Table S1 Factors Included in the Conceptual Model and Selected Supporting Studies.

	Factor	Studies	Study Design	Brief Summary of Evidence
Risk Factors	Age (Individual)	Garand et al., 2022 [1]	Cross-sectional	Aimed to quantify the impact of aging on swallowing physiology in healthy adults. The sample included 195 participants (109 females, 86 males) with a mean age of 47 ± 17.4 years. Worse function as measured by a higher score on the MBSImP was observed for: Tongue Control during Bolus Hold, Hyolaryngeal Movement, Laryngeal Closure, Pharyngeal Contraction, and Pharyngoesophageal Segment Opening. Total Oral Impairment and Total Pharyngeal Impairment scores for 40-59-year-olds were worse than the youngest group. Adults 60+ years had significantly worse Total Pharyngeal Impairment scores among all groups.
		Mancopes et al., 2021 [2]	Quasi-experimental	Aimed to identify parameters that display systematic changes across the adult age continuum, thereby pointing to changes that should be expected in presbyphagia. Thirty-eight healthy older adults (aged 60-plus, range 61-82 years) underwent videofluoroscopy and the results were compared with reference data from a group of adults under the age of 60 years. Longer swallow reaction time, upper esophageal sphincter (UES) opening duration and laryngeal vestibular closure duration; larger pharyngeal area at rest and maximum constriction; and wider UES diameter were identified as age-related changes to swallowing.
		Jardine et al., 2018 [3]	Systematic review	Aimed to critically appraise studies that have investigated swallowing changes in healthy adults over 85 years old using instrumental assessment. Forty-four studies were included in the analysis. Increased delay of swallow onset, bolus transit times, duration of upper esophageal sphincter (UES) opening, pressure above the UES, and UES relaxation pressure, as well as reduced pressure at the UES were identified as age-related changes. Hyoid and laryngeal timing and displacement measures

			were inconclusive. Few studies detected airway compromise in the form of increased aspiration or residue in healthy older adults.
Sex (Individual)	Namasivayam-MacDonald et al., 2023 [4]	Prospective cohort	The objectives were to: (1) determine the prevalence of swallowing difficulties in Canadian adults; (2) determine the incidence of swallowing difficulties in Canadian adults; and (3) identify the independent predictors of incidence of swallowing difficulties in Canadian adults**.** In a sample of 3645 individuals 45 years of age and older, females were 20% more likely to report swallowing difficulties as compared to males.
	Hollinghurst & Smithard, 2022 [5]	Prospective cohort	Aimed to use health database information to explore associations between dysphagia and age, gender, frailty, and deprivation. Deprivation was defined and measured using an area-based measure of socio-economic status. In the univariate analysis, males had a decreased odds of dysphagia but increased odds in the multivariate analysis.
	Nagai et al., 2022 [6]	Retrospective cohort	Aimed to examine differences in the recovery of swallowing function and activities of daily living in patients with sarcopenic dysphagia and those with non-sarcopenic dysphagia. Sarcopenic dysphagia occurred significantly more frequently in women and was associated with a higher rate of malnutrition.
Ethnicity and Race (Individual)	Namasivayam-MacDonald et al., 2023 [4]	Prospective cohort	The objectives of the study were to: (1) determine the prevalence of swallowing difficulties in Canadian adults; (2) determine the incidence of swallowing difficulties in Canadian adults; and (3) identify the independent predictors of incidence of swallowing difficulties in Canadian adults**.** In a sample of 3645 individuals 45 years of age and older, white race was associated with a decreased risk of self-reported dysphagia.
	Bartlett & Thibeault, 2018 [7]	Review of administrative data sets and patient registries	The objective was to summarize key findings, etiologies studied, data sources used, study objectives, and quality of evidence of all original research articles that have investigated oropharyngeal dysphagia or aspiration pneumonia using administrative or clinical registry data to date.

