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Speech-Language Pathologists' Skills and Knowledge In Dysphagia Management In Long-Term Care Facilities

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SPEECH-LANGUAGE PATHOLOGISTS' SKILLS AND KNOWLEDGE IN DYSPHAGIA MANAGEMENT IN LONG-TERM CARE FACILITIES

By

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Dedication

This project is dedicated to my grandmother who suffered from multiple strokes and Dementia in her lifetime, and all other older individuals that have been affected by dysphagia due to the associated risk factors.

Acknowledgements

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Abstract

An increasing amount of current research indicates the prevalence of oral and pharyngeal dysphagia in all age groups, with a higher number of cases present in the geriatric population. Dysphagia is common in age-related diseases such as Parkinson's disease, Alzheimer's disease, and Dementia. The purpose of this study was to investigate the knowledge and skills of speech-language pathologists (SLPs) working in long-term care, in the area of oral and pharyngeal dysphagia. Participating SLPs responded to a survey asking to self-identify their knowledge/skills in oral and pharyngeal dysphagia. The findings from this study revealed the variety of expertise of SLPs in treating patients with oral and pharyngeal dysphagia. The results suggested need for additional educational and clinical training in oral and pharyngeal dysphagia.

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Chapter One

The area of dysphagia has received intensive research over the past thirty years. The research revealed how prevalent dysphagia is in different populations, and how often it is missed or misdiagnosed. The research revealed the prevalence of dysphagia in different age groups due to various injuries and/or diseases. Research showed that dysphagia is more common in the geriatric population. The natural physiology that comes with aging physically and mentally plays a large role in this condition. Dysphagia has been identified more frequently in age-related diseases such as Parkinson's disease, Alzheimer's disease, Dementia, and strokes. Dysphagia can present itself in various forms, which increases the challenge to diagnose in different populations. There are many different risk factors that contribute to the onset of dysphagia. Through research studies, the assumption is that the disorder affects many lives in the geriatric population. Dysphagia can appear for numerous medical reasons such as cancer, traumatic brain injury, dysarthria, dysphonia, apraxia of speech, and advanced age. Dysphagia can lead to dangerous scenarios for the patient including aspiration, choking, respiratory infections, malnutrition, and/or dehydration.

This research study surveyed SLPs across the country who treat the geriatric population in long-term care. Long-term care is defined as nursing homes, home health services, hospice care, and assisted living homes. The survey addressed information about experience and knowledge of dysphagia. The survey included questions about education and clinical training in dysphagia, training courses they have or have not received, treatment methods preferred, and instrumentations. Information from this study confirmed whether there is a need for more education and training courses in the area of dysphagia. The study identified SLPs' treatment methods in the area of dysphagia. This survey encouraged practicing, SLPs in long-term care to

participate because dysphagia is more prevalent in the geriatric population than any other population age group. The information collected answered questions behind this research study about how confident SLPs perceive their level of knowledge and skills for treating dysphagia in the geriatric population.

Chapter Two

Dysphagia is a frequently researched topic in the field of Communication Sciences and Disorders. Dysphagia is a swallowing disorder that affects many people and can occur as a result of neurological disorders and diseases. Dysphagia presents itself in various forms and can appear in all different ages. This makes the topic of dysphagia very broad. What research has discovered about dysphagia is that it presents itself more so in the geriatric population than any other age group. Dysphagia primarily makes its appearance in age-related diseases such as Alzheimer's, Parkinson's, Dementia, and strokes or due to health factors brought about by aging.

Confidence of the SLPs

In a study conducted by Vose et al., (2018), they observed that it is a controversial topic to bring up about SLPs having the necessary knowledge and training to accurately diagnose and treat dysphagia. The authors concluded that there is a lack of courses provided in undergraduate classes and Graduate School to prepare SLPs. Hutchins, Gerety, and Mulligan (2011) reported in a study about dysphagia management that from their findings that the majority of the SLPs providing dysphagia management services reported low levels of confidence in those services. Many of these SLPs worked in multiple settings such as schools, private practices, and medical facilities. Many things can change in the span of ten years, and with research being conducted on the broad topic of dysphagia, more has been learned since then. The topic in this study is observing whether or not SLPs feel confident in their knowledge and skills to successfully treat dysphagia in the geriatric population.

Dysphagia in age-related diseases

While researching and reviewing previous studies, the author came across many articles correlating dysphagia with age-related diseases. Dysphagia is a prevalent factor in the lives of

those diagnosed with the age-related disease dementia. Secil et al., (2016) estimated that up to forty five percent of the dementia diagnosed population are affected by dysphagia. Another research study conducted by Kalf et al., (2012) supported Secil et al. (2016) research by finding that four out of five patients with dementia are diagnosed with dysphagia as a result of clinical screenings and questionnaires. Secil et al. (2016) also expanded on not just dementia, but on Alzheimer's disease. The researchers concluded that the elderly population's prevalence of being diagnosed with Alzheimer's disease or dementia increased by thirty percent. Hellden, Bergstrom, and Karlsson (2018) studied experiences of living post-stroke and found that victims with dysphagia range anywhere from 20-80% of victims had dysphagia. Kalf et al. (2012) added with their research study that specifically oropharyngeal dysphagia is present in one third of patients with Parkinson's disease, and is more prevalent in patients with advanced Parkinson's disease. Wamelen et al., (2020) supported the prevalence of dysphagia in Parkinson's disease by identifying a main symptom, drooling, of this age-related disease to have a direct relationship with dysphagia. Sura et al., (2012) supported all of these research claims by stating that "age-related changes in swallowing physiology as well as age-related diseases are predisposing factors of dysphagia in the elderly." Dysphagia comes with other health risks when left undiagnosed and untreated. Park et al., (2013) conducted a study where they performed swallowing screenings among nursing homes. In this study, the authors concluded that more than half of the nursing home patients suffered from dysphagia. The majority of the residents and the nursing home staff were unaware of dysphagia being present in half of the nursing home residents. Pu, Yiu, and Chan (2020) concluded that swallowing dysfunction is a key factor in aspiration among adults and is a precursor for aspiration pneumonia. On the same topic of dysphagia-related aspiration leading to aspiration pneumonia, Yamanda et al., (2008) studied the urge-to-cough in elderly

patients and stroke victims. The urge-to-cough is a factor of aspiration in older adults, and aspiration being a precursor to aspiration pneumonia is related to dysphagia. This alluded to dysphagia presenting itself in a deceitful way, therefore being aware of all risk factors is crucial. Altman, Yu, Schaefer (2010) mentioned how dysphagia affects the geriatric population two times more than any other age group causing an increase in hospitalizations for comorbid conditions. These studies noted in its literature review support the prevalence of dysphagia in the geriatric population, as well as the benefits of early identification and treatment of dysphagia to prevent risks and negative outcomes.

Dysphagia and feeding practices

Over the years, as more and more has been learned about dysphagia, the care, management, and rehabilitation strategies being practiced have varied. McHutchinson et al., (2018) introduced the topic of dysphagia management as complex and varied from patient to patient. The research team focused on the decisions made for the overall nutrition and hydration of patients' while hospitalized, introducing the term "risk feeding." Risk feeding was described as a very complex area of clinical management for multiple reasons. Some patients in the hospital are not ready to sacrifice their ability to eat and drink because of the enjoyment they get from it despite aspiration and coughing being involved. Di Pede et al., (2015) stated that the prevalence of dysphagia in the elderly was present and is often underestimated and underdiagnosed. In an article focusing on managing swallowing difficulties in community settings, Minshall and Pownall (2019) reported the prevalence of dysphagia in the elderly community and emphasized the importance of early referrals to speech-language pathology services. SLPs can maximize the hydration and/or diet of patients, adjust posture while eating, teach patients how to eat slower, and perform swallowing therapy.

Dysphagia treatment strategies

The strategies for dysphagia treatment and management vary from patient to patient. Sura et al. (2012) support management strategies such as postural adjustments, diet modifications, and swallowing maneuvers in feeding patients with dysphagia. Sura et al., (2012) divided the strategies and researched each part of the care, management, and/or rehabilitation. They concluded that the effective management of dysphagia among the elderly required early identification and effective rehabilitation strategies for this age group. This research confirmed that care and management strategies vary according to the type of dysphagia along with the individual patient. Rumbach, Coombes, and Doeltgen (2017) noted that SLPs dysphagia treatment patterns varied due to the "heterogeneous nature of dysphagia." Vose et al., (2014) concluded that speech-language services for stroke victims should focus on physiologic conditions. Although the researchers seemed sure on what clinicians should focus, they stated there was a need for an exact dosage and frequency of treatments. In a recent study, Greig, Gozdzikowska, and Huckabee (2018) suggested that the ignorance or error of the SLPs identifying the pathology of dysphagia could be the reason some of their patients do not see improvement. They also studied if SLPs lacked equipment and knowledge about how they could accurately target the pathophysiology of dysphagia for effective rehabilitation. These studies narrowed the possible benefits and barriers of various rehabilitation strategies, and some studies concluded with questions concerning the SLP's ability to construct a successful rehabilitation plan. Many of these studies also revealed a need for detailed approaches for the dysphagia treatment plans.

