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Aspiration Pneumonia in Parkinson's Disease

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Abstract

People diagnosed with Parkinson's Disease (PD) are more likely to suffer from aspiration pneumonia, whether silent or overt. Pneumonia is one of the leading causes of death in people diagnosed with Parkinson's Disease. "Parkinson's Disease patients are three times more likely to have swallowing disorders when compared to healthy populations” (Goh, Acharyya, S. Y. E. Ng, Boo, Kooi, A. H. J. Ng, Li, Tay, Au, and Tan, 2016, p. 32). Research is concluding new interventions such as positioning, food consistencies, and video fluoroscopy for nurses, speech language pathologists, family members, and patients to participate in to decrease hospital admissions and increase life expectancy in people diagnosed with Parkinson’s Disease. The purpose of this is to show that with early detection and intervention, healthcare providers can improve quality of life with fewer cases of aspiration pneumonia in patients with Parkinson’s Disease.

Search Strategy

In adult patients with Parkinson's Disease, do swallowing dysfunction tests and treatments as opposed to no swallowing dysfunction interventions help reduce rates of aspiration pneumonia? The database used for information retrieval was PubMed and Cumulative Index of Nursing and Allied Health Literature (CINAHL). Search terms were limited to “Parkinson’s Disease”, “dysphagia”, and “aspiration pneumonia”. Articles chosen were published within the last five years and needed to contribute to the devised population, intervention, comparison, outcome (PICO) question (Polit and Beck, 2014).

Findings

Of the five articles chosen for review, all indicated a decreased sensitivity cough reflex, swallowing measures, and airway protection in patients with Parkinson’s Disease. Early detection, sign and symptom management, varying food consistencies, patient positioning, video fluoroscopy, a team effort from healthcare providers, and family education seemed to reduce the risk of aspiration pneumonia in patients with Parkinson’s Disease. A quasi-experimental study by Troche, Schumann, Brandimore, Okun, and Hegland (2016) evaluated swallowing safety in 64 patients with Parkinson's Disease. Results concluded that patients with Parkinson’s Disease have airway protective deficits (Troche et al., 2016). A quasi-experimental study by J. H. Lee, K. W. Lee, Kim, S. B. Lee, Chun, and Jung (2016) focused on a functional dysphagia scale in predicting aspiration pneumonia in 53 patients with Parkinson’s Disease. The results of this study concluded that a functional dysphagia scale (FDS) and Schwab and England activities of daily living (S-E ADL) scale were the most effective at predicting aspiration pneumonia in patients with Parkinson’s Disease (Lee et al., 2016). Ellerston, Heller, Houtz, and Kendall (2016) completed a quasi-experimental study from a more anatomical sense with 34 patients diagnosed with Parkinson’s Disease. Results showed a reduced pharyngeal construction in 30.4 percent and delayed airway closure in 62 percent of participants. These findings are consistent with increased risk of aspiration pneumonia (Ellerston et al., 2016). Goh et al. (2016) examined enteral and oral routes of administration in 194 patients with Parkinson’s Disease. The results of this quasi-experimental study were that 89 of 194 patients were hospitalized for pneumonia or choking with the highest rates being for rejected enteral feeding, followed by enteral feeding, then lastly oral feeding (Goh et al., 2016). Ayers, Jotz, Rieder, Schuh, and Olchik (2016) focused on the possibility of quality of life improvements in ten patients suffering with dysphagia that were diagnosed with Parkinson’s Disease. The results of the quasi-experimental study showed an improvement in swallowing related quality of life after working in therapy with speech language pathologists (Ayers et al., 2016). All five articles had a high-quality rating on the
rapid appraisal checklist (RAC). From the information provided throughout the articles, swallowing
dysfunction tests and treatments do help reduce rates of aspiration pneumonia in adult patients with
Parkinson’s Disease as opposed to no swallowing dysfunction tests or treatments.

Conclusion

People diagnosed with Parkinson’s Disease are at increased risk of dysphagia and aspiration pneumonia.
This can be due to anatomical changes and/or the disease process and regardless of the mode
of administration (enteral or oral). Research results, knowledge, and healthcare providers, especially speech
language pathologists and nurses, can help decrease this risk and allow people with Parkinson’s Disease
to live with better quality of life. With more studies and larger participant groups with varying degrees of
Parkinson’s Disease, greater information can be obtained.

Title:
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Keywords:
Parkinson's Disease, aspiration pneumonia and dysphagia

References:

therapy on quality of life in patients with parkinson’s disease as measured by the swallowing quality of life

Ellerston, J. K., Heller, A. C., Houtz, D. R., & Kendall, K. A. K. (2016). Quantitative measures of


scale is a useful tool for predicting aspiration pneumonia in patients with parkinson’s disease. *Annals of
Rehabilitation Medicine*, 40(3), 440-446. DOI: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4951362/


Abstract Summary:
People diagnosed with Parkinson’s Disease are more likely to suffer from aspiration pneumonia, whether silent or overt. Research is concluding new interventions such as positioning, food consistencies, and video fluoroscopy for nurses, speech language pathologists, family members, and patients to participate in to decrease hospital admissions and increase life expectancy.

**Content Outline:**

I. **Introduction**
   a. Parkinson’s Disease
   b. Aspiration pneumonia interventions

II. **Body**
   a. Reflex Cough and Disease Duration as Predictors of Swallowing Dysfunction in Parkinson’s Disease
   b. The Functional Dysphagia Scale is a Useful Tool for Predicting Aspiration Pneumonia in Patients with Parkinson’s Disease
   c. Quantitative Measures of Swallowing Deficits in Patients with Parkinson’s Disease
   d. Risk and Prognostic Factors for Pneumonia and Choking Amongst Parkinson’s Disease Patients with Dysphagia
   e. The Impact of Dysphagia Therapy on Quality of Life in Patients with Parkinson’s Disease as Measured by the Swallowing Quality of Life Questionnaire (SWALQOL)

III. **Conclusion**
   a. Risks
   b. Interventions

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**Professional Experience:** University of Arkansas for Medical Sciences - BSN 2011 Wadley Regional Medical Center - July 2011 until current; RN on Medical/Surgical Telemetry and Intensive Care Unit University of Arkansas for Medical Sciences - MNSc 2018

**Author Summary:** Registered nurse since 2011. Has mainly worked Medical/Surgical Telemetry and Intensive Care Unit. Throughout nursing experience, witnessed Parkinson's Disease, dysphagia, aspiration pneumonia, and effective interventions to counteract oropharyngeal disease progression.