REVIEW ARTICLE

# Nursing interventions including psychological support and quality of life determinants in patients with dysphagia following stroke

**Aihua Liu, Xuehong Liu, Ping Zhou**
Interventional Radiology Suite, The First Hospital of Putian City, Putian, Fujian Province, China

**Background:** Poststroke dysphagia (PSD) affects nearly half of stroke survivors and impairs health-related quality of life. Nursing interventions increasingly integrate psychological support, yet their effectiveness remains unclear. This systematic review and meta-analysis evaluated the impact of nursing strategies incorporating psychological support on QOL in PSD patients and examined the influence of intervention duration and type. **Materials and Methods:** This review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. PubMed, EMBASE, Scopus, Web of Science, and CINAHL were searched up to August 2025. Randomized controlled trials (RCTs) assessing nursing interventions with psychological components, such as counseling or education, cognitive behavioral therapy-informed strategies, relaxation or stress management, emotional support, and motivational interviewing, and reporting QOL outcomes were included. Standardized mean differences (SMDs) were pooled using random-effects models. Subgroup analyses compared short (≤4 weeks) versus longer (>4 weeks) interventions and psychological-only versus combined approaches. **Results:** Nine RCTs involving 693 participants were included. Nursing interventions improved QOL compared with control conditions (SMD = 0.95; 95% confidence interval [CI]: 0.48–1.41; $P<0.001$), with substantial heterogeneity (I2 = 84.5%). Interventions lasting ≤4 weeks showed larger effects (SMD = 1.21; 95% CI: 0.13–2.29) than longer interventions (SMD = 0.82; 95% CI: 0.32–1.31). Psychological-only interventions produced greater benefits (SMD = 1.25; 95% CI: 0.68–1.82) than combined approaches (SMD = 0.82; 95% CI: 0.20–1.43). No publication bias was detected (Egger's test, $P = 0.79$). **Conclusion:** Nursing interventions incorporating psychological support enhance QOL in PSD. Short-duration and psychological-only approaches appear most effective, supporting integration into stroke rehabilitation.

**Key words:** Dysphagia, nursing intervention, poststroke rehabilitation, psychological support, quality of life

**How to cite this article:** Liu A, Liu X, Zhou P. Nursing interventions including psychological support and quality of life determinants in patients with dysphagia following stroke. J Res Med Sci 2026;31:13.

## INTRODUCTION

Stroke ranks as a primary cause of lasting disability globally, often causing intricate impairments that greatly hinder survivors' functional abilities and overall QOL.[1] Poststroke dysphagia (PSD), a swallowing impairment resulting from neurological damage, is particularly common, affecting about 25% to 65% of stroke survivors[2] based on timing and environment, and is linked to malnutrition, aspiration pneumonia, and even a higher risk of mortality.[3]

Aside from physiological consequences, PSD profoundly influences psychosocial aspects by fostering fear of eating, promoting social isolation, reducing meal enjoyment, and causing emotional turmoil, all leading to a notable decline in health-related quality of life (HRQOL).[4]

Rehabilitation interventions led by nurses have gained more acknowledgment in stroke care for their ability to provide holistic, ongoing, and personalized assistance.[5] Besides focusing on swallowing mechanics and feeding techniques, nurses frequently integrate psychological support, like motivational counseling, anxiety and

Access this article online

Quick Response Code:

Website: https://journals.lww.com/jrms

DOI: 10.4103/jrms.jrms_1233_25



**Address for correspondence:** Dr. Aihua Liu, Interventional Radiology Suite, The First Hospital of Putian City, No. 449, Nanmenxi Road, Chengxiang District, Putian, 351100, Fujian Province, China.
E-mail: liuaihua181878@163.com
**Submitted:** 23-Nov-2025; **Revised:** 28-Dec-2025; **Accepted:** 05-Feb-2026; **Published:** 13-May-2026

depression management, and patient education, to enhance self-efficacy, adherence to treatment, and emotional health.[6] Research indicates that this type of integrated nursing care results in significant enhancements in functional recovery, emotional well-being, and overall QOL for stroke patients.[7]

For example, Song *et al*. found that integrating systemic nursing with psychological interventions notably decreased anxiety and depression, improved swallowing abilities, and raised SWAL-QOL scores in poststroke individuals experiencing oropharyngeal dysfunction.[8,9] Similarly, interventional studies combining swallowing nursing with psychological support showed greater effectiveness and reduced anxiety/depression scores compared to routine care.[10]

Even with the collection of primary evidence, the literature continues to be fragmented and diverse, showing significant differences in intervention elements, outcome metrics, and methodological strength. Importantly, there is presently no available systematic review or meta-analysis specifically targeting nursing interventions that incorporate psychological support in the treatment of PSD and its effects on QOL. This indicates a notable disparity, particularly considering the increasing focus on nurse-led, patient-centered rehabilitation approaches in contemporary stroke treatment.[11]

To close this knowledge gap, our research intends to perform a thorough systematic review and meta-analysis of randomized controlled trials (RCTs) assessing the effectiveness of nursing interventions, such as psychological support, on QOL outcomes for stroke patients experiencing dysphagia. Through the synthesis of current evidence, our aims are to (1) evaluate the impact of integrated nursing–psychosocial rehabilitation on HRQOL and swallowing-related results; (2) pinpoint essential intervention elements that enhance therapeutic outcomes; and (3) guide evidence-based protocols and practice models that promote comprehensive, nurse-led dysphagia management.