Dysphagia's risk factors

Dysphagia is such a broad topic of research so many research studies have directed the

focus to the associated risk factors. Dunn and Rumbach (2018) studied patients who are at risk for dysphagia because of brain injuries, strokes, age, and other medical procedures. These patients came from a hospital in Australia whom had suffered from subarachnoid hemorrhages. This study showed that these medical issues puts patients at risk for dysphagia and eventually aspiration pneumonia. Iruthayarajah et al., (2018) present the results of a meta-analysis and systematic review after adults suffered spinal cord injuries. The risk factors were identified as being high predictors of dysphagia and were reported in at least one study. These included age, injury severity, level of severity, presence of a tracheostomy, coughing, voice quality, bronchoscopy need, pneumonia, mechanical ventilation, nasogastric tubes, comorbid injury, and a cervical surgery. Chen et al., (2020) supported previous research studies by identifying neurodegenerative diseases, pneumonia history, heart issues, and aspiration history as risk factors. The authors also added to the list of risk factors by identifying dental conditions, types of oral medication, and history of hospitalizations contributing to developing dysphagia. Altman et al. (2010) added to the importance of recognizing risk factors of dysphagia by writing about hospitalized patients who exhibited dehydration, malnutrition, and cardiac diseases from dysphagia going unnoticed and untreated. Curtis and Troche (2020) stated that aspiration pneumonia is a leading cause of death in Parkinson's disease due to complications of swallowing function and impaired cough.

Multidisciplinary teams and caregivers

In a study conducted by, Thomas, Adams, & Huckabee (2018), it was shown that in order to treat dysphagia it requires a team of multidisciplinary professional caregivers working together. Macht et al., (2012) stated that before evaluating for dysphagia, SLPs typically should interact with physicians and other health-care specialists in order to develop accurate treatment

plans. Thomas et al. (2018) stated that even more important than the diagnosis of dysphagia was the way in which the multidisciplinary team interacted with each other and communicated with the patient's family. Communication between members of the multidisciplinary team is critical when it comes to a complex case of dysphagia. Colodny (2008) introduced a different topic of debate for care and management strategies of dysphagia. This study focused on the caregivers that are with the patients daily, who received their information from the SLP and failed to comply with care and management recommendations. This article emphasized the importance of the relationship between SLPs and the caregivers of the geriatric population who are with those dysphagia patients daily. Mi-Ran and Su-Jeong (2013) conducted a study researching what caregivers were being taught about the prevention and treatment of dysphagia. This research article supported how information needs to be clearly translated between different professionals such as nurses, SLPs, and caregivers. They concluded that formal guidelines for preventing and recognizing dysphagia were needed for community living facilities. Howells et al., (2019) conducted a study surveying SLPs on where they treat dysphagia in community settings, how often they do it, and who are the other health professionals they consult with while doing it. This study showed the uncertainty of the exact practices of SLPs occurring when treating dysphagia in long-term facilities. De Stefano et al., (2020) concluded that when the elderly deal with a specific form of dysphagia that the majority of the time their caregivers are not educated nearly enough by the multidisciplinary team. Based on these studies, it is clear that communicating with other disciplines and specialists is critical to constructing the best treatment plan possible. It is also important that caregivers should be educated properly on how to care for the patient when specialists are not present. As a result of these research studies, this author believes, it is transparent which area require attention and research.

While reviewing previous studies, it was determined that dysphagia has various warning signs, risk factors, treatments, and testimonials. In the area of geriatric dysphagia, professionals need more information on when dysphagia becomes evident in different diseases like Dementia, Alzheimer's, strokes, and Parkinson's. These symptoms are different in various diseases, so researchers and professionals would benefit to narrow their research on how dysphagia affects people in individual diseases and situations. There is more information needed on initial signs that indicate the onset of dysphagia along with how to treat the various severities. Silbergleit et al., (2011) noted that dysphagia negatively affects a person in all aspects of their life.

More research and information concerning age-related diseases are needed to improve the quality of life for people diagnosed with dysphagia. Because dysphagia affects so many people knowingly and unknowingly, it is important to learn from SLPs who evaluate and treat dysphagia and what to look for and what to expect when dealing with dysphagia. The data collected from this research study will give direction to what needs to be done in the future to further educate SLPs on how to, identify, prevent, and treat dysphagia in the geriatric population. It is also important to know what assessment tools are accessible to SLPs in practice facilities. The purpose of this research study is to further identify training needs of SLPs who are treating patients in this age and area of practice, to improve their understanding by the following research questions:

Research Question 1: Do speech-language pathologists with more years of experience identify oral and pharyngeal dysphagia better than speech-language pathologists with fewer years of experience?

Research Question 2: Do speech-language pathologists' have the necessary access to equipment and training needed to assess and treat oral and pharyngeal dysphagia?

Research Question 3: How confident are speech-language pathologists in their ability to identify oral and pharyngeal dysphagia in the geriatric population?

Chapter Three

Participants

Participants in this study consisted of sixty-two SLPs across the United States working in long-term care facilities. Long-term care facilities include home care services, assisted living, adult daycare services, hospice care, and/or nursing homes. The participants were recruited via announcements through state associations, national associations, by word of mouth, and social media networking groups. These participants had a choice of participating and could withdraw from the survey study at any point. In order to maintain confidentiality, the participating SLPs were not asked to give their name in the survey. The only question that asked for personal information about the SLPs was inquiring for a regional practice setting and years of practice.

The survey questionnaire consisted of twelve questions for each participant to complete in its entirety. The use of volunteers as participants in the study, required that generalizations to the population of SLPs be made with caution.

Survey Questions

The responses of the SLPs were measured by questions developed specifically for this study. The first question asked for the participant's consent to participate in this survey. The second and third question asked the SLPs whether or not they have experience in long-term care facilities (as defined previously) and if so, how many years of experience. The next question asked what region of the United States the SLP practiced in a long-term care facility. The fifth question asked how long it had been since they took an education course on the topic of dysphagia. The seventh and eighth questions asked what assessments and treatment methods were used or were accessible in these long-term care facilities to the practicing SLP. The next

two questions asked the SLP about typical treatment duration and consulting partners. The next question asked what statement the participant agreed with the most. Finally, the last question asked about the participant's confidence with his or her knowledge and clinical training regarding dysphagia. The list of survey questions can be found in Appendix B.

Data Analysis

The central tendencies' mean, median, mode, and standard deviation will be used to analyze the data from the survey in hopes of giving an accurate description of all data.

Chapter Four

Results

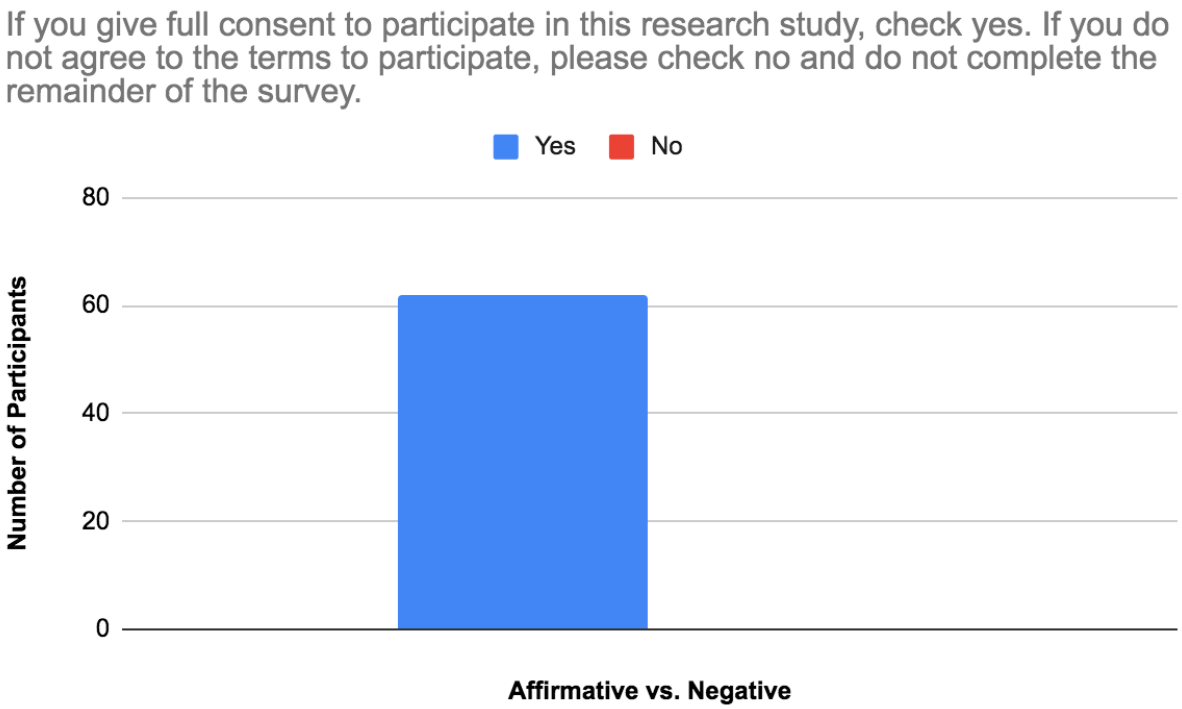
Over the years, oral and pharyngeal dysphagia have been a significant part of the speech-language pathology research. Secil et al. (2012) showed that a reoccurring factor is that signs and symptoms of oral and pharyngeal dysphagia are prevalent in the geriatric population. Although it is prevalent, Altman et al. (2010) proved it is frequently misdiagnosed or goes undiagnosed. Dysphagia goes unnoticed because the topic and characteristics of dysphagia are broad. Dysphagia can occur related to numerous medical reasons and diseases. Dysphagia has a number of associated risk factors that makes it imperative to have strong accurate diagnosis and treatment by SLPs. The following questions guided this research.

The survey questions used to answer the research questions consisted of twelve questions refer to appendix (See Appendix B for survey questions). On average, it took sixty-two subjects three minutes and thirty-five seconds to complete the survey (3:35).

The following will discuss the questions, results, and comments from the participating sixty-two SLPs who completed the survey between September 2021 and February 2022. A summary of the results of each question will be included with an overall analysis at the conclusion of the chapter.

