

Dysphagia and nutritional risk in old adults in nursing homes and rehabilitation units

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Conclusion: Five intervention studies in older adults with dysphagia were identified. Evidence for the effect of interventions is scarce, but indicates beneficial effects on nutritional status. However, pre-post designs, limited sample size and few studies hinder firm conclusions regarding the effectiveness of the interventions.

Rationale

Dysphagia in older residents in nursing homes and rehabilitation units is common and associated with malnutrition. The aim of this narrative review was to identify intervention studies on dysphagia, and to see whether interventions had effect on nutritional status.

Methods

We performed a systematic literature search in EMBASE, MEDLINE and CINAHL from 2012 - Feb17th 2022. Inclusion criteria is given in Table 1. Exclusion criteria were palliative care, bariatric surgery and cancer. The data extraction was carried out by two independent reviewers (EH, KIF) using the software Covidence. Disagreement in the selection were resolved by discussion.

Table 1: Inclusion criteria for the literature review

Population	Patients ≥65 years in nursing homes or rehabilitation
Exposure	Dysphagia
Comparison	Control group or pre-post test
Outcome	Nutritional status
Type of studies	Original articles/journal articles

Table 2: Overview of studies included in the literature review

Study	Method	Patient characteristics & setting	Intervention	Main results
Wakabayashi H et al, 2018	Cluster randomized controlled trial	91 community-dwelling individuals ≥65 years with dysphagia receiving day-service/day care (Japan)	Resistance training of swallowing muscles 3 times/week in 3 months	Resistance training did not improve dysphagia. Nutritional status correlated with improved swallowing function.
Chen ML et al, 2021	Quasi-experimental design with multiple time series	34 nursing home residents ≥65 years (Taiwan)	Intervention program combining interactive oral activities, tongue strength training and oral cleaning procedure	↑ Tongue strength, food consumption, improved oral health ↓ Mealtime duration, dysphagia severity
Chen LL et al, 2015	Prospective cohort study (pre-post-interv.)	30 nursing home residents ≥60 years with Alzheimer's disease with dysphagia (China)	3 months feeding intervention focused on the dining environment, interactions between nursing staff and residents and feeding strategies	↑ Nutritional status, food intake, AC, albumin, eating and swallowing ability, eating compliance
Zanini M et al, 2017	Pre-post study with time-series	479 nursing home residents ≥65 years with dysphagia (Italy)	6 months food programme with personalised levels of texture-modification	↑ BMI, BW, MNA score, total protein, albumin
Rondanelli M et al, 2021	Quasi-experimental pre-post study	50 old, female residents with dysphagia Long-term care facility (Italy)	12 wks tailored texture-modified soups-cooking meals	↑ Food intake, meal appreciation, MNA score, BMI, CC, AC, albumin, micronutrients

BMI=Body mass index, BW=Body weight, MNA=Mini Nutritional Assessment, CC=Calf circumference, AC=Arm circumference

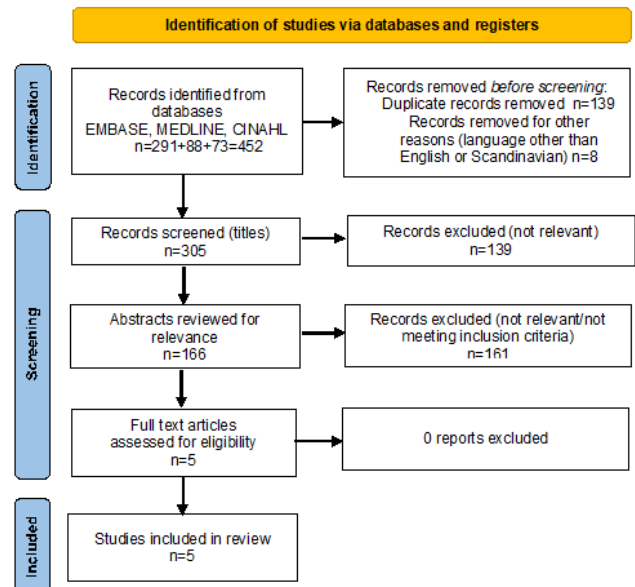


Figure 1: PRISMA flow chart for the inclusion and exclusion of studies

Results

166 abstracts were assessed and five full text articles were included for analysis; one cluster randomized controlled trial and four pre-post test studies. The five studies identified suggest that texture modification (n=2), training of muscles involved in swallowing (n=2) and feeding strategies (n=1) are beneficial for nutritional status; e.g. improved swallowing function, increased food intake, increased body weight.