## MATERIALS AND METHODS

### Search strategy

This systematic review and meta-analysis was performed following the 2020 guidelines[12] of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). Five electronic databases, SCOPUS, PubMed, Web of Science, EMBASE, and CINAHL (Cumulative Index to Nursing and Allied Health Literature), were thoroughly searched for pertinent studies until August 2025. A thorough literature review was performed to find pertinent RCTs that examined nursing interventions, such as psychological support, aimed at improving QOL in stroke patients with dysphagia. Moreover, the reference lists of selected articles and pertinent reviews were manually examined to find any further eligible studies. There were no limitations on publication date or patient age; however, only English-language articles were included. Various database search queries are displayed in Table 1.

A total of about 1140 records were found via database searches (refer to the breakdown below). Following the elimination of approximately 540 duplicate entries, around 600 distinct records were left for evaluation. Title and abstract screening removed approximately 550 obviously unrelated records (e.g., research not focused on PSD or lacking nursing/psychosocial interventions). We obtained 50 full-text articles for eligibility evaluation. Out of these, 40 studies were removed after full-text evaluation for various reasons, including not presenting QOL outcomes (15 studies), not qualifying as RCTs or having appropriate study designs (10 studies), not focusing on the PSD group (8 studies), or featuring interventions beyond nursing/psychological support (7 studies). One study (8) was excluded due to missing baseline outcome measurements, and one study (24) was excluded because it reported only neurological impairment scales rather than validated QoL outcomes; therefore, nine studies were included in the meta-analysis. The study selection process and reasons for exclusion at each stage are presented in the PRISMA flow diagram [Figure 1].

### Eligibility criteria

Research was incorporated into this systematic review and meta-analysis if it satisfied the subsequent predetermined inclusion criteria grounded in the PICOS framework:

**Table 1: Search strategy in different databases**

| Database name | Search query |
|---|---|
| PubMed | (“Stroke”[Mesh] OR stroke OR “cerebrovascular accident”) AND (“Deglutition Disorders”[Mesh] OR dysphagia OR swallowing disorder) AND (“Nursing Care”[Mesh] OR “nursing intervention” OR “nurse-led” OR “nursing rehabilitation”) AND (“Psychological Support” OR “psychological intervention” OR counseling OR “psychosocial support”) AND (“Quality of Life”[Mesh] OR “health-related quality of life” OR HRQOL) |
| Embase | “stroke”/exp OR stroke AND “dysphagia”/exp OR “swallowing disorder” AND “nursing intervention” OR “nurse-led” AND “psychological support” OR “psychosocial care” AND “quality of life” |
| Scopus | TITLE-ABS-KEY ((stroke AND dysphagia) AND (nursing AND intervention) AND (psychological OR psychosocial) AND (“quality of life”)) |
| Web of Science | TOPIC: ((stroke AND dysphagia) AND (nursing AND intervention) AND (psychological OR psychosocial) AND (“quality of life”)) |
| CINAHL | (“stroke” AND “dysphagia” AND “nursing care” AND (“psychological support” OR “counseling” OR “psychosocial”) AND “quality of life”) |