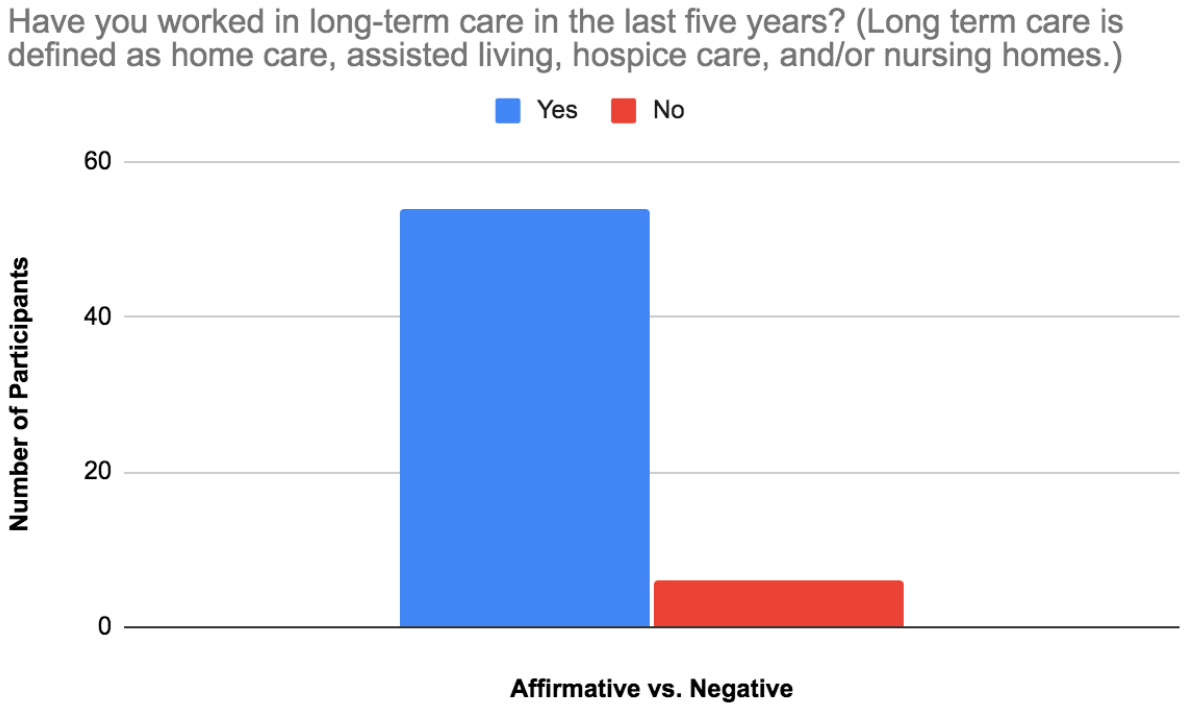
The first question of the survey was used as the research team's consent form for the subjects (Figure 1). If the subjects chose yes, the survey would continue. If the subjects did not give full consent to participate and chose no, the survey would end at that time. All sixty-two of the subjects gave full consent to participate in this research study.

Figure 1. Consent given by the subjects (n=62/62).



Question two asked the subjects if they had worked in long-term care in the last five years (Figure 2). The results of this question affirmed that fifty-four of the SLPs had worked in long-term care in the last five years. Six of the subjects answered that they had not worked in a long-term care facility in the last five years.

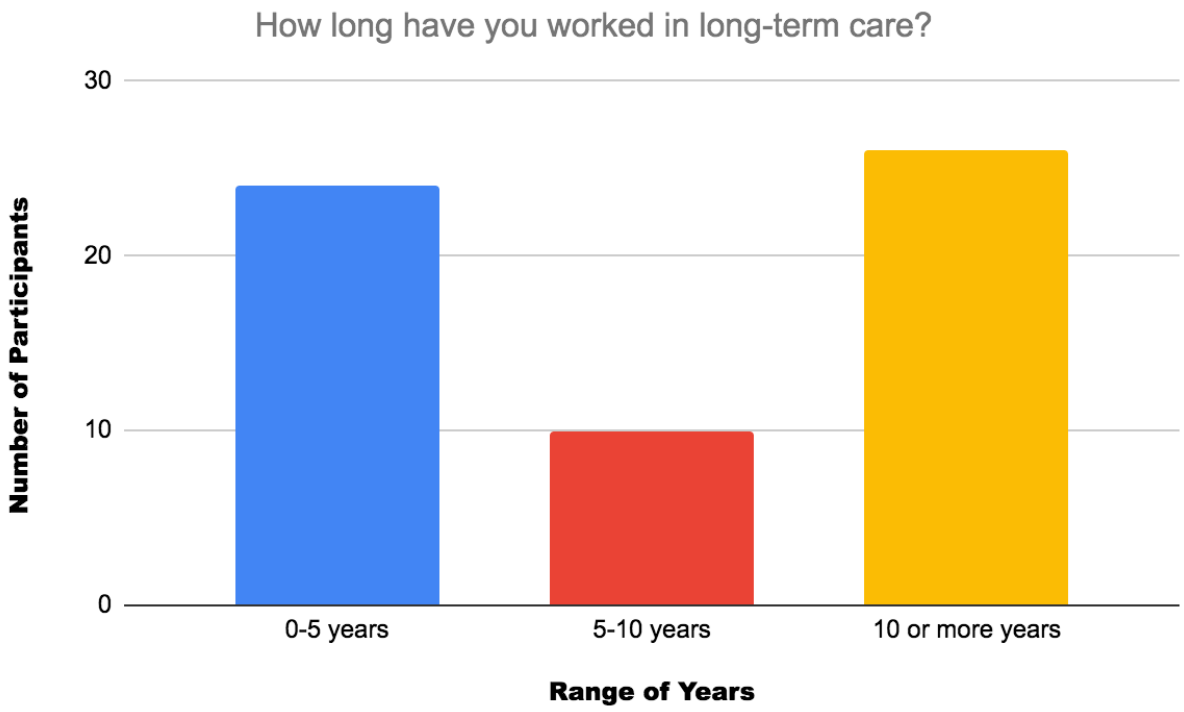
Figure 2. Number of participants that have or have not worked in long-term care in the last five years (n=60/62).



The first formal research question was to analyze the possible factor that SLPs with more experience in the field of speech-language pathology were more accurate in identifying oral and pharyngeal dysphagia compared to SLPs less experienced in the field. The purpose of question three was to address this question (Figure 3). The options were to choose 0-5 years, 5-10 years, and 10 or more years. The results confirmed that twenty-four subjects had worked in long-term care for zero to five years, ten subjects had worked for five to ten years, and twenty-six subjects answered they had worked for ten or more years. Approximately half of the subjects had worked for more than ten years in long-term care facilities. By measuring the data using central

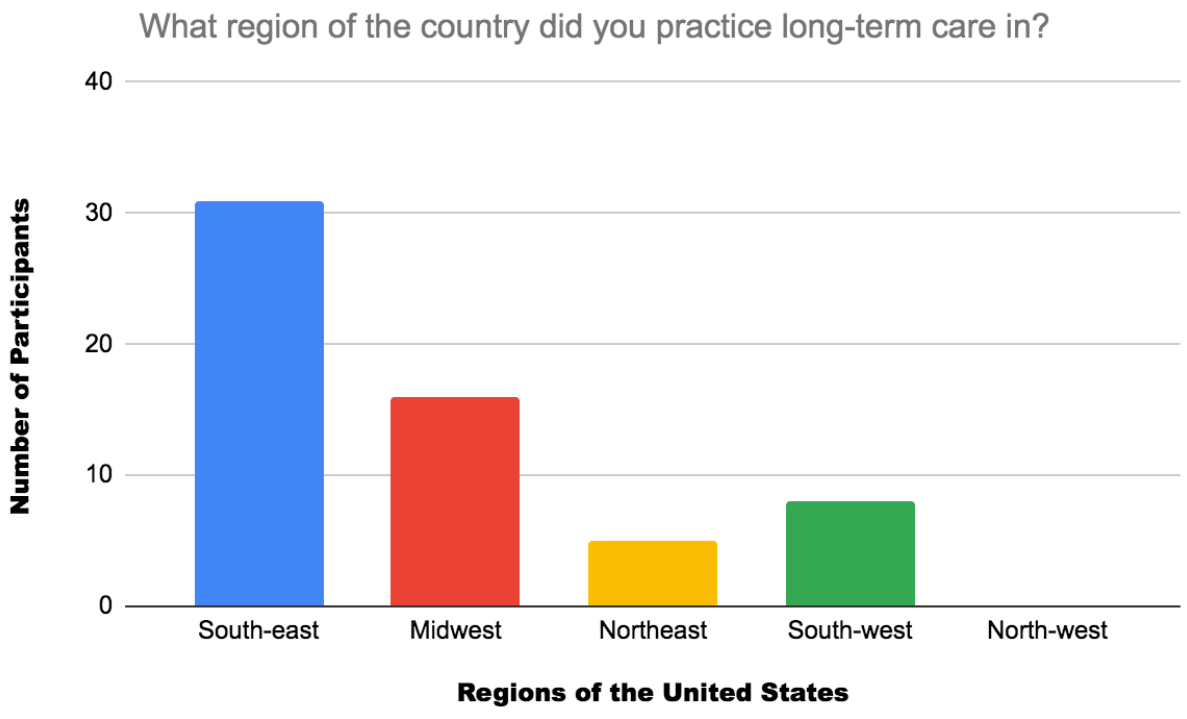
tendency, the mean was twenty responses. The median was twenty-four responses. The mode was twenty-six responses. The results show that a majority of SLPs completing this survey had worked in long-term care facilities for more than ten years.

Figure 3. Experience the subjects have in long-term care (n=60/62).