			Eighty-four studies were included in the review. Higher risks of dysphagia following stroke and cervical spinal surgery was observed for Asian and African American people as compared to White people. Aspiration pneumonia is also more common in Asian people as compared to White people. Finally, gastrostomy tube insertion rates after stroke are much higher in African American people as compared to White people.
Education (Individual)	Lim et al., 2018 [8]	Cross-sectional	Aimed to determine the impact of socio-demographic factors on dysphagia from a sample of 568 community-dwelling older adults. Low levels of education were associated with dysphagia.
Socioeconomic Status (Individual)	Zheng et al., 2023 [9]	Cross-sectional	The objective was to assess sociodemographic differences in the prevalence of self-reported dysphagia and treatment and to identify barriers in access to care using data from the 2012 National Health Interview Survey. Income was associated with self-reported dysphagia.
	Hollinghurst & Smithard, 2022 [5]	Prospective cohort	Aimed to use health database information to explore associations between dysphagia and age, gender, frailty, and deprivation. Deprivation was defined and measured using an area-based measure of socio-economic status. Results suggest an association between dysphagia and deprivation, with people living in most deprived areas compared to the least deprived areas having increased risk of dysphagia.
	Adkins et al., 2020 [10]	Cross-sectional	Aimed to determine the prevalence of dysphagia using a population-based survey. Results indicate that as many as 1 in 6 adults have reported difficulty swallowing, however, only 51.1% of individuals sought care. Having insurance is associated with increased odds for seeking care for dysphagia.
	Lim et al., 2018 [8]	Cross-sectional	The objective was to determine dysphagia risk among community-dwelling older adults. Dysphagia risk was assessed using a questionnaire. Results indicated that the proportion of subjects who reported “poor”

			economic status was significantly higher in the dysphagia group as compared to those in the in the non-dysphagia group.
	Faigle et al., 2016 [11]	Retrospective cohort	Aimed to determine whether percutaneous endoscopic gastrostomy (PEG) tube placement decisions after intracerebral hemorrhage differ by race, level, of income, and/or insurance status. Results indicated that being a visible minority, being enrolled in Medicaid, and having a low household income are associated with increased placement of a PEG tube.
Residence (Community)	Zheng et al., 2023 [9]	Cross-sectional	The objective was to assess sociodemographic differences in the prevalence of self-reported dysphagia and treatment and to identify barriers in access to care using data from the 2012 National Health Interview Survey. Issues with transportation to appointments was identified as barrier to receiving care for swallowing problems.
	Jones et al., 2023 [12]	Cross-sectional	An analysis of the National Health and Aging Trends Study revealed that, those who self-reported dysphagia were significantly more likely to be homebound as compared to those who did not self-report dysphagia.
Oral Health Status (Individual)	Drancourt et al., 2022 [13]	Systematic review of observational studies	Aimed to investigate the association between dysphagia and oral health in older people and to create a list of oral health indicators for dental and health professionals to use in practice. Nineteen studies were included in the review. Evidence of dysphagia being associated with dental problems, xerostomia/hyposalivation, and oral motor skill impairment was identified. The overall conclusion is that oral health and dysphagia are associated but it is not currently possible to determine causality based on the available evidence.
	Rech et al., 2022 [14]	Systematic review and meta-analysis of observational studies	Aimed to evaluate the frequency and associated factors with swallowing impairment in community-dwelling older persons. Forty-one studies were included, and a significant association was observed between swallowing impairment and several factors associated with oral health including dry