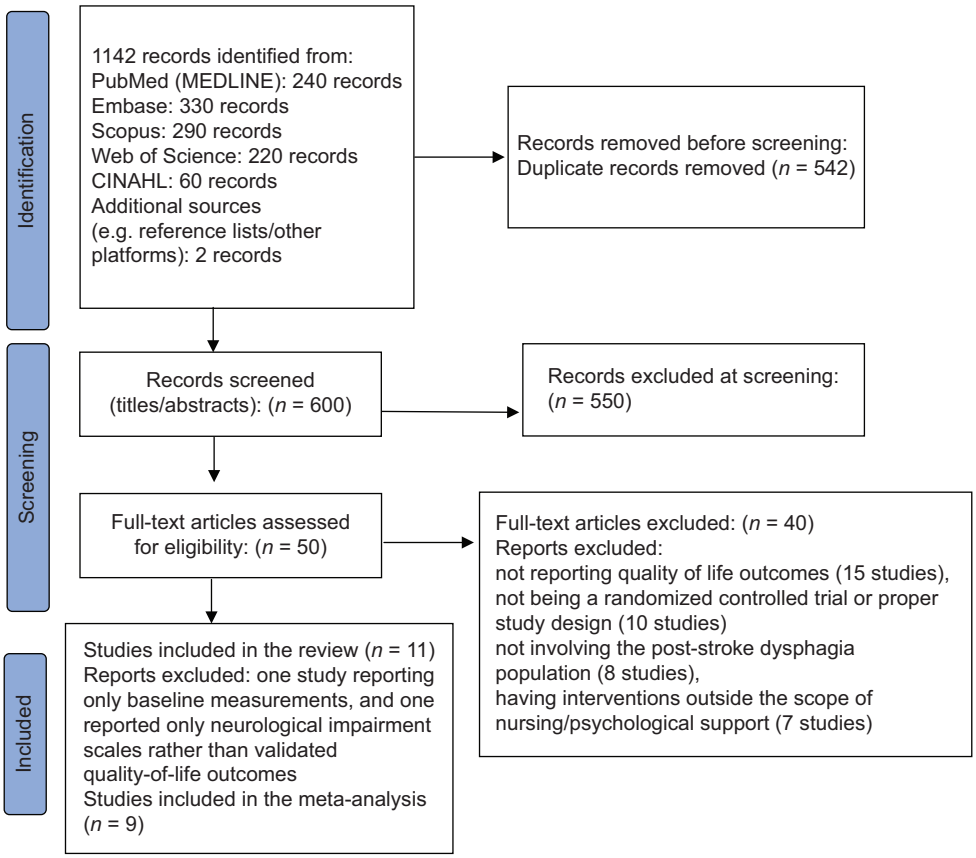


**Figure 1:** Preferred Reporting Items for Systematic Reviews and Meta-Analyses study selection flow diagram

- Population (P): Adult patients (≥18 years) identified with dysphagia after a stroke, verified either clinically or by diagnostic methods
- Intervention (I): Nursing actions that specifically incorporated psychological support as part of the approach. Psychological-only interventions were defined as nursing programs comprising exclusively psychosocial components (e.g., counseling, cognitive–behavioral therapy [CBT]-informed strategies, and relaxation techniques) without structured swallowing exercises or physical dysphagia rehabilitation
- Comparison (C): Conventional treatment, standard nursing practices, placebo, or alternative nonpsychological rehabilitation methods
- Outcomes (O): Main outcome – QOL, evaluated with validated tools (e.g., SWAL-QOL, SF-36, and World Health Organization Quality of Life [WHOQOL]). Secondary outcomes (if stated): swallowing ability, mental health, or functional rehabilitation
- Study design (S): Only RCTs were qualified for inclusion.

## Exclusion criteria

- Studies that were nonrandomized, quasi-experimental, case reports, or reviews
- Research that did not present QOL-related results
- Studies that did not include a specific nursing intervention or were devoid of a psychological aspect
- Pediatric groups or dysphagia unrelated to stroke
- Articles not accessible in English or complete text.

Two independent reviewers screened titles, abstracts, and full texts. Disagreements were resolved through consensus or third-party adjudication.

## Data extraction

The pertinent data gathered from the studies included in the systematic review consisted of the author's name, publication year, country, study design, setting, sample size, average age, details of the nursing protocol, elements of psychological support, duration, frequency, and intensity of the intervention, type of QOL measurement tool employed, measurement time points, and secondary outcomes (e.g., swallowing recovery and anxiety/depression scores) [Table 2].

## Quality assessment

The Cochrane Risk of Bias (ROB) tool for randomized trials (ver. was utilized to evaluate the risk of bias. 2.0).[13] The specific areas of RoB 2.0 consist of (1) the randomization process, (2) deviations from planned interventions, (3) absence of outcome data, (4) measurement of outcomes, (5)

**Table 2: The features of studies incorporated in the systematic review and meta-analysis**

| Reference (author, year) | Number of participants (case/control) | Intervention type | Nursing intervention | QOL, mean±SD (case, pre/post) | QOL, mean±SD (control, pre/post) | Intervention duration | QOL questionnaire used | Mean age (years) |
|---|---|---|---|---|---|---|---|---|
| Zhang *et al.*, 2025[19] | 40/40 | Psychological only | Psychological nursing | 130.57±37.78/72.79±21.06 | 120.75±26.98/79.67±20.17 | 5 weeks | WHOQOL-BREF | 67.2 |
| Yang *et al.*, 2023[20] | 60/60 | Combination | Comprehensive rehab | 111.27±5.01/131.37±5.52 | 112.48±5.27/125.48±5.26 | 6 weeks | SWAL-QOL | 66.1 |
| Wang *et al.*, 2025[21] | 45/45 | Psychological only | Psychological + systemic | 78.09±6.42/15.44±0.94 | 77.59±6.83/26.76±1.12 | 5 weeks | SWAL-QOL | 65.5 |
| Alyanak *et al.*, 2025[22] | 38/38 | Combination | Game-based EMG-BF | 56.7± 12.6/41.0± 13.3 | 63.0±18.5/59.3±20.7 | 4 weeks | SS-QOL | 63.8 |
| Zhang *et al.*, 2023[23] | 42/42 | Combination | Routine swallowing therapy | 125±20/155±15 | 145±20/170±15 | 3 weeks | SWAL-QOL | 66.7 |
| Lin *et al.*, 2021[24] | 11/11 | Combination | Food preparation program | 176.0±25.6/177.45±22.45 | 159.6±24.3/142.26±24.5 | 6 weeks | WHOQOL-BREF | 68.0 |
| Yan *et al.*, 2024[25] | 35/35 | Psychological only | Cluster nursing | 92.1±8.71/136.45±3.58 | 90.6±10.27/124.19±4.67 | 5 months | SWAL-QOL | 64.4 |
| Xu and Zhan, 2025[26] | 56/63 | Combination | Continuous care | 100.5± 15.3/130.2± 10.9 | 101.2±14.9/120.5±12.5 | 6 months | SF-36, SS-QOL | 65.1 |
| Hu *et al.*, 2024[16] | 92/80 | Combination | Comprehensive nursing | 112.42± 10.61/145.49±9.48 | 110.89±9.17/123.33±7.85 | 12 weeks | SSA, NIHSS, ESS | 66.3 |
| Song *et al.*, 2024[8] | 39/39 | Combination | Cognitive training + swallowing rehabilitation | -/72.39±1.28 | -/62.54±1.24 | 3 weeks | SWAL-QOL | 64.9 |

QOL=Quality of life; SD=Standard deviation; WHOQOL-BREF=World Health Organization Quality of Life – Brief; SSA=Standardized swallowing assessment; NIHSS=National Institutes of Health Stroke Scale; ESS=Eating Status Scale; SF=Short form

selection of outcomes reported, and (6) additional bias. Two researchers assessed quality independently based on the criteria, rating each domain as low risk, some concerns, or high risk of bias. Any differences were addressed through discussion or the inclusion of a third reviewer. Interrater agreement was high (Cohen's $\alpha = 0.88$), indicating substantial agreement. The results were illustrated with a traffic-light plot for specific domains across studies and a summary bar graph displaying the proportion of studies at every risk level.