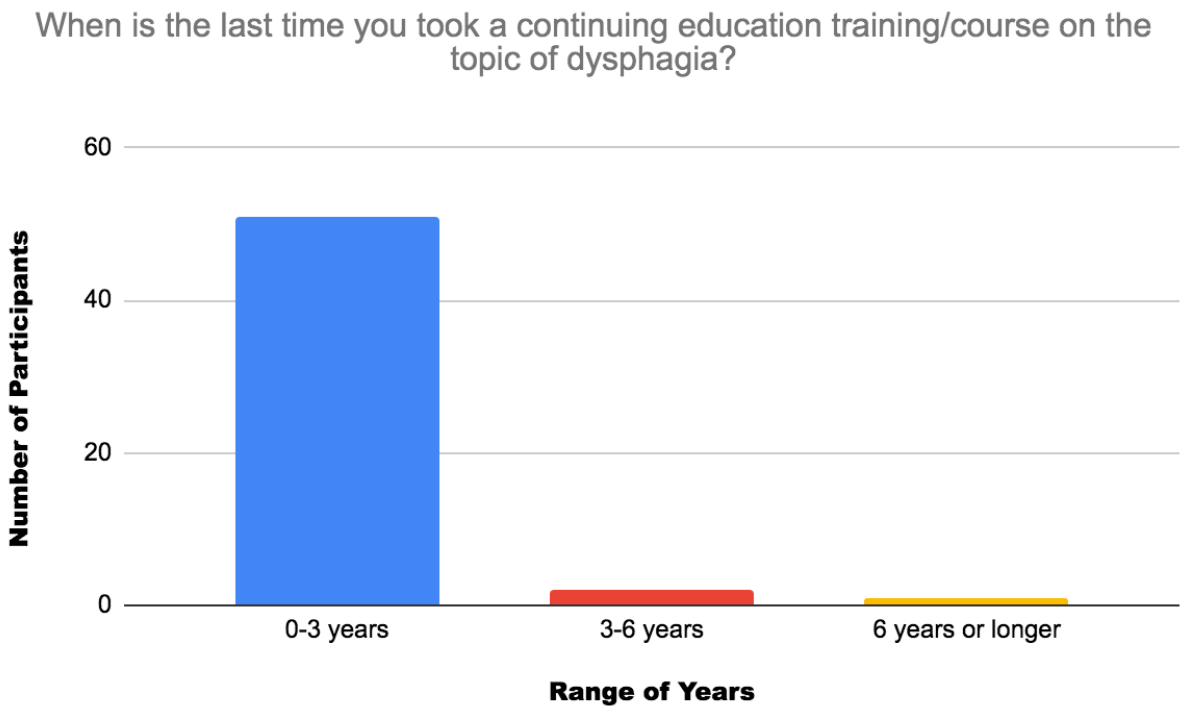
Question four identified the geographic region the subjects were practicing in the United States (Figure 4). The answer selections were: South-east, Midwest, Northeast, South-west, and North-west (See Appendix C for regional map). The results showed the majority of participants in the survey practiced in long-term care facilities in the South-east region of the United States with a total of thirty-one responses. Sixteen subjects selected that they practiced in the Midwest region of the United States. Eight subjects selected that they practiced in the South-west region of the United States. The Northeast region had five total responses out of the sixty-two subjects that participated in the survey. The survey did not have any participants that stated they practiced long-term care in the North-west region of the United States. By analyzing the data using mean, median, and mode the results are as followed: the mean was equal to twelve participants, the median was equal to eight participants, and the mode was equal to thirty-one participants.

Figure 4. Region of the United States the subjects practice long-term care in (n=60/62).



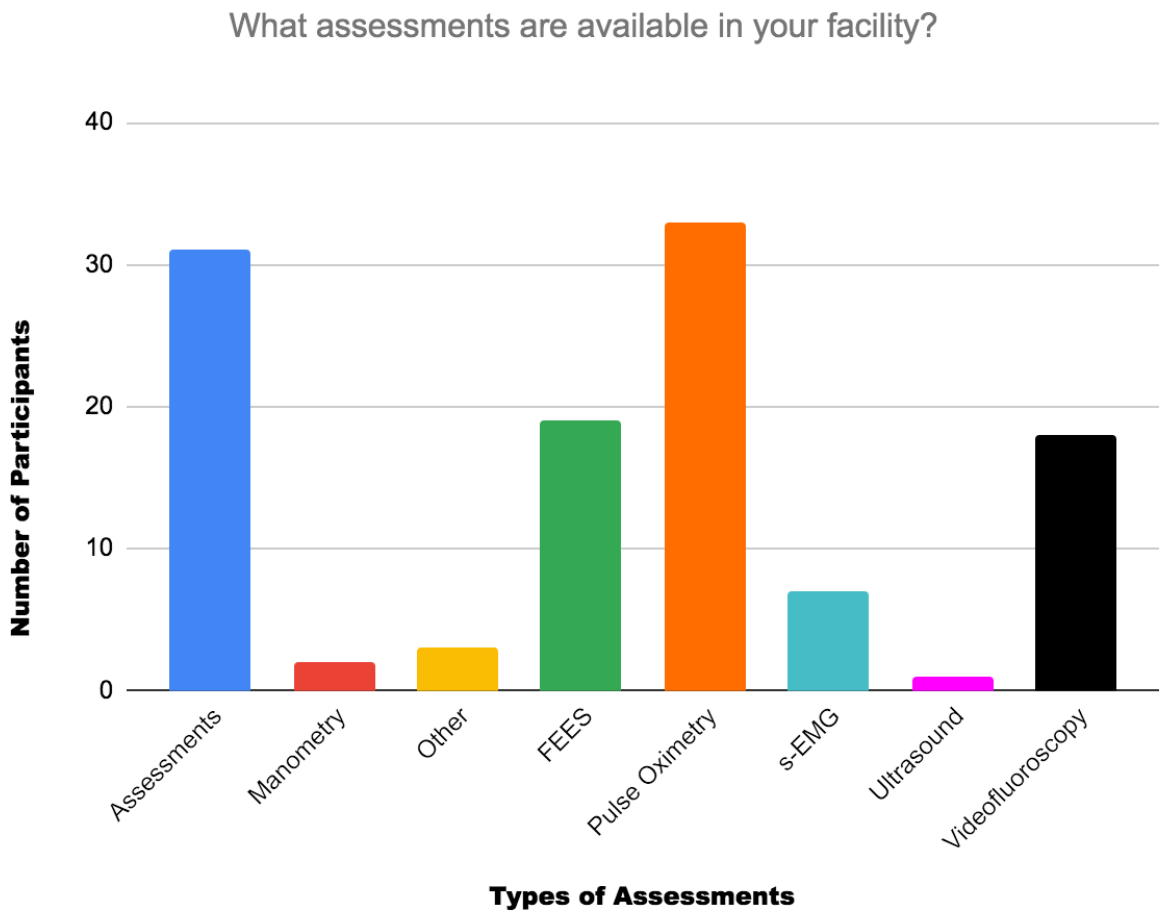
Question five asked the subjects when the last time he or she took a continuing education course or training on the topic of oral and pharyngeal dysphagia. The answer options were ranges of 0-3 years, 3-6 years, and 6 years or longer (Figure 5). The majority of subjects selected that they had taken a continuing education training/course on oral and pharyngeal dysphagia in the last three years with a total of fifty-one responses in that category (Figure 5). Two subjects selected from three to six years since the last time they participated in an oral or pharyngeal dysphagia training/course. One participant selected the third choice which was six years or longer since the participant's last training/course. Analyses of the surveyed population showed to have a minimum of one, a maximum of three, a mean of one, and a standard deviation of zero.

Figure 5. Most recent continuing education training/course about dysphagia (n=54/62).



Question six inquired about the available assessments at the participant's respective facility. The "choose all that apply" list included: Videofluoroscopy (Modified Barium Swallow Studies), Fiberoptic (FEES) or other endoscopic swallowing instrumentation, Manometry, Ultrasound, sEMG- Surface Electromyography (biofeedback), Pulse Oximetry (spO2), published clinical assessments such as the Mann Assessment of Swallowing Ability (MASA), MASA-Cancer, Dysphagia Disorders Survey, etc., and an "other" category for participants to complete (Figure 6). For this question, there were one hundred and fourteen responses obtained. The answer choice receiving the most responses was Pulse Oximetry (spO2) with approximately thirty-three responses of one hundred and fourteen responses. The answer choice that received the next most frequent amount of responses was published clinical assessments with thirty-one responses out of one hundred and fourteen responses. The third most frequent option was Fiberoptic (FEES) or other endoscopic swallowing instrumentation with nineteen responses out of one hundred and fourteen responses. Following close behind that answer option was Videofluoroscopy (Modified Barium Swallow Studies) with eighteen responses. The remaining answer choices were sEMG (Surface Electromyography) (biofeedback) with seven responses, three responses for the "other" category, two responses for Manometry, and one response for Ultrasound.

Figure 6. Availability of assessments at the subject's facility(ies) (n=62). FEES=Fiberoptic Endoscopic Evaluation of Swallowing; sEMG= Surface Electromyography.