			mouth, impaired oral function measured using an articulatory test (DDKs), reduced maximum tongue pressure, missing teeth, reduced maximum occlusal force and dentures.
Frailty (Individual)	Namasivayam-MacDonald et al., 2023 [4]	Prospective cohort	The objectives were to: (1) determine the prevalence of swallowing difficulties in Canadian adults; (2) determine the incidence of swallowing difficulties in Canadian adults; and (3) identify the independent predictors of incidence of swallowing difficulties in Canadian adults**.** In a sample of 3645 individuals 45 years of age and older, frailty was found to be an independent predictor of self-reported swallowing difficulty.
	Yang et al., 2022 [15]	Systematic review and meta-analysis of observational studies	The objective was to examine the associations between dysphagia and frailty or prefrailty in community-dwelling, facility-dwelling, or hospitalized adults aged 50 years. Twelve studies were included in the review. Results revealed that the presence of dysphagia was significantly associated with greater odds of frailty. Evidence from one longitudinal study also suggested that dysphagia increases the risk of frailty.
	Sakai et al., 2022 [16]	Systematic review and meta-analysis of observational studies	Aimed to explore the associations of oral function and dysphagia with frailty and sarcopenia in community-dwelling adults. Seven studies that assessed the association between dysphagia and frailty were included in the review. Overall, the odds ratio for dysphagia was higher in individuals with frailty than in those without frailty.
Prescription Medications (Individual)	Robison et al., 2023 [17]	Retrospective cohort	The objective was to examine whether acute antipsychotic administration was associated with dysphagia in veterans hospitalized with heart failure. Results indicated that acute antipsychotic exposure was associated with nearly double the risk for experiencing dysphagia.
	Miarons et al., 2019 [18]	Systematic review of case reports	The objective was to explore the relationship between antipsychotic use and occurrence of swallowing problems from published case reports. Thirty-six case reports were included in the review. Case reports included adults (18-89 years of age) with psychiatric disorders. Dysphagia was

			thought to be related to several typical and atypical antipsychotics. Onset of dysphagia after initiation of drug use was variable and ranged from a few days to three months.
	Crouse et al., 2017 [19]	Case report and narrative review	The case report is of a patient with a history of schizophrenia presenting with dysphagia after initiating olanzapine. The review highlighted evidence that dysphagia has been associated with first- and second-generation antipsychotics.
	Langmore et al., 1998 [20]	Prospective cohort	The objectives were to explore risk factors and their contribution to the development of aspiration pneumonia in older patients. Increased number of medications was identified as a risk factor for the development of aspiration pneumonia.
Cognition (Individual)	Maniaci et al., 2022 [21]	Retrospective cohort	Aimed to explore the relationship between cognitive impairment and oropharyngeal dysphagia in older adults. Results indicated that the older adults with cognitive impairment had a significantly higher rate of swallowing disorders as compared to the control participants without cognitive impairment.
	Han et al., 2020 [22]	Prospective cohort	Aimed to explore associations between numbers of functional teeth and functional occlusal units with cognitive impairment and cognitive function in older adults. The sample included 411 older adults and the results indicated that greater number of functional teeth and greater number of functional occlusal units were associated with lower odds of cognitive impairment.
	Yatabe et al., 2018 [23]	Cross-sectional	The objective was to examine the association between cognitive function and dysphagia risk among dentulous and edentulous older nursing home residents. Impaired cognitive function was significantly associated with increased risk of dysphagia in both the dentulous group and the edentulous group.

	Jo et al., 2017 [24]	Retrospective cohort	The objective was to analyze the characteristics of cognitive deficits in patients with subacute post-stroke dysphagia and to investigate the relationships between cognitive deficits and the severity of dysphagia. Dysphagia was assessed using videofluoroscopy. Those who did not have dysphagia performed better on all cognitive tests as compared to those who had dysphagia. The scores of several cognitive tests were found to be significantly correlated with dysphagia severity.
	Yang et al., 2014 [25]	Prospective cohort	Aimed to investigate the relationship between dysphagia and mild cognitive impairment (MCI) in older adults residing in an independent-living facility in Korea. The sample included 415 participants. Results indicated that dysphagia was significantly associated with nonamenstic MCI in men.
Nutritional Status (Individual)	Leira et al., 2023 [26]	Systematic review of observational studies	Aimed to identify and study the relationship between dysphagia and a series of multidimensional health-related risk factors in older people living in long-term care. Twenty-nine studies were included in the review. Nutritional risk factors associated with dysphagia were identified, including low BMI.
	Fávaro-Moreira et al., 2016 [27]	Systematic review of cohort studies	The objective was to identify risk factors for malnutrition in older adults. Six studies were included in the analysis. Dysphagia was identified as a significant risk factor for malnutrition.
Physical Activity (Individual)	Maehara et al., 2023 [28]	Cross-sectional	Aimed to explore the association of daily physical activity and leisure-time exercise with the risk of dysphagia in community-dwelling Japanese older adults. Dysphagia risk was evaluated with a questionnaire. No association between daily physical activity and dysphagia risk was identified in community-dwelling older adults, however, a greater amount of leisure-time exercise was associated with lower dysphagia risk and individuals in the highest leisure-time exercise quartile had a significantly lower odds ratio as compared to those with the lowest leisure-time exercise.

