized data collection form, the data were independently extracted by two researchers (JSO and MCC). Discrepancies were resolved after rechecking the source papers and further discussions among all authors. RevMan software (version 5.3; http://tech.cochrane.org/revman) was used for the statistical analysis of the pooled data.

Subgroup analysis: Not applicable.

Sensitivity analysis: Not applicable.

Language: English.

Country(ies) involved: Republic of Korea.

Keywords: Stroke; Motor function; Recovery; Selective serotonin reuptake inhibitor; Fluoxetine; Meta-analysis.

Contributions of each author:

Author 1 - Ju Sun Oh - Author 1 involved in study concept and design, and screened papers for the literature review.
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Author 2 - Yoo Jin Choo - Author 2 involved in study concept and design, and screened papers for the literature review. In addition, Author 2 performed the statistical analysis and helped in interpretation of data and critical revision of the article for important intellectual content.
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Author 3 - Min Cheol Chang - Author 3 involved in study concept and design, screened papers for the literature review, and supervision. In addition, Author 3 performed the statistical analysis and helped in interpretation of data and critical revision of the article for important intellectual content.
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