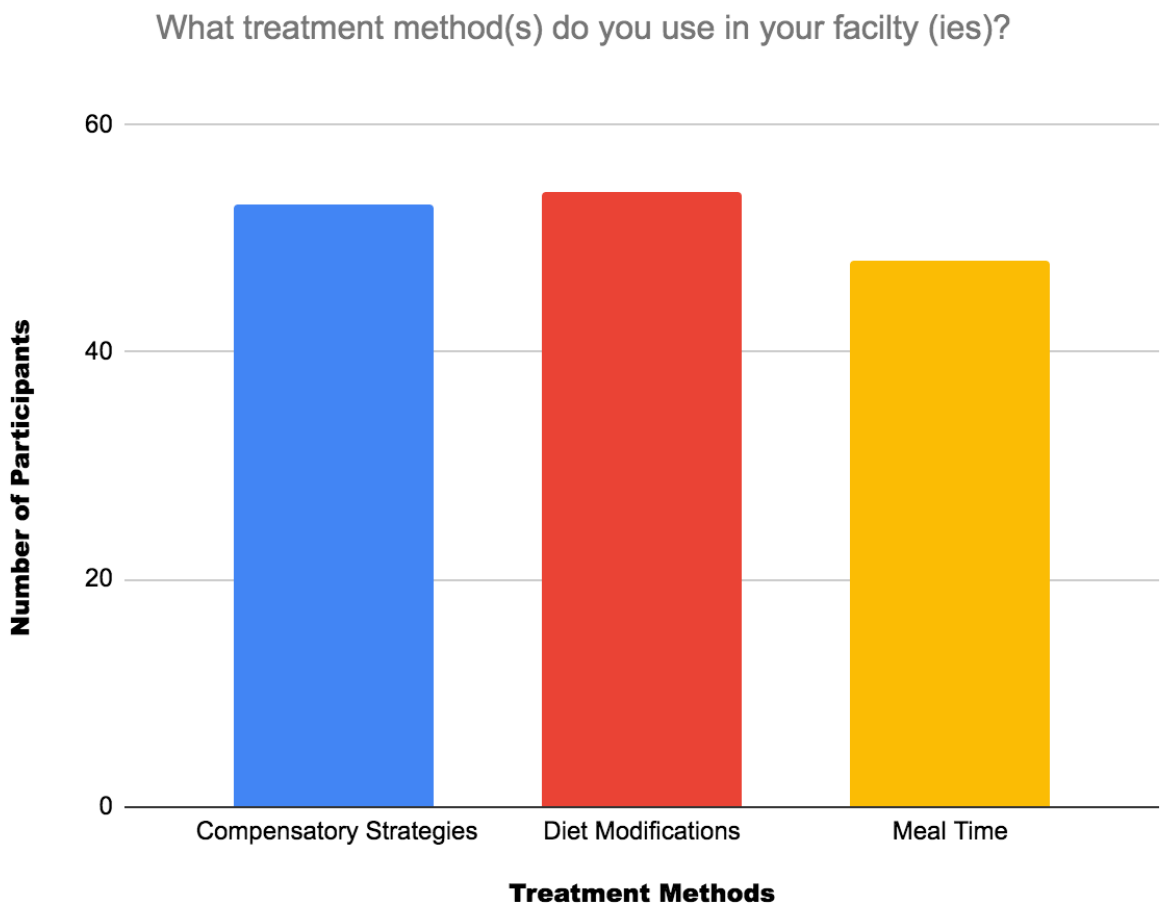


Question seven asked the participants about training on assessments. The "choose all that apply" list included the same assessments from the previous question (Figure 7). This survey question was designed to answer the second half of the second research question. For this survey question, there were one hundred and five responses obtained. The most frequent answer choice was Video fluoroscopy with thirty-four responses out of one hundred and five responses. The second most chosen answer was Pulse oximetry with twenty-nine responses out of one hundred and five responses. The next answer choice with the most responses was FEES or other endoscopic procedures with fifteen. Following FEES was sEMG with eleven responses. The answer choice 'Cervical Auscultation' received ten responses, and the 'other' answer choice received six responses. There were two assessments, Ultrasound and Manometry, that had no participants of the sixty-two respondents receiving training.

Figure 7. Assessment trainings received (n=62). FEES=Fiberoptic Endoscopic Evaluation of Swallowing; sEMG= Surface Electromyography.

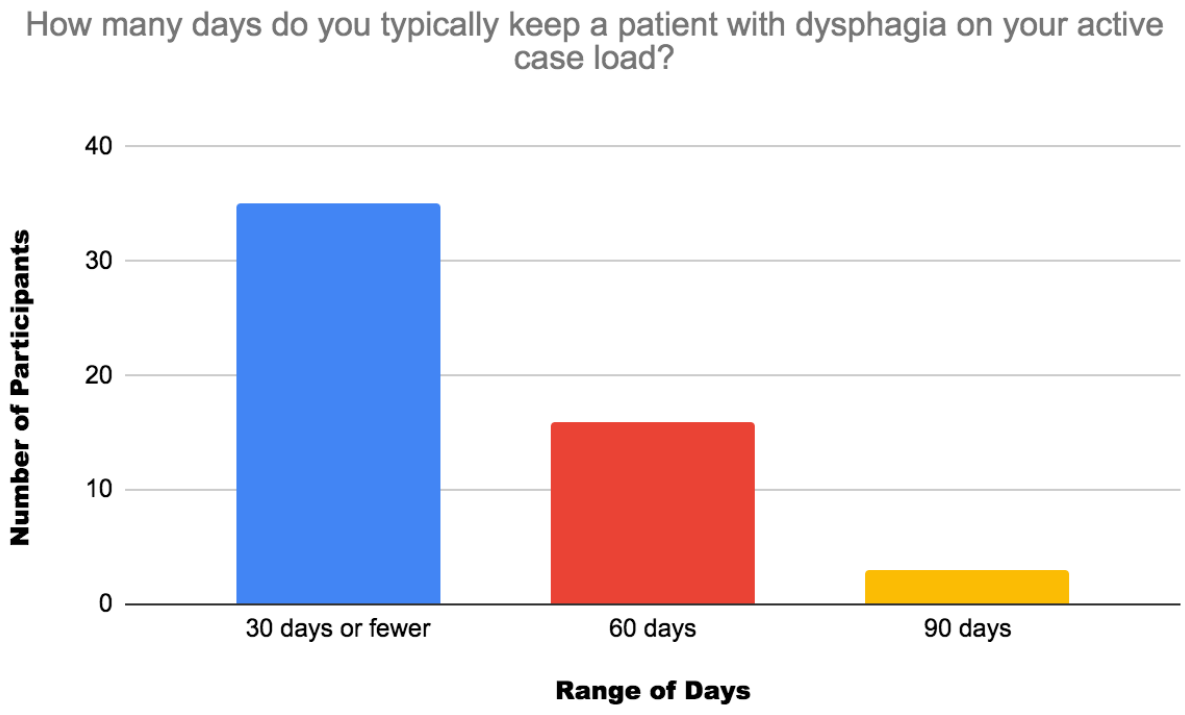
Question eight asked participants what treatment methods were used in their respective facilities when a patient or resident was diagnosed with oral and/or pharyngeal dysphagia. They were given three options: (1) compensatory strategies, (2) diet modifications, and (3) meal-time strategies. Subjects had the opportunity to "choose all that apply" (Figure 8). Compensatory strategies were defined as postural or positioning changes, timing changes, and changes in swallowing dynamics such as effort. Diet modifications were defined as thickening of liquids, use of altered solid textures, and recommendation of no mixed solids and liquids. Meal-time strategies were defined as 1:1 meal and snack time support, feeding assistance, and rehabilitation dining. This survey question obtained one hundred and fifty-five responses. The compensatory strategies option was selected with fifty-three responses. Diet modifications strategy received fifty-four responses. The answer choice that received the fewest responses was the 'meal-time' strategy with forty-eight responses.

Figure 8. Different treatment methods used (n=62).



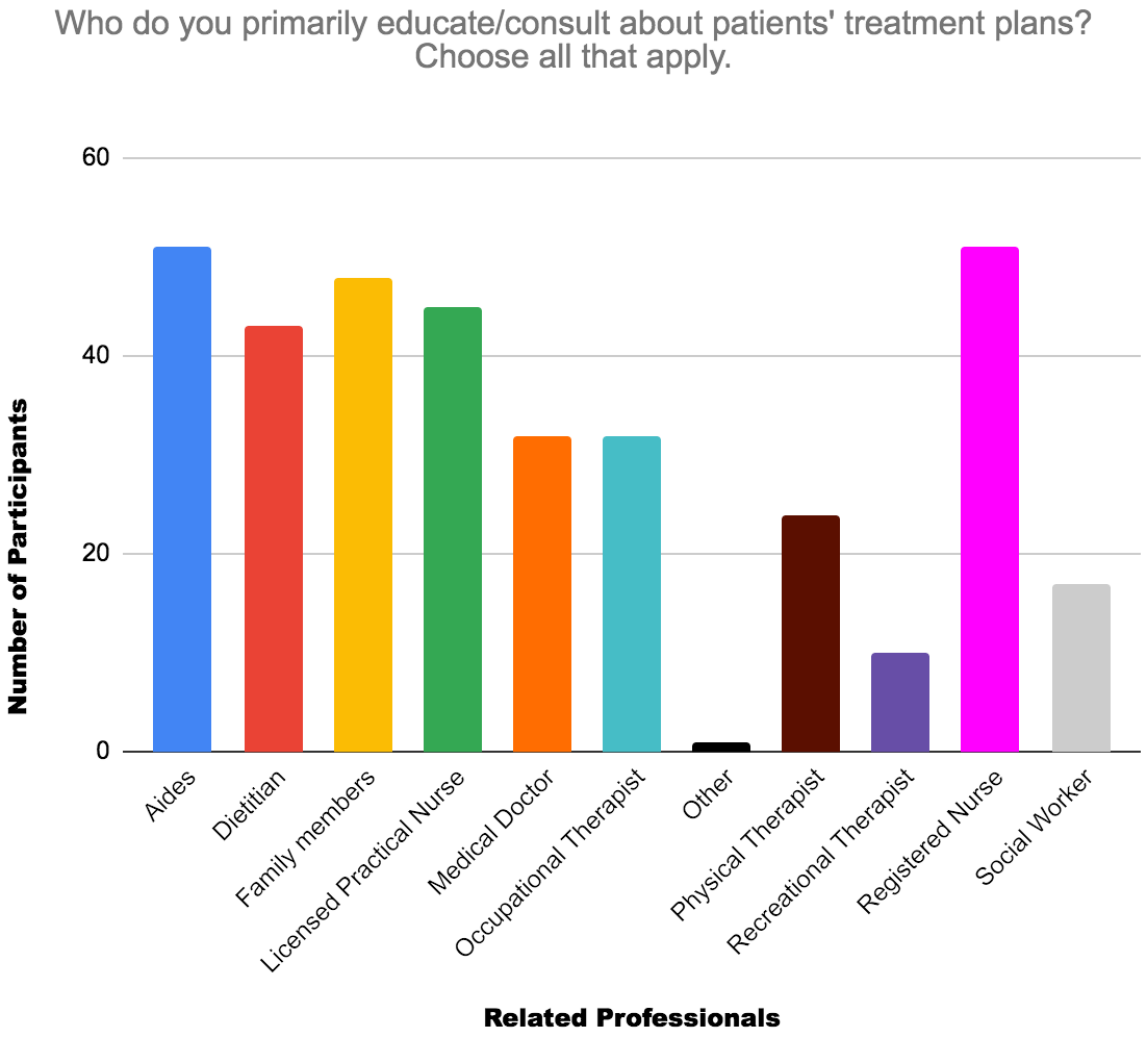
Question nine inquired about the range of days that the subjects kept their patients with oral or pharyngeal dysphagia on their active case load (Figure 9). Active case load is defined by the number of cases handled in a period of time versus a scenario where the SLP may have a patient that they only consult with as needed or if the patient was referred again by an SLP. The SLP had the options of thirty days or fewer, sixty days, or ninety days. The answer choice that received the most responses was 'thirty days or fewer' with thirty-five responses. The 'sixty days' option received a total of sixteen responses. The answer choice with the fewest amount of responses was '90 days' with three responses.

