

INPLASY PROTOCOL

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Corresponding author:
Luyao Chen

chenluyao627@163.com

Author Affiliation:
Jiangsu Normal University

Support: Jiangsu Normal University.

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Conflicts of interest:
None declared.

Treatment of post-stroke aphasia and its induced reorganization of language networks: a systematic review and meta-analysis study

Chen, L¹; Qin, Y²; Zhu, Z³.

Review question / Objective: P: people with post-stroke aphasia; i: Speechand Language therapy; O: Language functions, fMRI.

Condition being studied: Previous evidence-based studies have demonstrated the effectiveness of SLT for aphasia, but it remains unclear which SLT is more effective and how different SLTs guide language network reorganization.

Eligibility criteria: study1: ①The research subjects were post-stroke aphasia patients; ②The patients received at least two types of SLT;③Randomized controlled study;④Chinese and English literature.Study2: ①Patients with post-stroke aphasia received f MRI or PET; ②Patients received at least one SLT; ③The study reported one or more analysis of neuroimaging data related to treatment; ④Chinese and English literature.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 April 2022 and was last updated on 17 April 2022 (registration number INPLASY202240097).

INTRODUCTION

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METHODS

Search strategy: Literature retrieval adopts a combination of subject headings and free words, and is adjusted according to different databases. Subject headings are determined according to the PubMed database, and free words are mainly determined according to database recommendations, similar words, and words used in previous literature. According to the PICOS principle, the selected subjects were post-stroke aphasia patients, the intervention method was speech-language therapy, the research design type was a randomized controlled trial, and the findings were behavioral results or imaging results. Try a variety of search methods and include as many relevant studies as possible to reduce the probability of missing PubMed, MEDLINE, Embase, Cochrane Central Register of Control Trials (CDSR, DARE, HTA), CINAHL, ClinicalTrials.gov, Stroke Trials Registry, Current Controlled Trials, China National Knowledge Infrastructure, Wanfang Database.

Participant or population: People with post-stroke aphasia

Intervention: Speech and Language therapy.

Comparator: Speech and Language therapy A vs Speech and Language therapy B.

Study designs to be included: Clinical Trials.

Eligibility criteria: study1: ①The research subjects were post-stroke aphasia patients; ②The patients received at least two types of SLT; ③Randomized controlled study; ④Chinese and English literature. Study2: ①Patients with post-stroke aphasia received f MRI or PET; ②Patients received at least one SLT; ③The study reported one or more analysis of neuroimaging data related to treatment; ④Chinese and English literature.

Information sources: Search resources: Search databases such as PubMed, Medline, Embase, Cochrane Central Register of Control Trials (CDSR, DARE, HTA), CINAHL, Linguistics and Language Behavior Abstracts, Rehabdata, SpeechBITE, and search ongoing trial registries, including ClinicalTrials.gov (www.clinicaltrials.gov), Stroke Trials Registry (www.strokecenter.org/Trials/), Current Controlled Trials (www.Controltrials.com) and WHO ICTRP (www.who.int/ictrp/search/en/), etc., searched Chinese databases such as CNKI, Wanfang Database, and VIP Information Resource System, manually searched references of existing literature, contacted relevant researchers to identify more literature, and reported the last search date.

Main outcome(s): Communication function : Western Aphasia Battery Aphasia Quotient, Communication Abilities of Daily Living.

Additional outcome(s): Receptive language: auditory comprehension; Receptive language: reading comprehension; Expressive language: naming; Expressive language: general; Expressive language: written.

Data management: Endnote.

Quality assessment / Risk of bias analysis: The Cochrane Collaboration's tool for assessing risk of bias.

Strategy of data synthesis: Statistical analysis was performed using RevMan, Stata software. The heterogeneity analysis : Q test, I²test random effect model was used for meta-analysis The combined effect size was tested by Z test.

Subgroup analysis: Subgroup analysis according to different treatments.

Sensitivity analysis: Sensitivity analysis was carried out with stata software.

Language: Chinese and English.

Country(ies) involved: China.

Keywords: post-stroke aphasia, language therapy, systematic review, Meta-analysis, language network.

Contributions of each author:

Author 1 - Luyao Chen - Make research plan, participate in literature search, data extraction, quality assessment, data analysis and literature report.

Email: chenluyao627@163.com

Author 2 - Qin Ye - Participate in literature search, data extraction, quality assessment, data analysis.

Author 3 - Zude Zhu - Supervise the whole research process, participate in literature screening, data extraction and literature quality evaluation, and ensure the standardization of literature reporting.