	Maeda & Akagi, 2016 [29]	Cross-sectional	Aimed to determine the prevalence of dysphagia in patients with sarcopenia and explore sarcopenia as a potential risk factor for dysphagia in older Japanese adults. Results of a multivariate analysis revealed that degree of independence for activities of daily living, reduced skeletal muscle, and presence of sarcopenia were significant independent predictors for dysphagia.
Sensory Perception (Individual)	Seiberling and Conley, 2004 [30]	Narrative review	Narrative review of the literature pertaining to changes in olfaction and taste with aging.
Sleep (Individual)	Christova et al., 2018 [31]	Narrative review	There is emerging evidence supporting the importance of sleep to improve/support motor learning.
Smoking (Individual)	Dua et al., 2002 [32]	Case-control	Aimed to explore the effect of smoking on the pharyngoglottal closure reflex in 10 chronic smokers compared with 10 healthy non-smokers. Smoking was found to adversely impact the pharyngoglottal closure reflex which could increase the risk of aspiration.
	Langmore et al., 1998 [20]	Prospective cohort	The objectives of the study were to explore risk factors and their contribution to the development of aspiration pneumonia in older patients. Smoking was identified as a risk factor for the development of aspiration pneumonia.
Requiring Help to Eat (Relationship)	Ninfa et al., 2021 [33]	Scoping review of primarily qualitative studies	Aimed to explore and map the literature investigating care needs of adults with dysphagia and their informal caregivers. Fifteen studies were included in the review. Overall, patients and caregivers reported a variety of care needs. Needs related to the practical assistance during meals was frequently reported, including providing assistance with eating as well as reminding the patient to use behavioural strategies during the meal.
	Langmore et al., 1998 [20]	Prospective cohort	The objectives of the study were to explore risk factors and their contribution to the development of aspiration pneumonia in older patients. Being dependent on another to assist with eating was identified as a risk factor for the development of aspiration pneumonia.

Respiratory Diseases and Conditions (Individual)	Mancopes et al., 2020 [34]	Case-control	Prospective study of 28 individuals with Chronic Obstructive Pulmonary Disease (COPD) using instrumental evaluation of swallowing. Participants with COPD demonstrated incomplete laryngeal vestibule closure (LVC), longer time-to-LVC, and shorter LVC duration, reduced duration of upper esophageal sphincter opening, reduced pharyngeal constriction, and pharyngeal residue more frequently as compared to the control group reference data, however the participants with COPD did not display greater frequencies of penetration-aspiration when compared to the control group reference data.
	Ghannouchi et al., 2016 [35]	Systematic review	Aimed to explore the effects of any chronic respiratory disease on the oral and pharyngeal phases of swallowing function. Twenty-six studies were included in the descriptive analysis. All studies included participants with COPD or Obstructive Sleep Apnea (OSA). Despite heterogeneity being identified across all included studies, almost all of the included studies showed a relationship between patients having dysphagia and concomitant COPD or OSA.
	Cabre et al., 2010 [36]	Prospective cohort	Aimed to assess the prevalence and the prognostic significance of dysphagia among older patients with pneumonia. One-hundred thirty-four patients with pneumonia were included in the study. Fifty-five percent of the patients had clinical signs of dysphagia. Those with dysphagia tended to be older, showed lower functional status, higher prevalence of malnutrition and comorbidities and higher pneumonia severity scores. Those with dysphagia also had a higher mortality at 30 days and at 1 year of follow-up.
Neurogenic Diseases and Conditions (Individual)	Makhnevich et al., 2022 [37]	Retrospective cohort	Aimed to explore factors (patient characteristics, care/hospital practices) and outcomes associated with dysphagia in hospitalized patients with dementia. In a sample of 8637 patients with dementia, 41.8% had