Figure 9. The amount of days a patient is kept on the participant's active case load (n=54/62).



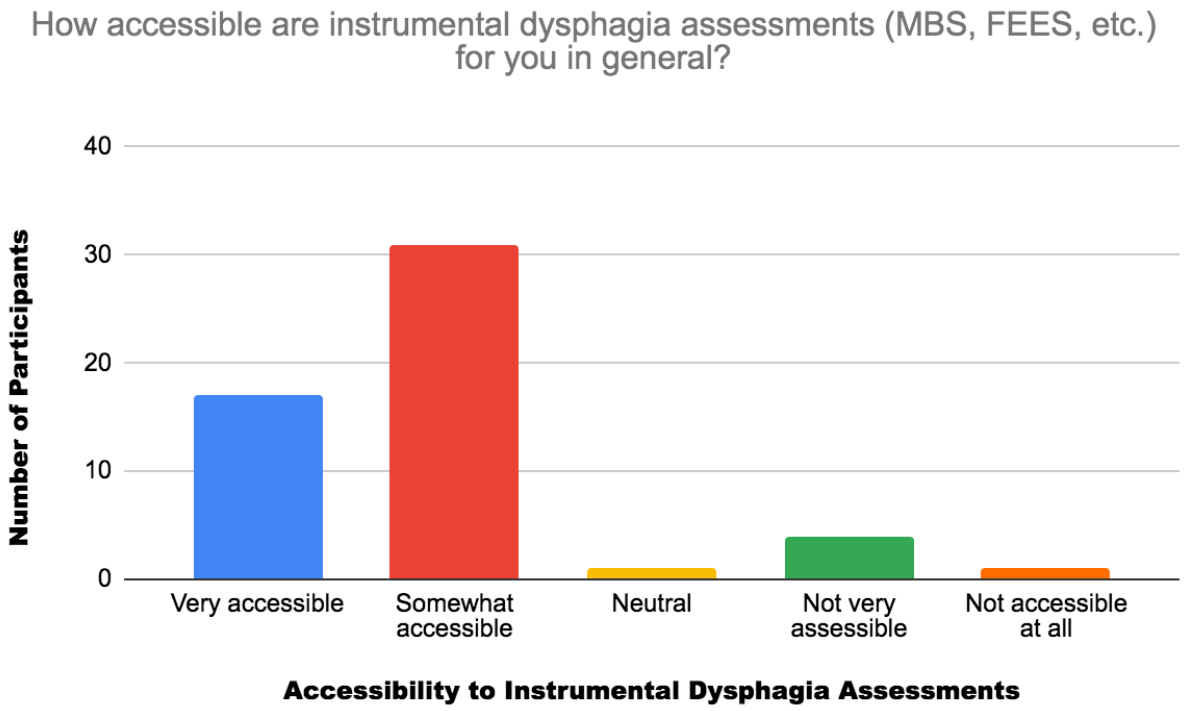
Question ten asked the SLPs to identify the disciplines he or she as the SLP consulted in regards to the patient's treatment plan. This was a "choose all that apply" question. The answer choices included: Medical Doctor (MD), Registered Nurse (RN), Licensed Practical Nurse (LPN), family members, aides/patient care assistants or technicians, Dietitian, Recreational Therapist (RT), Occupational therapist (OT), Physical therapist (PT), social worker or other (Figure 10). This survey question obtained three hundred and fifty-four responses. The answer choice identified by the most SLPs was the RN discipline and Aides/Patient care assistants or technicians discipline with fifty-one responses in each category. The family member choice was the next choice with forty-eight selections and the LPN with forty-five selections. The Dietitian choice received forty-three responses. MD and OT individually received thirty-two responses. PT received twenty-four responses. Following PT was Social Worker with seventeen responses. RT received ten responses, and the answer choice with only one response was the other category.

Figure 10. Health professionals involved in information about dysphagia management (n=62).



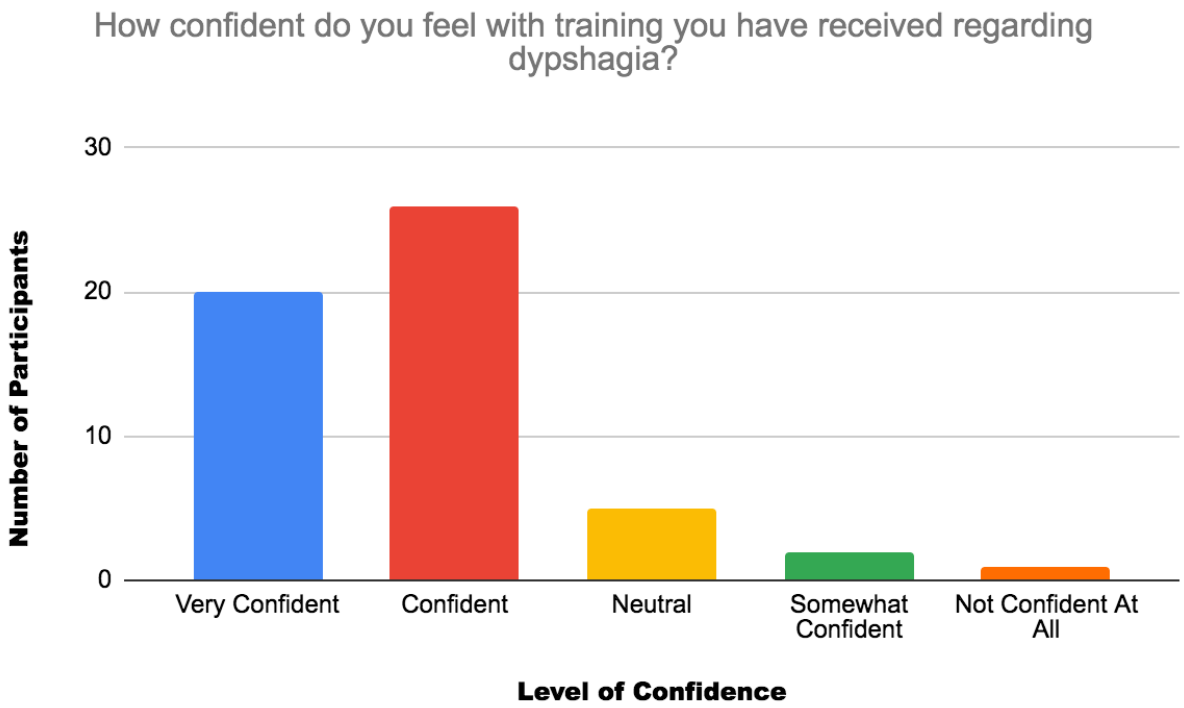
Question eleven asked the participants how assessable instrumental dysphagia assessments were in their facilities. The participants could choose from: Very assessable, somewhat assessable, neutral, not very assessable, not assessable at all. “Very accessible” was defined as any patient that needs instrumentation is able to get it done in a timely manner. “Somewhat assessable” was defined as most patients can receive an instrumental oral and pharyngeal dysphagia assessment, but there may be a delay or some extra steps involved. “Neutral” was defined as I do not work enough in any one facility to be able to answer this, or I do not have enough of a need for instrumentation to comment. “Not very assessable” was defined as a few patients have been able to get instrumental assessments completed in the past six months. “Not accessible at all” was defined as no patients can get approved for Modified Barium Swallow (MBS) or Fiberoptic Endoscopic Evaluation of Swallowing (FEES) in my facility(ies) (Figure 11). The answer choice with the most responses was “somewhat assessable” with thirty-one responses. The next most chosen option was “very assessable” with seventeen responses. Four participants responded that instrumental oral and pharyngeal dysphagia assessments were “not very assessable.” The options “neutral” and “not accessible at all” both received one response each. The Qualtrics report analyzed the participants to have a minimum of one, a maximum of five, a mean of two, and a standard deviation of one.

Figure 11. Accessibility of instrumental dysphagia assessments (n=54/62).



The final question of the survey asked overall how confident the subjects felt in their training in oral and pharyngeal dysphagia. The options were: very confident, confident, neutral, somewhat confident, and not confident at all (Figure 12). The answer choice with the most responses was "confident" with twenty-six responses. The answer choice "very confident" received twenty responses. The answer choice "neutral" received five responses. One subject chose that they were "somewhat confident." The answer choice with "not confident at all" with one response. The Qualtrics report analyzed the participants to have a mean of one, a maximum of five, a mean of two, and a standard deviation of one. Every subject may have chosen "very confident" if every subject had the same access to assessments and instruments at their respective facilities.