## Statistical analysis

All quantitative syntheses were conducted in R (v4.3.2) utilizing the Meta and Metafor packages (Schwarzer, 2007; Viechtbauer, 2010). Due to QOL being assessed with various validated tools in different trials, the results were combined as standardized mean differences (SMDs) using Hedges' g correction to address small-sample bias.[14]

Because the included studies employed outcome instruments with different conceptual directions, particular attention was paid to scale interpretation. Only validated QOL instruments in which higher scores reflected better QOL (e.g., SWAL-QOL, SS-QOL, and WHOQOL-BREF) were included in the quantitative synthesis. Neurological impairment scales such as the National Institutes of Health Stroke Scale, Eating Status Scale, and Standardized Swallowing Assessment, which assess functional or neurological severity rather than QOL, were not considered QOL outcomes. Accordingly, the study by Hu *et al.*,[15,16] which reported only neurological impairment measures without a validated QOL instrument, was excluded from the meta-analysis.

When studies provided change scores and final scores, change scores were prioritized; if only final scores were present, these were utilized. Standard deviations (SDs) were derived from standard errors, 95% confidence intervals (CIs), or interquartile ranges as needed. When SDs were not directly reported, they were calculated from available standard errors, CIs, or *P* values using established Cochrane Handbook formulas.[15] The value of Cohen's d is influenced by the sample size and often overstates the effect size with small samples; therefore, it requires adjustment.[14] A two-sided $P < 0.05$ was deemed statistically significant for combined SMDs and subgroup interactions. 95% CIs were computed for every summary measure. Random-effects meta-analyses were performed using the DerSimonian–Laird method, with between-study variance quantified using $\tau^2$. The $\tau^2$ value was reported alongside $I^2$ to provide an absolute measure of heterogeneity.[17] Statistical heterogeneity was measured using $I^2$ and classified as low (<25%), moderate (25%–75%), or high (>75%). *A priori* subgroup analyses examined: (i) type of psychological

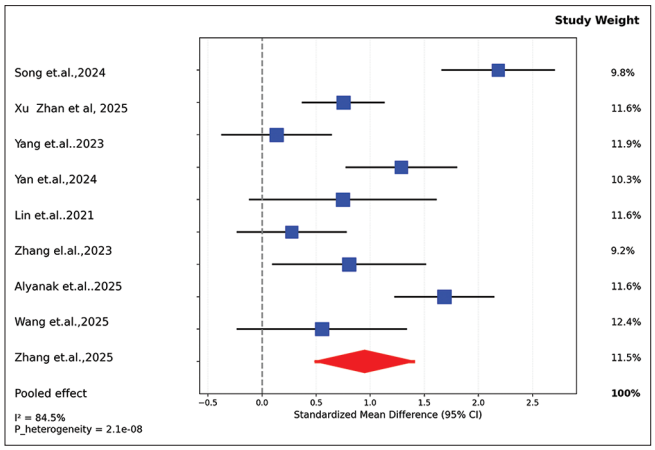


**Figure 2:** Psychological nursing effects on quality of life in poststroke dysphagia patients

intervention (e.g., counseling versus CBT-based support) and (ii) duration of intervention (≤4 weeks vs. >4 weeks). For trials with multiple intervention arms, relevant groups were combined using recommended methods to create a single pairwise comparison, ensuring that participants in the control group were not counted more than once. Comparison-adjusted funnel plots were analyzed for extreme and minor study effects as well as potentially outlier studies for the QOL as the main outcome. Once potential outliers were recognized, they were removed in a sensitivity analysis to evaluate the strength of the results.

### Publication bias

The Egger's regression test is utilized to identify effects from small studies. The trim-and-fill method was employed to calculate a corrected overall effect when asymmetry occurred. To assess publication bias, we visually examined the funnel plot and employed the statistical test, Egger's regression test, to complement the subjective component of the study.[18] In Egger's regression test, the regression line's intercept is charted, and the nearer it is to zero, the less the publication bias. On the other hand, if the regression line's intercept rises and $P < 0.01$, the publication bias is significant.

### Risk of bias assessment

The risk of bias of the included RCTs was assessed using the Cochrane Risk of Bias tool for randomized trials (RoB 2), which examines seven areas: the randomization process, deviations from planned interventions, missing outcome data, outcome measurement, selection of reported results, other biases, and overall risk. Every domain was assessed as having low risk, moderate concerns, or high risk of bias. The evaluations were carried out separately by two reviewers, and any differences were addressed through discussion or by including a third reviewer. The results were presented using a traffic-light plot for each domain across studies and a summary bar graph depicting the percentage of studies at every risk level. The systematic review was registered at PROSPERO (Id: CRD420251141362): https://www.crd.york.ac.uk/PROSPERO/view/CRD420251141362.RESULTS

The pooled analysis of eight RCTs demonstrated a statistically and clinically significant improvement in HRQOL among patients with PSD receiving nursing interventions that incorporated psychological support. The aggregated SMD was 0.95 (95% CI: 0.48–1.41) [Figure 2], favoring intervention groups, though considerable heterogeneity was observed ($I^2 = 84.5\%$, $P_{heterogeneity} = 2.1 \times 10^{-8}$, $\tau^2 = 0.42$). This heterogeneity reflects variation in intervention components, delivery methods, sample sizes, and outcome instruments, yet the overall direction of effect supported benefit across included studies.

