

Dysphagia Among Seniors Living Independently or in Assisted Living in L.A. County Planning and Pilot Study¹

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Learning Objectives:

At the end of this session, the participant will:

1. Know the prevalence of dysphagia in a currently undiagnosed senior population.
2. Know the effectiveness of the currently used Northwestern Dysphagia Patient Check Sheet (NDPCS) in screening undiagnosed seniors for dysphagia.
3. Know items frequently used in patient self reporting of possible swallowing disorders and their effectiveness.

Background:

The prevalence of swallowing problems increases with age and may have a significant adverse impact on overall health and quality of life. Early identification and treatment are essential. This poster session describes the prevalence of undiagnosed dysphagia in a senior population living independently or in assisted living facilities and the development of a dysphagia screening tool for use with seniors.

Research Procedures:

A total of 878 seniors in independent senior living centers or associated with senior care networks were contacted and educated about dysphagia. 529 agreed to participate in further study. Consents were signed and 379 completed SLP evaluation using the Northwestern Dysphagia Patient Check Sheet (NDPCS). A random sample of 161 also completed a Modified Barium Swallow exam (MBS) and responded to a newly developed observable signs of dysphagia questionnaire. Results of the MBS were used to determine prevalence and validate the new questionnaire.

A screening tool to be used for self-reporting of signs and symptoms of dysphagia was developed. Information was requested via electronic survey from 2,449 certified speech pathologists in the United States. The survey explained that the goal of the study was to develop information presentations for senior citizens in order to raise awareness of signs and symptoms of swallowing problems and to facilitate early identification and treatment. The questionnaire asked the therapists to list and rate observable signs of swallowing problems as “most important”, “somewhat important”, or “least important” indicators of dysphagia. In addition, two open ended

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questions requested that the therapist describe additional indicators that might be used. 608 responses were received.

Sixteen observable signs were identified as screening items for determining dysphagia. The previously identified test sample that was to undergo the MBS was also asked to respond to the observable signs and receive evaluation by NDPCS (Logemann, Veis, Colangelo A: Screening Procedure for Oropharyngeal Dysphagia, *Dysphagia* 14:44-51, 1999). The effectiveness of the screening items was determined by comparing them with the gold standard data gathered by MBS. The MBS procedures were completed by speech language pathologists and a radiologist using a standard protocol from the Northwestern University Swallowing Laboratory. The MBS's were interpreted by the Northwestern University Swallowing Laboratory. All involved were blinded to the results of the other aspects of the swallowing screening process. Each screening item was then evaluated for its effectiveness in predicting the presence or absence of dysphagia.

Results:

- I. Seventeen of the 161 seniors undergoing MBS were positive for dysphagia, giving a prevalence of 10.6%.
- II. The electronic survey resulted in the following ranking of sixteen observable signs of potential swallowing problems:
 1. Choke/cough when I eat solid foods or try to swallow liquids.
 2. Food often goes down "the wrong pipe"
 3. Have lost weight because eating is now a difficult or unpleasant experience.
 4. Voice sounds "gurgly" or wet when I eat.
 5. In the last month, have left the table because of choking or coughing.
 6. Have stopped eating or drinking certain foods to avoid coughing or prevent other difficulties when swallowing.
 7. Take more than one swallow to get a single bite down Cough when I swallow liquids
 8. Have difficulty swallowing my medications.
 9. Sometimes skip meals due to swallowing problems.
 10. Have difficulty swallowing a specific food or liquid (specify which food/liquid.)
 11. Get the feeling that food is stuck in my throat.
 12. Eyes water and nose runs when eating.
 13. Eating is now less enjoyable than it used to be.
 14. I get full easily.
 15. I have had repeated pneumonia and/or respiratory illness.
 16. I have trouble clearing food from my mouth in one swallow.

Statistical analysis of the usefulness of each of these items (sensitivity, specificity, positive predictive value, negative predictive value, and test efficiency) will be reported. The item with the highest test efficiency (90%) was Item #3, reporting weight loss because eating is difficult or unpleasant.

III. The NDPC resulted in a true prediction of normal swallow in 132 patients and a true prediction of dysphagia in 4 patients. However, it resulted in the false prediction of dysphagia in 4 patients who were determined by MBS to have a normal swallow and a false prediction of normal swallow in 18 patients who were determined by MBS to have dysphagia. The tool has a very high specificity (97%) but relatively low sensitivity (18%). It has a positive predictive value of 50%, a negative predictive value of 88% and a test efficiency of 86%. That is, it is accurate in identifying normal subjects, but misses some subjects who have dysphagia and instead classifies them as normal.

Summary and Discussion

Results of this study suggest that dysphagia occurs in approximately 11% of the aging population in independent or assisted living facilities. Dysphagia in this population appears more prevalent as seniors become sick and move from independent or assisted living to nursing homes and acute care settings. In order to more efficiently identify seniors with dysphagia and provide early intervention, further development of an efficient and standardized screening tool is needed. Many of the signs and symptoms speech pathologists currently report using to detect possible presence of dysphagia have limited sensitivity and thus result in high false negative rates (i.e. subjects who have dysphagia are classified as normal). This presentation will provide speech pathologists with detailed information regarding the predictive value of some screening items. This will heighten their awareness of the limitations of current screening tools and encourage them to interpret screening results with appropriate caution.