Figure 12. Confidence of the subjects training (n=54/62).

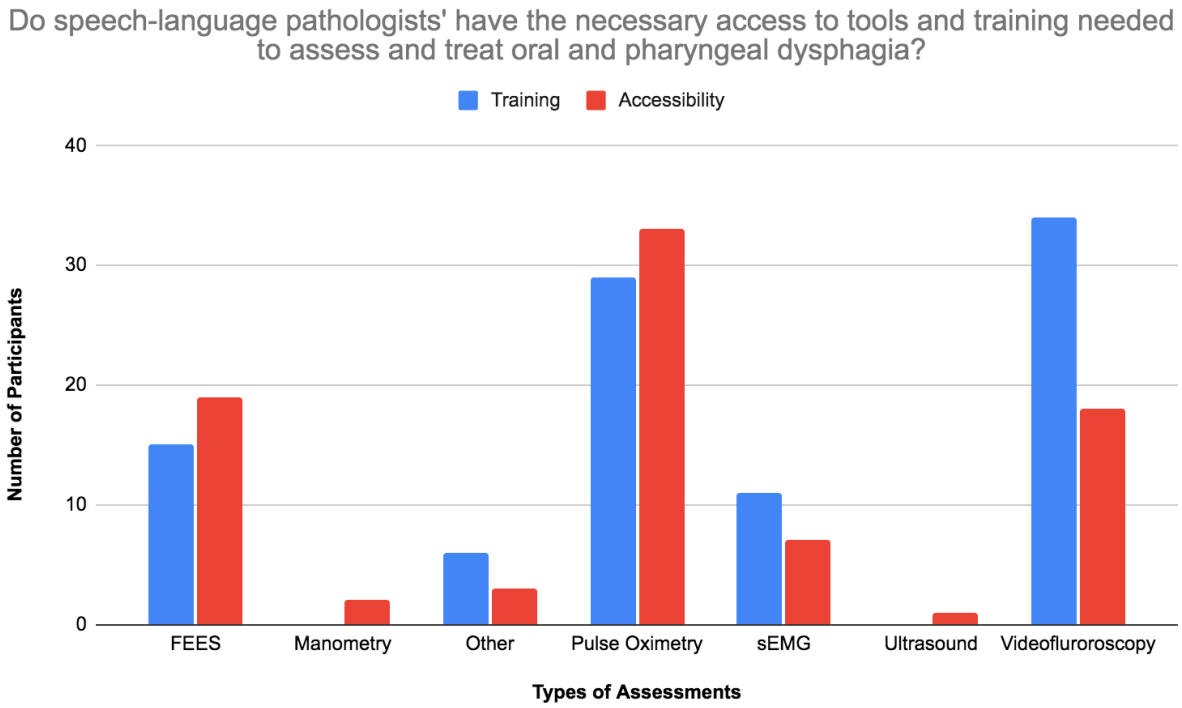


The first formal research question was answered with question three of the survey. The results from this question show that twenty-six subjects out of the sixty-two subjects that answered the question had worked in long-term care for ten or more years. When the data from this survey question is compared to question twelve, it reveals that only twenty subjects of the fifty-four subjects that answered it felt confident in their training. Another analysis that can be made for the first formal research question compares survey question three with question five. The results from question five show that the majority of the subjects had taken a continuing education training/course on the topic of dysphagia in the last three years with fifty-one subjects selecting that answer choice. The first formal research question proves that years of experience does not prove to affect how well confident you feel in your training to identify oral and pharyngeal dysphagia. As reported by Hutchins et al., (2011), SLPs have shown to have low confidence in practicing. If more years of experience versus fewer years of experience as an SLP seemed to affect skill and confidence levels in treating oral and pharyngeal data, at least twenty-six subjects would have chosen "very confident" as their choice on survey question twelve.

The second research question for this research study will be analyzed using survey question six, question seven, and question eleven. Analyzing survey question six, subjects were given seven assessment choices and then given a 'other' category answer choice to choose from. Based off of the data, two answer choices were chosen by over half of the sixty-two subjects and that was published clinical assessments and pulse oximetry. The remaining six answer choices (Fiberoptic Endoscopic Evaluation of Swallowing, Manometry, Other, Surface Electromyography (s-EMG), and Ultrasound) showed a variance across the participants. Looking at the results, it can be gathered that facilities vary greatly in what assessments they offer for their SLPs to assess oral and pharyngeal dysphagia with. Question seven reveals that some of the

assessments that SLPs have received training in are not offered at their facilities. Another point of view shows that SLPs do not receive training in the assessments that are offered at long-term care facilities. For survey question six, the answer count was one hundred and fourteen, while the answer count for survey question seven was one hundred and five. This data reveals that some assessments are available, but the trainings for how to utilize these assessments are not assessable to all SLPs practicing in long-term care facilities. Question eleven inquires about the accessibility that SLPs have to instrumental dysphagia assessments. It is hopeful that subjects would choose that these assessments are "very assessable" meaning any patient can get what they need in a timely manner; however, only seventeen out of the fifty-four subjects answered they felt this was true at their facilities. The answer choice with the most responses was "somewhat assessable" meaning most patients could receive what they needed, but there might be a delay or extra steps involved. An important factor to consider in this answer choice was that the answer choice was defined as "most patients can receive an instrumental oral and pharyngeal dysphagia assessment", but it did not say "all patients." It is important for facilities to have instrumental assessments accessible to all patients in a timely manner. When analyzing the data from these three survey questions, the second research question to this research study can be answered. The data and results show that SLPs in long-term care do not always have access to assessments and training.

Figure 13: The comparison of what SLPs have received training in versus what is accessible to them.



The third and final research question was answered with survey question twelve. See Figure 12 to see the data collected for this research question. The ideal response for SLPs working in long-term care facilities would be for all fifty-four responses to show "very confident." However, only twenty respondents selected "very confident." There were a variety of answers from all of the respondents. The results may have shown that the subjects were "very confident" in treating dysphagia if every facility had equal access to equipment and assessments along with training on how to properly utilize this equipment and assessments. The general implications of this research as well as the limitations and future research will be discussed in Chapter Five.

Chapter Five

Relevance of Current Research

Research studies conducted by Secil et al. (2016) and Kalf et al. (2012) showed the prevalence of oral and pharyngeal dysphagia in the geriatric population. Altman et al. (2010) also has shown that many cases of dysphagia go untreated because dysphagia was never identified. The purpose of this study was to identify the skills and knowledge that SLPs have in treating oral and pharyngeal dysphagia, and thus his or her confidence level in the area of oral and pharyngeal dysphagia. The results from the study highlight the importance of skills, assessments, and equipment that SLPs are provided to manage dysphagia in long-term care facilities. The results also highlighted that there may be potential challenges to accessing the equipment and instruments they require to correctly identify and treat oral and pharyngeal dysphagia.

The preview of the research articles in preparation for the study confirmed it was imperative to know how long the SLPs participating in the survey had been working in the field of long-term care to determine how length of practice could affect individuals' answers to the survey questions. The majority of the participants in the survey worked in long-term care for ten years or more indicating that experience did not have an effect on the SLPs knowledge and confidence level to treat oral and pharyngeal dysphagia. Another question that was asked for steps to be taken following this research study was to see how confident SLPs were in identifying oral and pharyngeal dysphagia in the geriatric population. The results revealed that the majority of the subjects were confident, but they were not all 'very confident' in treating their patients. If the majority of the participants had practiced in long-term care for ten or more years their experience may have implied that they were better at identifying oral and pharyngeal dysphagia than the SLPs with fewer years of experience. A factor that could affect these results

was knowing how recently the participants had taken a continuing education training/course on the treatment of dysphagia. The study showed that all but three subjects had taken a training/course on the topic of dysphagia in the last three year. Aside from the years of experience a participant had in long-term care, they were continuing to receive education and/or training in this treatment area. The conclusion was that results of the second research question explained why SLPs do not feel 'very confident' in their ability to identify oral and pharyngeal dysphagia. The data results showed that all participants do not have access to the same equipment and/or assessments. The majority of participants answered that equipment is accessible, but there may have been extra steps needed to obtain/use the equipment or delays in utilizing the equipment. This information indicates that if instrumentation was easily assessable for all SLPs in all long-term care facilities, they may feel 'very confident' in identifying oral and pharyngeal dysphagia in their patients.

Implications

The information that this study has provided indicates that SLPs could feel more confident in their abilities and skills to treat oral and pharyngeal dysphagia in long-term care settings if they had easy access to all dysphagia assessments and instruments. The survey results revealed that SLPs are trained to use some equipment that is not offered at their facilities. Another factor highlighted from the results was that facilities offer access to certain equipment in which SLPs may not have been trained. It is important that long-term care facilities offer training and courses on assessments and equipment available to their SLPs, so that the SLPs can feel confident when treating their patients. It is also important for long-term care facilities to offer assessments and instruments in a timely manner for SLPs to utilize. The driving forces behind this study are the ethical dilemmas faced in the field of swallowing. Genesen & Sharp (1996)

conducted a research study that focused on ethical decision-making specifically in dysphagia management in the adult and geriatric populations showed a model for clinical and ethical decision-making. One of the aspects of clinical problems the model analyzed was medical indications. The large part of medical indications was a certain diagnosis for the patient from the SLP or medical team. The medical indication is a critical part of making an ethical decision when dealing with swallowing disorders. Because of the risk factors that come along with oral and pharyngeal dysphagia, if dysphagia is not diagnosed accurately and in a timely manner by an SLP, patients' lives are put at risk. This previous research study brought relevance to this study by highlighting the need for a confident diagnosis from the SLP. This confident diagnosis relies heavily on training, equipment, and assessments available to these clinicians to utilize.