Subgroup analyses provided further insight. Trials delivering short-term interventions (≤4 weeks) produced larger improvements in QOL (SMD = 1.21; 95% CI: 0.13–2.29; $P < 0.001$) than those lasting >4 weeks (SMD = 0.82; 95% CI: 0.32–1.31; $P < 0.001$). This pattern suggests that early, focused psychosocial engagement may leverage a critical recovery window and help prevent deterioration of emotional well-being.

When stratified by intervention type, psychological-only interventions, primarily consisting of counseling, CBT-informed coping strategies, and relaxation techniques, demonstrated greater improvements in QOL nursing programs generated a greater pooled effect (SMD = 1.25; 95% CI: 0.68–1.82; $P = 0.049$) than combination interventions that included swallowing rehabilitation or dietary training (SMD = 0.82; 95% CI: 0.20–1.43; $P < 0.001$). While both approaches were effective, the stronger pooled impact of psychological-only programs highlights the centrality of addressing emotional and social domains in dysphagia care. Importantly, the test for subgroup differences was statistically significant for both duration ($P = 0.005$) and intervention type ($P = 0.005$), indicating that these subgroup effects are unlikely to be due to chance and may reflect meaningful clinical moderators.

The Egger's test ($P = 0.79$) indicated no evidence of small-study effects, supporting the stability of the findings and a low likelihood of publication bias.

The likelihood of bias within the studies included was typically considered acceptable. The risk of bias matrix [Figure 3] indicates that the majority of domains within studies were assessed as "low risk" (green), especially concerning the selection of reported results, outcome measurement, and deviations from planned interventions. Nonetheless, certain issues (yellow) were observed in the randomization method (3 studies), absent outcome data (2 studies), and outcome measurement (2 studies). Moreover,

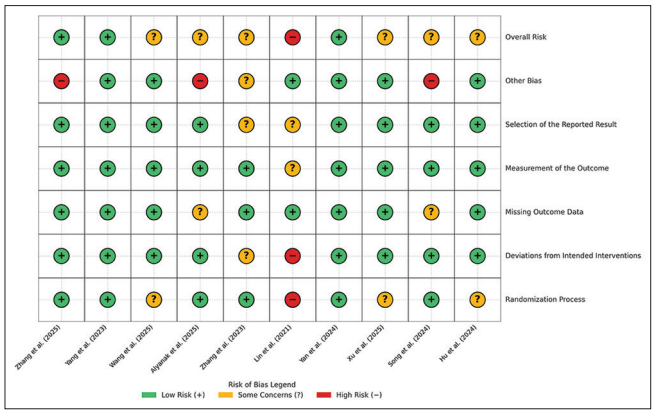


**Figure 3: Publication quality risk-of-bias assessment among 10 randomized controlled trials included in the systematic review**

three studies were assessed as having a significant risk of bias (red) in at least one area: randomization (2 studies), other bias (2 studies), or absent outcome data (1 study).

Despite these concerns, 70% of the studies were classified as having "low risk" overall, indicating a fairly strong evidence foundation. Nonetheless, care should be taken when interpreting the combined outcomes because of certain methodological limitations present in several trials [Figure 3].

### Sensitivity analysis

To evaluate the stability and robustness of the combined effect estimates, a sensitivity analysis was performed by systematically omitting each study from the meta-analysis (leave-one-out approach). The results showed that no individual study significantly affected the overall SMD, suggesting that the findings were not influenced by any outliers or overly impactful studies. In addition, subgroup analyses categorized by intervention duration and type consistently showed meaningful enhancements in QOL, reinforcing the internal consistency of the findings. The lack of significant changes in effect sizes after excluding studies confirms the dependability of the overall conclusions derived from the meta-analysis.

## DISCUSSION

This systematic review and meta-analysis showed that nursing interventions that include psychological support greatly enhance QOL in patients experiencing PSD. The combined effect size was substantial, validating that nurse-led psychological support offers clinically significant advantages for this vulnerable population. Subgroup analyses indicated that interventions lasting <4 weeks and those focusing solely on psychological aspects provided more benefits than longer or combined approaches, emphasizing the importance of early and targeted psychosocial involvement in dysphagia treatment.

Recent findings strongly back the inclusion of psychological nursing in stroke rehabilitation. Stahl *et al*. found that personalized psychological nursing markedly decreased depression and improved social involvement in stroke survivors.[27] In a similar vein, Xu *et al*. showed that mindfulness-based cognitive therapy provided by nurses enhanced QOL and functional results, surpassing routine care.[28] In a systematic review, Zhou *et al*. established that nursing interventions aimed at emotional distress in neurological patients were consistently linked to enhanced HRQOL.[29] Collectively, these results are consistent with the current research and support the importance of nursing personnel in delivering accessible and effective psychological support.

