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Subjective dysphagia in older care home residents: A cross-sectional, multi-centre point prevalence measurement

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ABSTRACT

Background: Dysphagia has been found to be strongly associated with aspiration pneumonia in frail older people. Aspiration pneumonia is causing high hospitalization rates, morbidity, and often death. Better insight in the prevalence of (subjective) dysphagia in frail older people may improve its early recognition and treatment.
Objective: First, to assess the prevalence of subjective dysphagia in care home residents in the Netherlands. Second, to assess the associations of subjective dysphagia with potential risk factors of dysphagia.
Design: Retrospective data-analysis of a cross-sectional, multi-centre point prevalence measurement.
Setting: 119 care homes in the Netherlands.
Participants: Data of 8119 care home residents aged 65 years or older were included and analyzed.
Methods: Subjective dysphagia was assessed by a resident's response to a dichotomous question with regard to experiencing swallowing problems. If a resident was not able to respond (e.g. residents with dementia or aphasia), the question was answered by the ward care provider, or the resident's file was consulted for registered swallowing complaints and/or dysphagia. Several residents' data were collected: gender, age, (number of) diseases, the presence of malnutrition, the Care Dependency Scale score, and the body mass index.
Results: Subjective dysphagia was found in 751 (9%) residents. A final model for subjective dysphagia after multivariate backward stepwise regression analysis revealed eight significant variables: age (B −0.022), Care Dependency Scale score (B −0.985), 'malnutrition' (OR 1.58; 95% CI 1.31–1.90), 'comorbidity' (OR 1.07; 95% CI 1.01–1.14), and the disease clusters 'dementia' (OR 0.55; 95% CI 0.45–0.66), 'nervous system disorder' (OR 1.55; 95% CI 1.20–1.99), 'cardiovascular disease' (OR 0.81; 95% CI 0.67–0.99) and 'cerebrovascular disease/hemiparesis' (OR 1.74; 95% CI 1.45–2.10).

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Conclusion: It seems justified to conclude that subjective dysphagia is a relevant care problem in older care home residents in the Netherlands. Care Dependency Scale score, 'malnutrition', and the disease clusters 'dementia', 'nervous system disorder', and 'cerebrovascular disease/hemiparesis' were associated with the presence of subjective dysphagia in this study. Age, 'comorbidity' and 'cardiovascular disease' showed very small influence.

What is already known about the topic?

- Dysphagia has been found to be strongly associated with aspiration pneumonia in frail older people.
- The literature reveals limited evidence for an association of dysphagia with increasing age, diminished functional status, malnutrition, comorbidity, psychological disorders, nervous system disorders, and cerebrovascular disease.

What this paper adds

- 9% of a care home population in the Netherlands, consisting of 8119 residents aged 65 years or older, showed subjective dysphagia.
- Care Dependency Scale score, 'malnutrition', and the disease clusters 'dementia', 'nervous system disorder', and 'cerebrovascular disease/hemiparesis' were associated with the presence of subjective dysphagia in this study. Age, 'comorbidity' and 'cardiovascular disease' showed very small influence.
- The clinical significance of an early recognition of (subjective) dysphagia in care home residents deserves not only more attention in daily nursing care but also scientific attention.

1. Introduction and background

In a systematic review with homogeneity of cohort studies, dysphagia has been found to be strongly associated with aspiration pneumonia in frail older people (van der Maarel-Wierink et al., 2011). Aspiration pneumonia, an inflammatory condition of lung parenchyma usually initiated by the introduction of bacteria into the lung alveoli, is causing high hospitalization rates, morbidity, and often death in frail older people (Welte et al., 2012). Therefore, risk factors of aspiration pneumonia, such as dysphagia, should be prevented in frail older people whenever possible. Dysphagia, or swallowing impairment, has been described as a symptom which refers to difficulty or discomfort during the progression of the alimentary bolus from the oral cavity to the stomach (Rofes et al., 2011).

Actual prevalence or incidence figures of dysphagia in frail older people in the community as well as in care homes are hardly available. The literature reveals limited evidence for an association of dysphagia with increasing age, diminished functional status, malnutrition, comorbidity, psychological disorders, nervous system disorders, and cerebrovascular disease.

A prospective cohort study assessed the prevalence of dysphagia in 134 older people hospitalized because of pneumonia. Of these 134 pneumonia patients, 55% presented clinical signs of dysphagia with the water swallow test. Patients with objective dysphagia were older, showed lower functional status, and higher prevalences of malnutrition and comorbidities when compared to non-dysphagia patients (Cabre et al., 2010). Reduced respiratory muscle strength as well as protein-energy malnutrition might play a role in the development of dysphagia in malnourished patients (Hudson et al., 2000). Horner et al. (1994) reported oropharyngeal swallowing abnormalities, including aspiration, being more prevalent in patients with Alzheimer's disease than in healthy older people. Furthermore, they observed a higher incidence of aspiration in patients with more severe dementia. Wada et al. (2001) also found that compared to patients with mild or moderate dementia, the mean latency of the swallowing reflex was significantly longer in patient with severe dementia.

The use of antipsychotics can impair the swallowing function. The results of a case–control study including patients who used antipsychotic drugs and had a videofluoroscopic swallowing test during the course of their hospital care, showed that patients using antipsychotic medications scored significantly worse on the Dysphagia Severity Rating Scale when compared to matched subjects. Higher doses of antipsychotic medication were associated with worse swallowing function (Rudolph et al., 2008). The swallowing function has a multiregional and asymmetrical cerebral representation in caudal sensorimotor and lateral premotor cortex, insula, temporopolar cortex, amygdale, and cerebellum, which may be damaged by a nervous system disorder or cerebrovascular accident (Hamdy et al., 1999). A recently published meta-analysis of the prevalence of dysphagia in Parkinson's disease, not specifically older patients, showed that subjective dysphagia occurs in one third of community-dwelling Parkinson's disease patients. Objectively measured dysphagia rates were much higher, with 4 out of 5 patients being affected (Kalf et al., 2012). In cerebrovascular disease patients divergent prevalences of dysphagia were reported: 20–50% (Falsetti et al., 2009; Mann et al., 1999; Paciaroni et al., 2004; Remesso et al., 2011).

Each year, many care homes in The Netherlands participate in the Dutch National Prevalence Survey of Care Problems (known as LPZ) with the purpose to create awareness of care problems and improve the quality of care. Since 2009, subjective dysphagia has been registered as a subdivision of the care problem malnutrition. Better insight in the prevalence of (subjective) dysphagia in frail older people may improve its early recognition and treatment.

The objectives of this survey were to assess the prevalence of subjective dysphagia in care home residents