



# The Nature of Oropharyngeal Dysphagia in the Five Most Common Subtypes of Dementia: A Systematic Review

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## BACKGROUND

The incidence of dementia is set to increase exponentially over the next number of years (Prince, Knapp et al. 2014). Secondary to this illness, many individuals develop oropharyngeal dysphagia (OD). As people with dementia represent a large proportion of the multidisciplinary team (MDT) caseload, there is a clear clinical need for clinicians working in the area, to have access to the specific indicators of OD to support effective and appropriate identification, assessment and management of OD in this growing population. Whilst it is acknowledged that dysphagia varies according to the subtype of dementia, published literature to date fails to acknowledge the variation in OD within each subtype. Once the nature of OD in dementia has been identified, it can inform future research by allowing interventions for this client group to be tested more specifically.

## STUDY AIM

The aim of this study is to examine the nature and characteristics of dysphagia associated with the 5 most common types of dementia.

## METHODS

A systematic review was the chosen methodology. Nine electronic databases were searched from inception to April 2018. Papers that were potentially relevant were subject to a full-text review. All published and unpublished studies were eligible for inclusion with no limitation on date. Participants were adults of any gender or race and based in any setting. They were required to have a confirmed (or probable) diagnosis of one of the five most common subtypes of dementia. Participants were required to have a diagnosis of OD as identified by non-instrumental and instrumental methods of assessment. Participants with subtypes of dementia that typically occur as a consequence of other neurological conditions or those who were identified as having comorbidities deemed relevant to OD were excluded.

Articles deemed to be eligible for inclusion in this review were analysed. Data was extracted from these studies using a specifically designed electronic data extraction tool devised by the author. This tool was piloted on a representative sample of 20% of eligible studies and refined accordingly. This was subsequently applied to the remainder of the studies. A modified version of Khan et al's (2001) criteria for assessing methodological quality of included studies was selected.

## RESULTS

Six studies met the criteria for inclusion in this study, and were subsequently analysed. The number of papers that specifically addressed each subtype were as follows: AD (n=2), VaD (n=1), FTD (n=2) DLB (n=1) and MD (n=0). The nature of OD in each subtype of dementia varied. Individuals with AD display prolonged oral transit duration for solids and liquids. Those with OD in VaD had more difficulties with bolus formation and increased incidences of silent aspiration. Those with DLB had increased difficulties swallowing both solids and liquids. Those with FTD displayed increased premature spillage of the bolus and changes in food preference (Figure 2). The methodological quality of the studies was moderate.