The effectiveness of psychological nursing in comparison to standard care can be clarified by various mechanisms.[30] Dysphagia leads to not only physical challenges with swallowing but also significant psychosocial effects, including embarrassment when eating, avoidance of social events, and an increased risk of depression.[31] Routine nursing frequently emphasizes the physiological aspects of swallowing, like dietary adjustments and preventing aspiration, when overlooking the emotional factors involved.[32] In contrast, psychological interventions specifically target anxiety, depression, hopelessness, and fear related to eating.[33] Gao *et al*. showed that patients who experienced structured psychological nursing had better adherence to swallowing therapy and increased confidence in managing their condition compared to those who received standard care.[34] Moreover, Szőcs *et al*. discovered that the quality of the nurse–patient relationship was a crucial predictor of QOL enhancement, highlighting the therapeutic importance of continuous psychological support offered by nursing staff.[35]

The observed superiority of psychological-only nursing interventions may be attributable to the specific psychological components emphasized in these programs. Across the included trials, psychological nursing typically consisted of structured counseling and patient education, CBT-informed coping strategies, relaxation and stress management techniques, emotional support, and motivational interviewing style approaches.[36] These components directly target anxiety, depressive symptoms, fear of aspiration, and social withdrawal, which are highly prevalent among patients with PSD and strongly influence perceived QOL. By focusing primarily on emotional regulation, cognitive reframing, and self-efficacy enhancement, psychological-only interventions may exert a more immediate and patient-centered impact on QOL outcomes than multimodal programs in which psychological care is delivered as a secondary component alongside physical rehabilitation.[34]

The noted advantage of shorter interventions aligns with the theory of a critical neuroplasticity window in the initial recovery phase, where the brain is especially receptive to behavioral and psychosocial modulation.[37] Early interventions align with the phase of highest emotional sensitivity, during which swift psychological assistance can avert the intensification of distress.[38] Aoki *et al*. and Liu *et al*. observed that dysphagia can quickly result in social isolation and depressive symptoms, which, if not addressed, hinder recovery. Prompt psychological care in the early stages can, thus, halt this decline, resulting in a significantly greater improvement in QOL.[39,40]

Our analysis additionally revealed that interventions focused solely on psychology were more effective than combined methods. A probable reason is that QOL tools such as SWAL-QOL or WHOQOL-BREF are particularly responsive to emotional and social health, areas more directly enhanced by psychological care.[41] In addition, multimodal programs might weaken the psychological aspect or incorporate activities that trigger frustration, such as monotonous swallowing exercises.[42] Hu *et al*. presented support for this view, demonstrating that nurse-led emotional regulation interventions led to larger QOL improvements compared to comprehensive programs that incorporated physical and dietary training. This indicates that the psychological conditions of patients with dysphagia significantly impact their subjective well-being, making focused psychosocial nursing an exceptionally powerful intervention.[43]

Significantly, the advantages of psychological nursing extend beyond just one category of stroke. Research indicates that individuals who suffer from ischemic, hemorrhagic, and lacunar strokes face considerable emotional and psychosocial challenges, which can lead to worse outcomes if not addressed. Li *et al*. showed that nurse-led psychosocial interventions enhanced QOL and decreased depressive symptoms among various stroke subtypes, suggesting that psychological nursing is widely relevant in poststroke care.[44] This strengthens the applicability of our results and endorses the integration of these methods into inclusive rehabilitation strategies for all stroke survivors.

Another methodological aspect in this research is the application of SMDs in the meta-analysis. Because QOL outcomes were assessed using various instruments in different trials (e.g., SWAL-QOL, WHOQOL-BREF, SF-36, and SS-QOL), raw scores cannot be directly compared. The application of SMD, however, facilitates the aggregation of outcomes by transforming all effects into a unified standardized scale (Hedges' g), which accounts for variability in measurement instruments and sample size.[45] This method guarantees that the intervention effect's direction and size can be thoughtfully combined across studies, even with differing instruments. In addition, previous meta-analyses in stroke and rehabilitation studies have confirmed this approach as statistically robust when various validated measures are used.[46] As a result, the benefits of psychological nursing interventions noted in our analysis are strong and understandable, no matter which QOL scale was used in specific studies.

Even with these positive outcomes, various limitations must be recognized. The diversity among studies was significant, indicating differences in interventions, duration, and QOL measures. The majority of the trials included were carried out in China, leading to concerns regarding cultural generalizability. Numerous studies similarly lacked extended follow-up, leaving the longevity of advantages unclear. Nonetheless, the consistency of results across various trials and the strength of sensitivity analyses reinforce the trustworthiness of the conclusions.

Clinically, these findings offer robust support for the deliberate inclusion of psychological nursing within stroke rehabilitation programs. Nurses have a distinct role in providing this care due to their ongoing patient interactions and comprehensive perspective. Concise, targeted programs started shortly after a stroke may prove especially beneficial, whereas continuous psychological support via counseling or telehealth may aid in maintaining these advantages over time. Prioritizing the training of nurses in psychological strategies like cognitive–behavioral techniques, motivational interviewing, and mindfulness is essential for effective implementation in practice.

This research encountered various limitations that should be taken into account. Initially, the prevalence of research from China restricts generalizability. Second, certain trials did not implement blinding or had small sample sizes, restricting our capacity to investigate further conclusions.