		dysphagia which was associated with invasive mechanical ventilation, delirium, increased length of stay, and mortality.
Mira et al., 2022 [38]	Systematic review of experimental and observational studies	Aimed to identify studies describing dysphagia in people with Alzheimer's disease (AD) and to determine the prevalence of dysphagia in people with AD. Twenty-six studies were included in the review. Dysphagia begins early in the disease process and severity increases in the later stages of AD.
Aghaz et al., 2018 [39]	Systematic review and meta-analysis of observational studies	Aimed to estimate the prevalence of dysphagia in those affected by multiple sclerosis. Twenty-two articles were included in the analysis. The prevalence of dysphagia was found to vary based on the method of diagnosis from 37.21% to 58.47%.
Takizawa et al., 2016 [40]	Systematic review of observational studies	Aimed to explore prevalence of dysphagia in people with stroke, Parkinson disease, Alzheimer disease, traumatic brain injury, and community acquired pneumonia. Dysphagia is a well-known consequence of stroke and incidence has been reported to be as high as 78% immediately post stroke. Prevalence of dysphagia in individuals with Parkinson disease was reported to be between 11 and 81%.
Guan et al., 2015 [41]	Systematic review and meta-analysis of observational studies	Aimed to establish the prevalence of dysphagia in multiple sclerosis. Fifteen studies were included in the analysis. Results indicate that dysphagia impacts up to 81% of individuals with multiple sclerosis, but significant heterogeneity exists across studies.
Affoo et al., 2013 [42]	Scoping review	Aimed to describe, synthesize, and interpret literature on dysphagia and autonomic nervous system dysfunction in Alzheimer's disease (AD) and to identify gaps in the existing literature. Ninety-five articles were included in the review, and 31 examined dysphagia in AD. Results indicated that the prevalence of dysphagia in moderate to severe AD is as high as 93%. Dysphagia occurs early in AD may be associated with functional changes

				in the cortical swallowing network. Dysphagia severity and AD severity may be associated.
		Alagiakrishan et al., 2013 [43]	Systematic review	Aimed to determine the patterns of swallowing deficits in different types of dementia and to look at the usefulness of different diagnostic and management strategies. Nineteen articles were included in the analysis. Prevalence of swallowing difficulties in patients with dementia ranged from 13 to 57%.
		Affoo et al., 2012 [44]	Case study	Delirium was associated with dysphagia in two case studies.
		Martino et al., 2005 [45]	Systematic review of observational studies	Aimed to report on the frequency of dysphagia in adults after stroke and estimate the accompanying increased risk for pneumonia. Twenty-four articles were included in the review. The reported incidence of dysphagia varied depending on the method used to identify dysphagia. Incidence was lowest using screening techniques (37% to 45%), higher using clinical testing (51% to 55%), and highest using instrumental testing (64% to 78%).
	Structural Diseases and Conditions (Individual)	Hutcheson et al., 2019 [46]	Prospective cohort	Aimed to explore the prevalence of dysphagia-related endpoints in HNC survivors at the population-level and compare prevalence by treatment modalities and site of disease. Results indicate that dysphagia impacts as many as 45% of people with head and neck cancer and can be caused by the tumor itself, or as a side effect of treatment
Outcomes	Reduced Oral Health (Individual)	Furuya et al., 2020 [47]	Cross-sectional	Study participants included 459 patients with dysphagia who underwent a comprehensive assessment of oral outcomes including tongue coating, oral dryness, plaque control, use of dentures, distribution of occlusal support, and swallowing. Multiple regression analysis showed significant associations between functional oral intake and consciousness level, activities of daily living, tongue coating, swallowing and posterior occlusal support.

