INPLASY PROTOCOL

Corresponding author:
Yang Xue

yangxuebetty@163.com

Author Affiliation:
The Second Affiliated Hospital of Kunming Medical Universtity

Review Stage at time of this submission: Data analysis.

Conflicts of interest:
None declared.

The effectiveness of music associated with action observation therapy in patients with aphasia after stroke： a protocol for systematic review and meta-analysis

Yang, X[1]; Xu, P[2]; Luo, J[3]; He, Y[4]; Yao, L[5];

Review question / Objective: The aim of the review is to evaluate the effectiveness of music combined with action observation therapy in treating aphasias after stroke.
Condition being studied: Aphasia is a common neurogenic language disorder caused by stroke in the left hemisphere. About 40% of all people who suffer from stroke develop aphasia. Patients with aphasia after stroke, which not only impair communication, but also decrease the quality of life. Music interventions, which may be beneficial for communications, have been one of the effective treatments for aphasia. Action observation therapies are recommended as the treatment for motor disorders. Some meta-analysis has proved the efficacy of action observation training for aphasia. However, the auditory representations have proved that these are transformed into motor commands. It is still unclear what role music therapy combined with action observation therapy play in the mirror neuron system. Therefore, we will conduct the problem by meta-analysis.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 03 February 2021 and was last updated on 03 February 2021 (registration number INPLASY202120010).

INTRODUCTION

Review question / Objective: The aim of the review is to evaluate the effectiveness of music combined with action observation therapy in treating aphasias after stroke.

Condition being studied: Aphasia is a common neurogenic language disorder caused by stroke in the left hemisphere. About 40% of all people who suffer from stroke develop aphasia. Patients with aphasia after stroke, which not only impair communication, but also decrease the

quality of life. Music interventions, which may be beneficial for communications, have been one of the effective treatments for aphasia. Action observation therapies are recommended as the treatment for motor disorders. Some meta-analysis has proved the efficacy of action observation training for aphasia. However, the auditory representations have proved that these are transformed into motor commands. It is still unclear what role music therapy combined with action observation therapy play in the mirror neuron system. Therefore, we will conduct the problem by meta-analysis.

METHODS

Participant or population: Patients with aphasia after stroke.

Intervention: Music and action observation therapy.

Comparator: Aphasia-related muscle training; action observation therapy or action observation training, or motor training.

Study designs to be included: Randomized control trials.

Eligibility criteria: According to the purpose of this research we designed the inclusion criteria as the following: we will include adults (over 18 years old) suffering from aphasia after a first or recurrent stroke. The researches will be excluded that trials reporting on patients with a history of aphasia disorder before stroke diagnosis. We will include patients with stroke irrespective of any type (ischemic or hemorrhagic) or phase (acute, subacute or chronic).

Information sources: Electronic databases, including the Cochrane library, PubMed, Medline, Embase and CNKI, Web of Science, Wanfang Database, VIP Database, and China Biology Medicine disc were searched for relevant studies published in English between 1 January 2007 and 1 February 2021.

Main outcome(s): The WAB score can serve as an effective measure of spontaneous speech ability, auditory comprehension, repetition, and naming. It is a good indication of oral language.

Additional outcome(s): Quality of life questionnaires will be taken into account.

Quality assessment / Risk of bias analysis: we will use Cochrane risk-of bias tool (ROB 2.0) to evaluate the quality of included studies.

Strategy of data synthesis: In this study, statistical analysis will be conducted by using RevMan 5.3 software. Risk ratio (RR) with 95% confidence intervals (CIs) will be adopted for intervention effect of dichotomous data. Mean difference (MD) with 95% CIs will be for intervention effect of continuous data. When measurement methods or units are inconsistent, the standardized mean difference (SMD) with 95% CIs will be used to present the intervention effect. If there exists heterogeneity and the final data summary analysis select random effect model statistical analyses.

Subgroup analysis: If the included studies have significant statistical heterogeneity, then the subgroup analysis will be conducted basing on varied parameters that affect the result parameters. These parameters contain the characteristics of patients (for instance, the severity degree of the disease, different stage of stroke), the characteristics of interventions (for instance, total intervention duration, intervention frequency) and so on.

Sensitivity analysis: To evaluate the reliability of our study results, sensitivity analysis will be used. If there is no significant change in the results after deleting the literature, it indicates that the sensitivity is low and our results are reliable. On the contrary, if there is a big difference or even an opposite conclusion after deleting the literature, it indicates a high sensitivity and a low reliability of this study results.

Language: English and Chinese.

Country(ies) involved: China.

Keywords: music; action observation therapy; aphasia; protocol; systematic review; meta-analysis.

Contributions of each author:
Author 1 - Yang Xue.
Email: yangxuebetty@163.com
Author 2 - Xu Pan.
Email: 2052428564@qq.com
Author 3 - Luo Jianqi.
Email: 1094917714@qq.com
Author 4 - He Ying.
Email: heying66@kmmu.edu.cn
Author 5 - Yao Liqing.
Email: yaoliqing98731@163.com