



Does Dementia with Dysphagia Increase the Incidence of Aspiration Pneumonia in Long-term Care Residents Aged 65 years and Greater?

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Background

- According to the Family Caregiver Alliance (2018), 52% of United States (U.S.) long-term care residents are aged 85 years and older.
- The elderly are the fastest growing U.S. population and are expected to exceed nineteen million by 2050 (U.S. Department of Health and Human Services, 2016).
- There is a correlation between cognitive decline and aspiration pneumonia in acute-care settings (Marik & Kaplan, 2003).
- The literature review demonstrates a lack of evidence demonstrating relationships between long-term care residents aged 65 years and greater who have dementia, with or without dysphagia, and aspiration pneumonia.

Aim/Objectives

- The overall objective of this study was to support future research to determine if dementia with dysphagia increases the incidence of aspiration pneumonia in male or female long-term care residents aged 65 years and greater.
- The primary aim of this study was to identify relationships between age, gender, dementia with or without dysphagia, and the incidence of aspiration pneumonia in male or female, long-term care residents aged 65 years and greater.
- A secondary aim of this SP was to determine if data findings support future development of clinical practice guidelines to assist in both the prevention and detection of aspiration pneumonia in long-term care residents aged 65 years and greater with dementia with or without dysphagia.

Methodology

- A 24-month, retrospective, quantitative study of the electronic medical records of participants meeting study inclusion criteria, was conducted to identify, compare, and evaluate if dementia with dysphagia increases the incidence of aspiration pneumonia in male or female long-term care residents aged 65 years or greater, compared with a similar group with dementia and no dysphagia.
- Additionally, participants were screened for functional quadriplegia, body mass index (BMI), protein calorie malnutrition, ace inhibitor and Cilostazol use.
- To capture a moderate effect size, 1151 participants meeting study inclusion criteria were enrolled.

Theoretical Framework

- The Ottawa Model of Research was used as the scientific underpinning for this Doctor of Nursing Practice (DNP) research.
- Developed by Graham and Logan in 1998, and revised in 2004, the Ottawa model is a planned change theory.
- The focus of Graham and Logan’s model is to help healthcare providers view research as a dynamic process that involves both decision making and implementation of actions (Graham & Logan, 1998).
- The model is being used to facilitate understanding of the implication aspiration pneumonia in long-term care residents with dementia and dysphagia and will be used to assist in dissemination of policy and/or guidelines developed for the prevention and treatment of aspiration pneumonia in this vulnerable population.

Results

	Aspiration PNA Yes	Aspiration PNA No	Chi-square p-value	Phi Φ
Dysphagia Yes	66.3%	33.7%		
Dysphagia No	40.2%	59.8%	$p=001^*$.25
Gender-Male	56.7%	43.3%		
Gender-Female	47.1%	52.9%	.005*	.004
PCM=yes	52.3%	47.7%		
PCM=no	48.9%	51.1%	.387*	.028
FQ=yes	64%	36%		
FQ=no	45.5%	54.5%	.001*	.154
ACEI=yes	44.9%	55.1%		
ACEI=no	51%	49%	.082*	-.051
Cilostazol=yes	80%	20%		
Cilostazol=no	59.5%	50.5%	.361*	.040

Note. (N=1151). PNA= aspiration pneumonia, PCM=protein calorie malnutrition, FQ= functional quadriplegia, ACEI=ace inhibitor. Chi square demonstrated a statistically significant relationship between dysphagia and PNA ($p=001^*$), male gender and aspiration pneumonia (.005*), and FQ and aspiration pneumonia ($p=001^*$) when continuity correction was applied to data (*). A BMI >30 also demonstrated a moderate strength relationship with PNA (Cramer's V=.056), in this population (BMI table not displayed) and participants age 76-85-years had the greatest incidence of aspiration pneumonia in this study population.

Recommendations for the Future

- Data findings identify the need for reduction strategies for aspiration pneumonia in long-term care residents aged 65 years and greater may include recommendations for screening, positioning, feeding, and oral care.
- Data findings support the need for future research to detect populations at risk for aspiration pneumonia to reduce the overall morbidity, mortality, and cost of treatment.
- This research supports future studies that may include hospitalization rates, death rates, data on hospice and palliative care, and costs to treat aspiration pneumonia to gain a fiscal-cost perspective.