## CONCLUSION

Nursing actions that include psychological support greatly improve the QOL for patients experiencing PSD. These approaches surpass standard care as they address the emotional and social challenges that significantly hinder recovery, promote self-efficacy, and enhance involvement in rehabilitation. Brief interventions and programs that emphasize psychological aspects seem particularly effective, indicating that timely psychosocial support provided by nurses could be a cost-efficient and scalable method to enhance recovery outcomes. Research from recent studies also shows that these interventions are effective for all stroke types, highlighting their importance

as a universal aspect of poststroke care. Future multicenter RCTs across various healthcare systems are essential to assess long-term sustainability, cost-effectiveness, and incorporation into standard stroke rehabilitation protocols.

**Financial support and sponsorship**
Nil.

**Conflicts of interest**
There are no conflicts of interest.

## REFERENCES

1. Jambi LK, Abubakr H, Salah H, Sulieman A. Stroke and disability: Incidence, risk factors, management, and impact. J Disabil Res 2024;3:1-7.
2. Martino R, Foley N, Bhogal S, Diamant N, Speechley M, Teasell R. Dysphagia after stroke: Incidence, diagnosis, and pulmonary complications. Stroke 2005;36:2756-63.
3. Song JM. Dysphagia and quality of life: A narrative review. Ann Clin Nutr Metab 2024;16:43-8.
4. González-Fernández M, Lauren O, Atanelov L, Christian A. Dysphagia after stroke: An overview. Curr Phys Med Rehabil Rep 2013;1:187-96.
5. Bath PM, Lee HS, Everton LF. Swallowing therapy for dysphagia in acute and subacute stroke. Cochrane Database Syst Rev 2018;10:Cd000323.
6. McHorney CA, Bricker DE, Kramer AE, Rosenbek JC, Robbins J, Chignell KA, *et al*. The SWAL-QOL outcomes tool for oropharyngeal dysphagia in adults: I. Conceptual foundation and item development. Dysphagia 2000;15:115-21.
7. Madu CS, Victoria M. Acute stroke management and nursing intervention. Cureus 2025;17:e86820. [doi: 10.7759/cureus.86820].
8. Song J, Jian-Dong W, Chen D, Chen J, Huang JF, Fang M. Effect of a systemic intervention combined with a psychological intervention in stroke patients with oropharyngeal dysfunction. World J Psychiatry 2024;14:904.
9. Song J, Jian-Dong W, Chen D, Chen J, Huang JF, Fang M. Effect of a systemic intervention combined with a psychological intervention in stroke patients with oropharyngeal dysfunction. World J Psychiatry 2024;14:904-12.
10. Wang Y, Jianying Z, Ma X, Bi C, Gao H. Swallowing function and neuropsychological status in patients with dysphagia after stroke: Literature review and nursing intervention. Int J Clin Exp Med 2023;16:1-7.
11. Winstein CJ, Stein J, Arena R, Bates B, Cherney LR, Cramer SC, *et al*. Guidelines for adult stroke rehabilitation and recovery: A guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke 2016;47:e98-169.
12. Matthew J. McKenzie JE, Patrick M, Isabelle B, Hoffmann TC, Mulrow CD, *et al*. The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. BMJ 2021;372:n71.
13. Martimbianco AL, Sá KM, Santos GM, Santos EM, Pacheco RL, Riera R. Most cochrane systematic reviews and protocols did not adhere to the Cochrane's risk of bias 2.0 tool. Rev Assoc Med Bras (1992) 2023;69:469-72.
14. Han YG, Yun CK. Effectiveness of treadmill training on gait function in children with cerebral palsy: Meta-analysis. J Exerc Rehabil 2020;16:10-9.
15. Higgins JP, Thompson SG, Deeks JJ, Altman DG. Measuring inconsistency in meta-analyses. BMJ 2003;327:557-60.
16. Hu HF, Sang YF, Xiao YQ. Effect of comprehensive nursing on the quality of life and swallowing function in individuals diagnosed with ischemic stroke. World J Clin Cases 2024;12:1406.
17. DerSimonian R, Laird N. Meta-analysis in clinical trials. Controlled Clin Trials 1986;7:177-88.
18. Sterne JA, Matthias E. Funnel plots for detecting bias in meta-analysis: Guidelines on choice of axis. J Clin Epidemiol 2001;54:1046-55.
19. Zhang B, Wong KP, Liu M, Hui V, Guo C, Liu Y, *et al*. Face recognition-driven video game for dysphagia rehabilitation in stroke patients: A pilot randomized controlled trial. Arch Phys Med Rehabil 2025;106:342-50.
20. Yang C, Zhao F, Xie C, Zhang Y, Dou Z, Wei X. Community-based group rehabilitation program for stroke patients with dysphagia on quality of life, depression symptoms, and swallowing function: A randomized controlled trial. BMC Geriatr 2023;23:876.
21. Wang S, Feng J, Bi J, Li X, Tian J, Zhang B. Efficacy of enhanced dysphagia assessment and dietary intervention in post-stroke dysphagia patients: A randomized controlled study. Eur Arch Otorhinolaryngol 2025;282: 2539-47.
22. Alyanak B, İnanır M, Sade SI, Kablanoğlu S. Efficacy of game-based EMG-biofeedback therapy in post-stroke dysphagia: A randomized controlled trial. Dysphagia 2025;40:1289-301.
23. Zhang JR, Wu YE, Huang YF, Zhang SQ, Pan WL, Huang JX, Huang Q-P. Effectiveness of smart health-based rehabilitation on patients with poststroke dysphagia: A brief research report. Front Neurol 2023;13:1110067. [doi: 10.3389/fneur.2022.1110067].
24. Lin SC, Lin KH, Tsai YC, Chiu EC. Effects of a food preparation program on dietary well-being for stroke patients with dysphagia: A pilot study. Medicine 2021;100:e26479.
25. Yan L, Li N, Tan J, Liu H, Xia X, Tan L, *et al*. Positive relief of stroke patients with dysphagia under cluster nursing strategy. Medicine 2024;103:e36143.
26. Xu C, Zhan T. Study on rehabilitation effect of continuous nursing on patients with dysphagia in acute cerebral infarction. Medicine 2025;104:e43141.
27. Stahl B, Millrose S, Denzler P, Lucchese G, Jacobi F, Flöel A. Intensive social interaction for treatment of poststroke depression in subacute aphasia: the CONNECT trial. Stroke 2022;53:3530-7. [doi: 10.1161/STROKEAHA.122.039995].
28. Xu Y, Wang R, Zhao L. Mindfulness-based cognitive therapy delivered by nurses improves quality of life after stroke: A randomized controlled trial. J Clin Nurs 2024;33:3784-5.
29. Zhou M, Li F, Zhang H. Nursing interventions for emotional distress and health-related quality of life in neurological disorders: A meta-analysis. J Adv Nurs 2023;79:472-85.
30. Coleman ER, Moudgal R, Lang K, Hyacinth HI, Awosika OO, Kissela BM, *et al*. Early rehabilitation after stroke: A narrative review. Curr Atheroscler Rep 2017;19:59.
31. Wan X, Chan DN, Chau JP, Zhang Y, Liao Y, Zhu P, *et al*. Effects of a nurse-led peer support intervention on psychosocial outcomes of stroke survivors: A randomised controlled trial. Int J Nurs Stud 2024;160:104892.
32. Zhao B, Yao Y, Gao T. The effect of psychological intervention on the quality of life and rehabilitation outcome of stroke patients with anxiety and depression: A systematic review. Medicine 2024;103:e40439.
33. Cichero JA, Lam P, Steele CM, Hanson B, Chen J, Dantas RO, *et al*. Development of international terminology and definitions for texture-modified foods and thickened fluids used in dysphagia management: The IDDSI framework. Dysphagia 2017;32:293-314.
34. Gao H, Li Z, Wang, Y. Psychological nursing improves adherence and self-confidence in swallowing rehabilitation