	Ortega et al., 2014 [48]	Prospective cohort	Fifty older patients who were consecutively referred for swallowing evaluation were included in the study and underwent a variety of assessments including a videofluoroscopic swallowing assessment, an evaluation of periodontal disease, dental caries, oral hygiene status, and oral health habits. Findings highlight a high prevalence of patients with poor oral hygiene, edentulism, periodontitis, and caries. The prevalence of edentulism and caries was higher in patients with dysphagia as compared to those without.
Increased Chronic Lung Conditions (Individual)	Cvejic et al., 2021 [49]	Prospective cohort	Aimed to explore prandial aspiration in patients with COPD in a cohort of 151 patients. Aspiration was observed in 30 patients and 24/30 experienced an exacerbation. Patients with aspiration had more overall exacerbation events and severe exacerbation episodes. Severe exacerbation occurred in more patients with aspiration and with silent aspiration. Aspiration was related to a shorter exacerbation-free period during the 12-month follow-up period.
	Chaves et al., 2011 [50]	Case-control	The objective was to identify symptoms of dysphagia in individuals with COPD in 35 individuals with COPD compared with 35 control participants. Participants with COPD underwent a comprehensive assessment of COPD severity, sensation of dyspnea, BMI and symptoms of dysphagia. The participants with COPD presented with symptoms of dysphagia.
Increased Frailty (Individual)	Tanaka et al., 2018 [51]	Prospective cohort	Aimed to explore longitudinal relationships between oral status and physical frailty. Longitudinal analysis was completed with 1381 participants who underwent oral examinations and an assessment of physical frailty. Poor oral status as determined by the number of natural teeth, chewing ability, articulatory oral motor skill, tongue pressure, and subjective difficulties in eating and swallowing significantly predicted new onset physical frailty.

Increased Number of Medications (Individual)	Marengoni et al., 2011 [52]	Systematic review	Although not specific to dysphagia, this systematic review examined the existing evidence concerning occurrence, causes, and consequences of multimorbidity. Increased number of prescriptions was noted to be associated with multimorbidity.
Cognitive Decline (Individual)	Han et al., 2020 [22]	Cross-sectional	Aimed to investigate the relationship between mastication and cognitive function using data from the Korea Longitudinal Study on Aging. Mastication was assessed using a self-report measure and cognition was assessed using the Mini-Mental State Examination. Individuals with poorer masticatory function had a much higher odds of developing mild cognitive impairment as compared to those with good masticatory function.
	Weijenberg et al., 2011 [53]	Narrative review	Narrative review highlighting findings from human and animal studies that suggest a causal relationship between mastication and cognition.
Increased Malnutrition and Reduced BMI (Individual)	Leira et al., 2023 [26]	Systematic review of observational studies	Aimed to identify and study the relationship between dysphagia and a series of multidimensional health-related risk factors in older people living in long-term care. Twenty-nine studies were included in the review. Nutritional risk factors associated with dysphagia were identified, including low BMI.
	Fávaro-Moreira et al., 2016 [27]	Systematic review of cohort studies	The objective was to identify risk factors for malnutrition in older adults. Six studies were included in the analysis. Dysphagia was identified as a significant risk factor for malnutrition.
Reduced Physical Activity (Individual)	Papadopoulou et al., 2023 [54]	Cross-sectional	Aimed to explore the associations between nutritional status, health related quality of life, physical activity levels and sleep quality in Greek older adults. Although dysphagia was not a focus of this study, 3405 participants were included, and findings revealed that a better nutritional status was significantly and independently associated with higher physical activity levels.