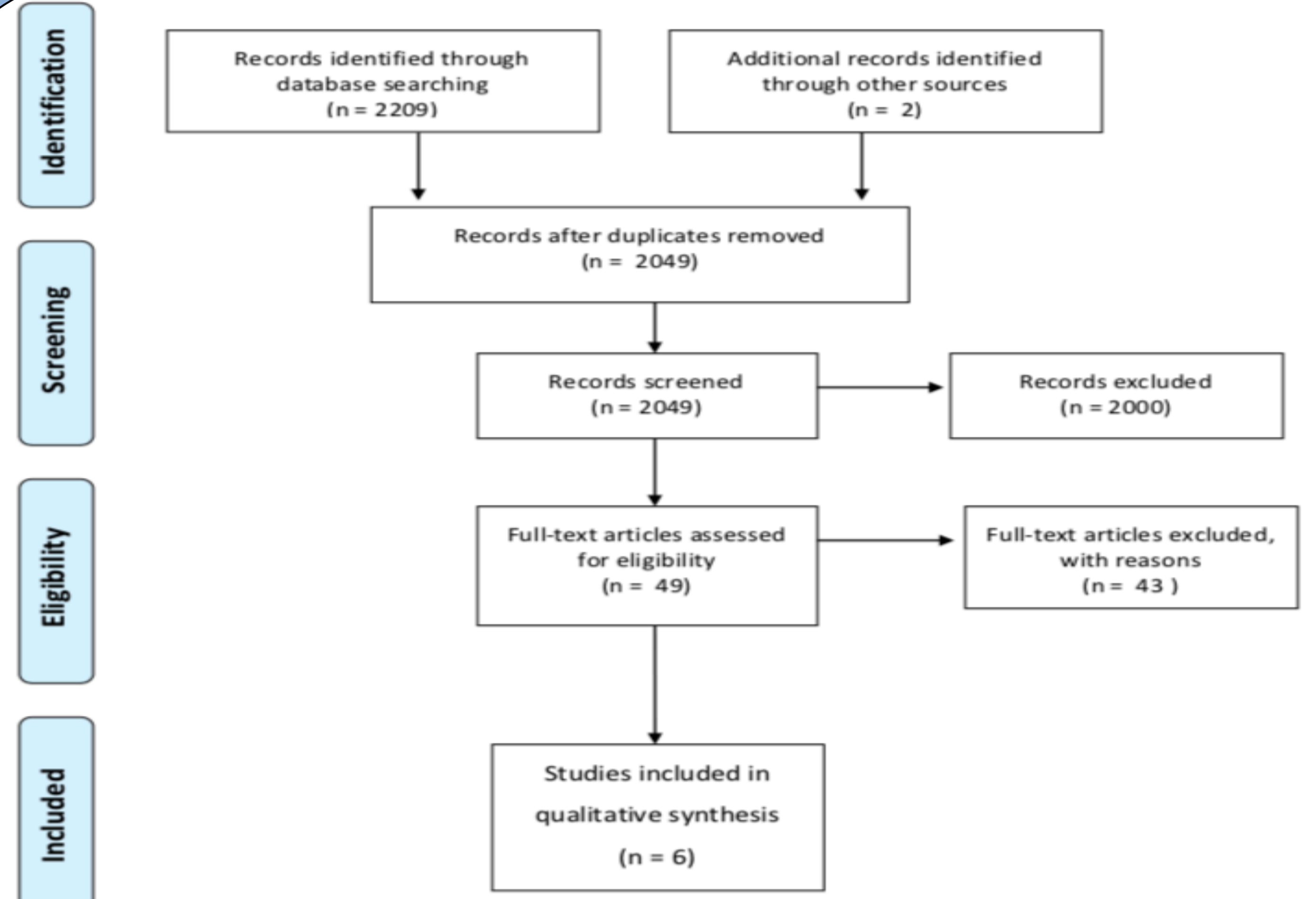


Figure 2. Nature of OD in each subtype of dementia

AD	VaD	DLB	FTD
<ul style="list-style-type: none"> <li>Increased oral transit time</li> <li>Increased number of swallows</li> <li>Increased total swallow duration</li> <li>Pocketing of food</li> <li>Increased likelihood of oral residue</li> <li>Changes in food preference</li> <li>Changes in eating habits</li> </ul>	<ul style="list-style-type: none"> <li>Difficulty forming and masticating a bolus</li> <li>Impaired hyolaryngeal excursion</li> <li>Impaired epiglottic inversion</li> <li>Increased likelihood of aspiration (particularly silent)</li> </ul>	<ul style="list-style-type: none"> <li>Difficulty swallowing food and liquid</li> <li>Coughing or choking when swallowing</li> <li>Difficulties swallowing promptly</li> </ul>	<ul style="list-style-type: none"> <li>Premature spillage of the bolus into the pharynx prior to the swallow</li> <li>pharyngeal residue</li> <li>Incomplete bolus clearance from the pharynx</li> <li>changes in food preference</li> <li>changes in appetite (mainly increased)</li> <li>Display other oral behaviours (cramming, eating compulsively/rapidly)</li> <li>Eating inedible substances</li> <li>Stereotypic eating behaviours (same foods, same times etc.)</li> </ul>

## DISCUSSION AND CONCLUSIONS

Only 6 studies were eligible for inclusion in this review. This suggests that more research is required to identify the differing characteristics of OD, within each subtype of dementia, so we can ensure our treatment and management of the patient's difficulties is as appropriate and effective as possible. There is a need for interventions to be tailored more specifically to people with different types of dementia and clinical management of individuals with OD in dementia should not be a 'one size fits all' approach. If interventions and treatment approaches are based on the presenting difficulties identified in each individual subtype of dementia, it can facilitate movement toward more specific interventions for each individual with OD in each individual subtype of dementia, moving away from the 'blanket' treatment approach currently utilised in the area. Future studies in the area should consider the subtype of dementia as interventions will act differently according to the subtype of dementia.

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