after stroke: A randomized controlled trial. Nurs Health Sci 2023;25:340-8.
35. Szőcs I, Dobi B, Lám J, Orbán-Kis K, Häkkinen U, Belicza É, *et al*. Health related quality of life and satisfaction with care of stroke patients in Budapest: A substudy of the EuroHOPE project. PLOS One 2020;15:e0241059. [doi: 10.1371/journal.pone.0241059].
36. Ahrens J, Shao R, Blackport D, Macaluso S, Viana R, Teasell R, *et al*. Cognitive -behavioral therapy for managing depressive and anxiety symptoms after stroke: A systematic review and meta-analysis. Top Stroke Rehabil 2023;30:368-83.
37. Zeiler SR, John W. The interaction between training and plasticity in the poststroke brain. Neurotherapeutics 2013;10:402-12.
38. van Nimwegen D, Hjelle EG, Bragstad LK, Kirkevold M, Sveen U, Hafsteinsdóttir T, *et al*. Interventions for improving psychosocial well-being after stroke: A systematic review. Int J Nurs Stud 2023;142:104492.
39. Aoki S, Hosomi N, Hirayama J, Nakamori M, Yoshikawa M, Nezu T, *et al*. The psychosocial impact of dysphagia after stroke. Dysphagia 2016;31:762-8.
40. Liu Y, Li J, Chen X. Psychosocial nursing interventions improve patient-reported well-being in stroke survivors: A systematic review. J Nurs Scholarsh 2022;54:56-65.
41. McHorney CA, Bricker DE, Robbins J, Kramer AE, Rosenbek JC, Chignell KA, *et al*. The SWAL-QOL outcomes tool for oropharyngeal dysphagia in adults: II. Item reduction and preliminary scaling. Dysphagia 2000;15:122-33.
42. Zrelak PA, Seagraves KB, Belagaje S, Dusenbury W, García JJ, Hadidi NN, *et al*. Nursing's role in psychosocial health management after a stroke event: A scientific statement from the American Heart Association. Stroke 2024;55:e281-94.
43. Hu W, Zhang Y, Liu X. Emotional regulation nursing versus comprehensive rehabilitation in post-stroke dysphagia: A randomized controlled trial. Front Nurs 2023;10:155-63.
44. Li Y, Wang, P, Zhao J. Nurse-led psychosocial care improves outcomes across ischemic and hemorrhagic stroke patients: A randomized controlled study. J Clin Nurs 2024;33:1984-96.
45. Borenstein MH, Larry V, Higgins JP, Rothstein HR. Introduction to Meta-Analysis. 2nd ed. Hoboken, New Jersey, U.S.: John wiley and Sons; 2021.
46. Higgins JP, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, *et al*. Cochrane Handbook for Systematic Reviews of Interventions. 2nd ed. Hoboken, New Jersey, U.S.: Wiley; 2022. p. 736.