Increased Risk of Hospitalization (Individual)	Watanabe et al., 2019 [55]	Prospective cohort	Authors conducted a secondary data analysis of data from the Observational Study of Nagoya Elderly with Home Medical. Data from 178 patients receiving home medical care were analyzed and dysphagia and aspiration were significantly associated with unplanned hospitalization.
Increased Length of Stay in Hospital (Individual)	Mittal et al., 2023 [56]	Retrospective cohort	The objective was to determine whether a diagnosis of dysphagia conferred a higher risk of complications in the elderly patients admitted for aspiration pneumonia using data from the National Inpatient Sample database. A total of 1,097,325 patients were admitted for aspiration pneumonia, of which 349,861 (24.2%) had dysphagia. Patients with dysphagia had a significantly higher likelihood of increased length of stay.
	Patel et al., 2018 [57]	Retrospective cohort	Authors conducted an exploration of annual and overall dysphagia prevalence, length of stay, hospital charges, inpatient care costs, discharge disposition, and in-hospital mortality using the National Inpatient Sample (2009-2013). Overall, 2.7 of 88 million (3.0%) adult US inpatients 45 years of age or older had a dysphagia diagnosis. Patients with dysphagia were hospitalized a mean 8.8 days (95% CI 8.66-8.90) compared with 5.0 days (95% CI 4.97-5.05) among those without dysphagia.
	Cohen et al., 2019 [58]	Retrospective cohort	Authors conducted a retrospective analysis of inpatient stays between 2014 and the first three quarters of 2015 using the National Inpatient Sample to examine the relationship between dysphagia and adverse health outcomes in frail patients. Dysphagia was associated with greater length of stay, higher total costs, increased non-routine discharges, and more medical complications among both frail and non-frail patients.
Increased Risk of Readmission to Hospital (Individual)	Cabré et al., 2014 [59]	Prospective cohort	Aimed to determine whether dysphagia is a risk factor for readmission with pneumonia in elderly patients from a geriatric unit. A cohort of 2359 patients were included, and dysphagia was found to be an independent predictor of readmission to hospital.

Increased Risk of Being Discharged to a Setting other than Home (Individual/Community)	Cohen et al., 2019 [58]	Retrospective cohort	Authors conducted a retrospective analysis of inpatient stays between 2014 and the first three quarters of 2015 using the National Inpatient Sample to examine the relationship between dysphagia and adverse health outcomes in frail patients. Dysphagia was associated with greater length of stay, higher total costs, increased non-routine discharges, and more medical complications among both frail and non-frail patients.
Increased Risk of Mortality (Individual)	Bosch et al., 2023 [60]	Retrospective cohort	The objective was to describe the prevalence of dysphagia in hospitalized patients, the factors related to higher risk of dysphagia and its association with aspiration pneumonia and mortality using the minimum data set. Dysphagia was identified in 2.4% of patients and found to be correlated with mortality, independent of age, sex, and the development of aspiration pneumonia.
	Nativ-Zeltzer et al., 2022 [61]	Retrospective cohort	Authors identified all individuals who underwent a videofluoroscopic swallow study between 2013 and 2015 and followed them historically for 2 years to identify risk factors for pneumonia incidence. They included 689 patients in their retrospective cohort aged 65 (±15.5) years. The incidence of death in this cohort was 11%.
Reduced Quality of Life (Individual)	Leiman et al., 2023 [62]	Cross-sectional	Aimed to assess the associations between dysphagia and psychosocial health among older adults with self-reported dysphagia using data from the National Health and Aging Trends study. A cohort of 4041 adults were included and 428 of these participants reported dysphagia symptoms. Dysphagia was associated with significantly increased odds of anxiety and a significantly decreased sense of well-being.
	Bendsen et al., 2022 [63]	Cross-sectional	The objective was to evaluate health-related quality of life in community dwelling adults with dysphagia. A sample of 90 participants were included in the study and they completed a variety of questionnaires including health related quality of life and dysphagia. Participants reported that dysphagia had a high impact on health-related quality of life.

