INPLASY

Comprehensive Evaluation of Prognostic Factors Affecting Dysphagia after Stroke: An Umbrella Review

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ADMINISTRATIVE INFORMATION

Review Stage at time of this submission - Data extraction.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 3 December 2024 and was last updated on 3 December 2024.

INTRODUCTION

Review question / Objective To systematically evaluate the risk factors and protective factors affecting the prognosis of post-stroke dysphagia (PSD) and to clarify the quality of evidence for these influencing factors.

Condition being studied Post-stroke dysphagia (PSD) is one of the common and serious complications following a stroke, significantly impacting patients' quality of life and markedly increasing mortality rates. The occurrence of PSD often leads to malnutrition, dehydration, aspiration, and secondary pneumonia, which in severe cases may threaten life, extend hospital stays, and increase medical burdens. Despite significant progress in diagnosing and intervening PSD, the factors affecting prognosis remain complex and varied, and the interactions between these factors and their specific effects on recovery are not yet fully understood. Therefore, identifying and understanding the risk factors and protective factors that influence PSD recovery is of great clinical significance for optimizing rehabilitation strategies and improving patient outcomes.

METHODS

Participant or population Post-stroke dysphagia.

Intervention NA.

Comparator NA.

Study designs to be included Meta analysis and systematic review.

Eligibility criteria
Inclusion Criteria:
1. **Document Type**: Meta-analysis or systematic review.
2. **Research Content**: Studies discussing risk factors and protective factors affecting the recovery of post-stroke dysphagia (PSD).

Exclusion Criteria:

1. **Document Type**: Exclude academic papers, conference papers, and technological achievements.
2. **Research Content**: Exclude studies that do not meet the research focus, specifically:
- Studies that only discuss factors influencing dysphagia as a complication after stroke.
- Studies that only address factors related to pneumonia caused by PSD.

Information sources Search eight databases, including PubMed, Web of Science (WOS), Cochrane, Embase, SinoMed (Chinese Biomedical Literature Database), CNKI (China National Knowledge Infrastructure), VIP, and Wanfang. The search period will cover from the inception date of each database to November 3, 2024.

Main outcome(s) Dysphagia Rehabilitation.

Quality assessment / Risk of bias analysis
** Method for Evaluating the Quality of Literature**
The quality of the Meta-analyses and systematic reviews included in this study was assessed using the AMSTAR 2 scale . The scale consists of 16 items, and the quality is classified into four levels: "High," "Moderate," "Low," and "Critically Low" .

** Method for Evaluating the Quality of Evidence**
In this study, the quality of evidence for different influencing factors was assessed using a grading method based on a four-level standard. The quality is classified into four levels: Robust/Convincing, Highly Suggestive, Suggestive, and Weak . This evaluation method integrates several standards, including the number of cases, random effects P-value, inter-study heterogeneity (I^2), 95% confidence interval (CI), small-sample effect bias, and excess significance, to comprehensively assess the strength of the evidence. The specific evaluation criteria are as follows:
① **Robust Evidence**: Supported by more than 1000 cases, with a random-effects model P-value $\leq 10^{-6}$, no significant heterogeneity between studies ($I^2 < 50\%$), 95% CI does not include null value, and no small-sample effect or excess significance.
② **Highly Suggestive Evidence**: More than 1000 cases, with a highly significant association (random effects P-value $\leq 10^{-6}$), and the P-value for the largest study in the meta-analysis is significant ($P < 0.05$).
③ **Suggestive Evidence**: Random effects P-value $\leq 10^{-3}$, and supported by more than 1000 cases.

④ **Weak Evidence**: Other significant associations ($P < 0.05$) are rated as weak evidence.

Strategy of data synthesis In umbrella reviews, original studies may be included in multiple Meta-analyses with similar research objectives, which can lead to literature overlap. Directly combining the results of these Meta-analyses may increase the risk of bias and affect the evaluation of evidence quality. To avoid high levels of overlap, this study integrated data from all relevant original studies included in the existing Meta-analyses and conducted a re-analysis . Statistical analysis was performed using STATA 16 and Review Manager 5.4 software.

Subgroup analysis NA.

Sensitivity analysis Conduct a sensitivity analysis based on stroke type and endpoint timing of outcomes.

Country(ies) involved China.

Keywords Stroke; Dysphagia; Prognosis; Influencing Factors; Umbrella Review.

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