	Jones et al., 2018 [64]	Systematic review	Aimed to identify and synthesize evidence on health-related quality of life and dysphagia. Thirty-five studies were included in the review. Inverse bi-directional relationships were identified between decreased health-related quality of life and increased dysphagia severity.
Reduced Life Satisfaction (Individual)	Kim et al., 2018 [65]	Cross-sectional	The objective was to determine the prevalence of dysphagia and related quality of life issues in a geriatric population residing in an independent-living facility. A sample of 120 participated in the study and filled out questionnaires related to dysphagia and quality of life. The overall prevalence of dysphagia was found to be 15% and 15.9% of the subjects reported moderate to profound inconveniences in daily routines as a result of dysphagia.
	Ekberg et al., 2002 [66]	Qualitative	A total of 360 patients with dysphagia underwent a qualitative interview. Eighty-four percent of patients felt that eating should be an enjoyable experience but only 45% actually found it so. Moreover, 41% of patients stated that they experienced anxiety or panic during mealtimes. Over one-third (36%) of patients reported that they avoided eating with others because of their dysphagia.
Increased Risk of Depression	Verdonschot et al., 2013 [67]	Prospective cohort	The objective was to determine the presence and severity of symptoms of anxiety and depression in outpatients with dysphagia. A total of 96 patients were included in the study and 37% (N = 34) of this population were found to experience clinically relevant symptoms of anxiety and 32.6% (N = 31) clinically relevant symptoms of depression.
Requiring Help to Prepare Meals (Relationship)	Ninfa et al., 2021 [33]	Scoping review of primarily qualitative studies	Aimed to explore and map the literature investigating care needs of adults with dysphagia and their informal caregivers. Fifteen studies were included in the review. Overall, patients and caregivers reported a variety of care needs. Needs related to meal management were frequently reported, including requiring additional time to plan and prepare meals

			and needing help to prepare food with adequate rheological and nutritional characteristics.
	Nund et al., 2014 [68]	Qualitative	Aimed to report the experiences of carers of people with dysphagia following nonsurgical treatment of head and neck cancer and it identify the support needs of this group. Participants engaged in semi-structured interviews. Over half of the participants commented on the impact of dysphagia on meal preparation and frequently reported that meal preparation required much more time, energy, and organization.
Requiring Help to Eat (Relationship)	Langmore et al., 1998 [20]	Prospective cohort	The objectives of the study were to explore risk factors and their contribution to the development of aspiration pneumonia in older patients. Smoking was identified as a risk factor for the development of aspiration pneumonia.
Reduced Social Participation (Relationship)	Jones et al., 2018 [64]	Systematic review	Aimed to identify and synthesize evidence on health-related quality of life and dysphagia. Thirty-five studies were included in the review. Inverse bi-directional relationships were identified between decreased health-related quality of life and increased dysphagia severity.
	Farri et al., 2007 [69]	Qualitative	The objective was to identify both the social consequences and the emotional implications associated with dysphagia in adults aged 40-80 years (50% over 60 years of age). Qualitative interviews were conducted with 73 patients. Many patients reported limited social relationships and a tendency to isolation.
Being Homebound (Individual)	Jones et al., 2023 [12]	Cross-sectional	An analysis of the National Health and Aging Trends Study revealed that, those who self-reported dysphagia were significantly more likely to be homebound as compared to those who did not self-report dysphagia.
Increased Costs Associated with Dysphagia (Society)	Jones et al., 2023 [12]	Cross-sectional	An analysis of the National Health and Aging Trends Study revealed that, those who self-reported dysphagia were significantly more likely to be homebound as compared to those who did not self-report dysphagia.

Patel et al., 2018 [57]	Retrospective cohort	Authors conducted an exploration of annual and overall dysphagia prevalence, length of stay, hospital charges, inpatient care costs, discharge disposition, and in-hospital mortality using the National Inpatient Sample (2009-2013). Overall, 2.7 of 88 million (3.0%) adult US inpatients 45 years of age or older had a dysphagia diagnosis. Patients with dysphagia were hospitalized a mean 8.8 days (95% CI 8.66-8.90) compared with 5.0 days (95% CI 4.97-5.05) among those without dysphagia.
Martino et al., 2017 [70]	Feasibility	Aimed to examine the feasibility of conducting a prospective clinical trial assessing the effects on health and patients of early dysphagia intervention for head and neck cancer patients. A total of 21 patients with dysphagia secondary to head and neck cancer were included in the study. Findings revealed that out-of-pocket expenses for participants were higher than those reported for adult patients with other solid tumours and lost time from work was similar to time lost by breast cancer patients.

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