Limitations and Future Directions

This survey targeted a population of SLPs treating oral and pharyngeal dysphagia impairments while working in long-term care facilities. This study reported that SLPs do not have consistent and regular access to instrumental assessments and equipment in their facilities. This data confirmed a need to identify the issue of accessibility of assessment and treatment equipment to provide reliable and valid assessment and treatment information for individuals exhibiting possible or confirmed oral and pharyngeal dysphagia. Since this research study collected data using surveys, a limitation to this study is social desirability, which often comes when self-reporting. The surveyed SLPs may want to think they have better training or are more knowledgeable to help their patients than they actually are. In the future, studies could investigate whether or not assessments and equipment are accessible to all trained SLPs in any long-term care or nursing home facility, or if accessibility depends on the type and quality of the long-term care facility. Another factor that could be studied in the future would be whether or

not accessibility depends on how established the facility is or how long the facility has been in operation. Another possible question could be to investigate whether or not oral and pharyngeal dysphagia management assessment and equipment depends on the producer and distribution of this equipment. Several questions that can be asked about the production and distribution may be what the criteria facilities have to meet or how often this equipment is sold and distributed. If SLPs have proper training and assessable equipment and instruments at their long-term care facilities, this may affect how they answer to being 'very confident' in their abilities and skills to treat their patients with dysphagia.

In conclusion, it was found that access to instruments and equipment in long-term care facilities can be limited for SLPs who need to assess and treat individuals with potential oral and pharyngeal impairments. It is important that further research is completed on this topic of professional preparation for dysphagia management in long-term care facilities. SLPs must have access to these assessments and equipment along with specialized training to accurately treat the long-term care population who may demonstrate oral and pharyngeal dysphagia. If SLPs have appropriate and available resources to complete valid and reliable dysphagia assessments, with the ability to access these resources in a timely manner, it will improve the quality and longevity of life for the patients in long-term care facilities. In addition, SLPs will be confident in assessment results and treatment techniques for these individuals. Therefore, in order to determine the true correlation between oral and pharyngeal dysphagia management in the long-term care population, SLPs access and training to manage individuals with oral and pharyngeal dysphagia, and the quality and life expectancy of the individuals in long-term care, more research and more in depth research questions need to occur in the near future.

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Appendix A (IRB Approval letter)

PI:

This is to inform you that your application to conduct research with human participants, "SPEECH-LANGUAGE PATHOLOGISTS' SKILLS AND KNOWLEDGE IN DYSPHAGIA MANAGEMENT IN LONG-TERM CARE FACILITIES" (Protocol #21x-265), has been determined as Exempt under 45 CFR 46.101(b)(#2). You may proceed with your research.

Please remember that all of The University of Mississippi's human participant research activities, regardless of whether the research is subject to federal regulations, must be guided by the ethical principles in The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research.

It is especially important for you to keep these points in mind:

- You must protect the rights and welfare of human research participants.

- Any changes to your approved protocol must be reviewed and approved before initiating those changes.

- You must report promptly to the IRB any injuries or other unanticipated problems involving risks to participants or others.

- If research is to be conducted during class, the PI must email the instructor and ask if they wish to see the protocol materials (surveys, interview questions, etc) prior to research beginning.

If you have any questions, please feel free to contact the IRB at irb@olemiss.edu.

MIRANDA CORE
IRB ADMINISTRATIVE OFFICE

Appendix B (Survey)

The Skills and Knowledge of Speech-Language Pathologists' About Dysphagia Survey

1. If you give full consent to participate in this research study, check yes. If you do not agree to the terms to participate, please check no and do not complete the remainder of the survey.

    a. Yes

    b. No If you checked no, please exit the survey at this time.

2. Have you worked in long-term care in the last five years? Long-term care is defined as home care, assisted living, hospice care, and/or nursing homes.

    a. Yes

    b. No

3. How long have you worked in long-term care?

    a.0-5 years

    b.5-10 years

    c.10 or more years

4. In what region of the country did you practice long-term care?

    a. South-east

    b. South-west

    c. Midwest

    d. Northeast

    e. North-west

5. When is the last time you took a continuing education training/course on the topic of dysphagia?

    a.0-3 years

b.3-6 years

c.6 years or longer

6. What assessments are available in your facility?

a. Videofluoroscopy (Modified Barium Swallow Studies)

b. Fiberoptic (FEES) or other endoscopic swallowing instrumentation

c. Manometry

d. Ultrasound

e. sEMG –surface electromyography (biofeedback)

f. Pulse oximetry (SpO2)

g. Published clinical assessments, such as the Mann Assessment of Swallowing Ability (MASA), MASA-Cancer, Dysphagia Disorders Survey, etc.

h. Other (please describe)

7. In which assessments have you received training?

a. Videofluoroscopy

b. FEES or other endoscopic procedures

c. Manometry

d. Ultrasound

e. sEMG

f. Cervical auscultation

g. Pulse oximetry

h. Other (please describe)

8. What treatment method(s)do you use in your facility(ies)?

a. Compensatory strategies (postural or positioning changes, timing changes, changes in swallowing dynamics such as effort, etc.)

b. Diet modifications (thickening of liquids, use of altered solid textures, recommending no mixed solids and liquids, etc.)

c. Meal time (1:1 meal and snack time support, feeding assistance, rehab dining, etc.)

9. How many days do you typically keep a patient with dysphagia on your active case load?

a.30 days or fewer

b.60 days

c.90 days

10. Who do you primarily educate/consult about patients' treatment plans? Choose all that apply.

a. Medical Doctor (MD)

b. Registered Nurse (RN)

c. Licensed Practical Nurse (LPN)

d. Family members

e. Aides/Patient care assistants or techs

f. Dietitian

g. Recreational Therapist (RT)

h. Occupational Therapist (OT)

i. Physical Therapist (PT)

j. Social Worker

k. Other

11. How accessible are instrumental dysphagia assessments (MBS, FEES, etc.) for you in general?

a. Very accessible –any patient who needs instrumentation is able to get it done in a timely manner.

b. Somewhat accessible –most patients can receive an instrumental dysphagia assessment, but there may be a delay or some extra steps involved.

c. Neutral –I don't work enough in any one facility to be able to answer this, or I don't have enough of a need for instrumentation to comment.

d. Not very accessible –a few patients have been able to get instrumental assessments completed in the past 6 months.

e. Not accessible–no patients can get approved for MBS or FEES in my facility(ies).

12. How confident do you feel with training you have received regarding dysphagia?

a. Very confident

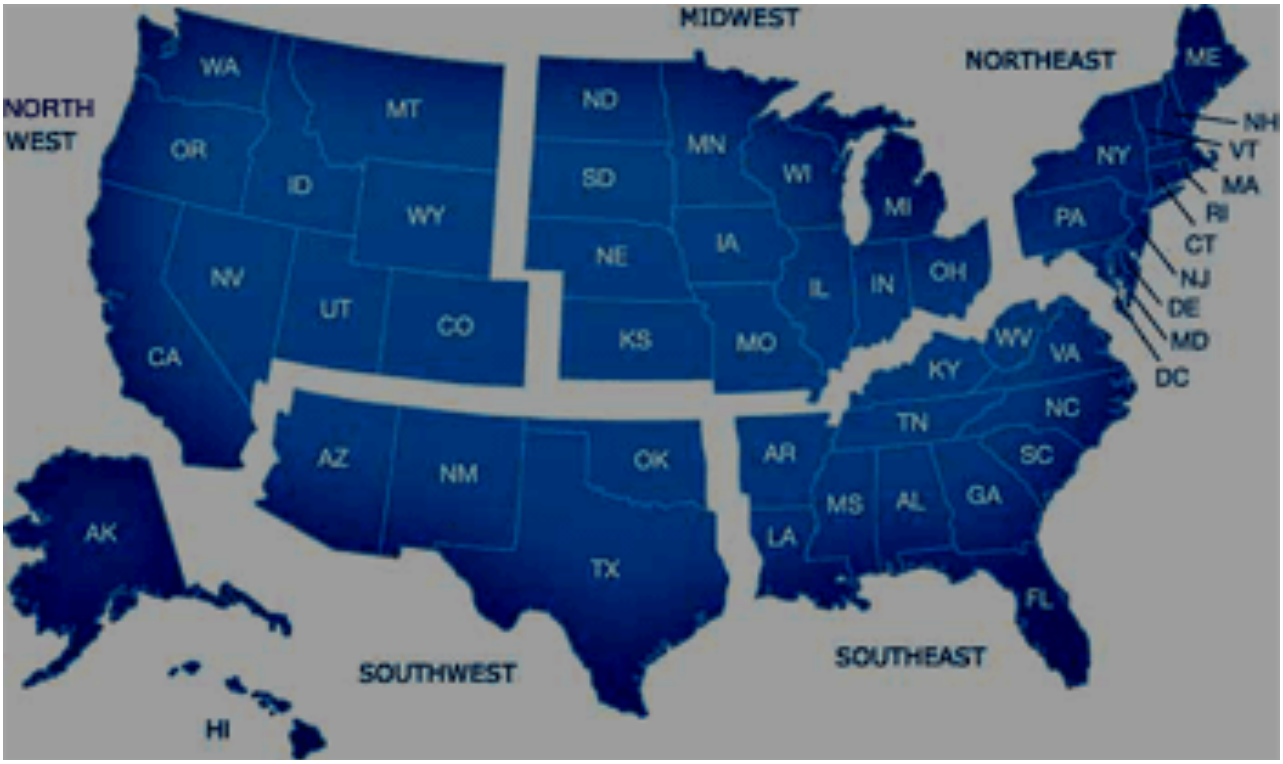
b. Confident

c. Neutral

d. Somewhat confident

e. Not confident at all

Appendix C (Regional Graph)



Appendix D (Figures 1-13)

Figure 1. Consent given by the subjects (n=62/62).

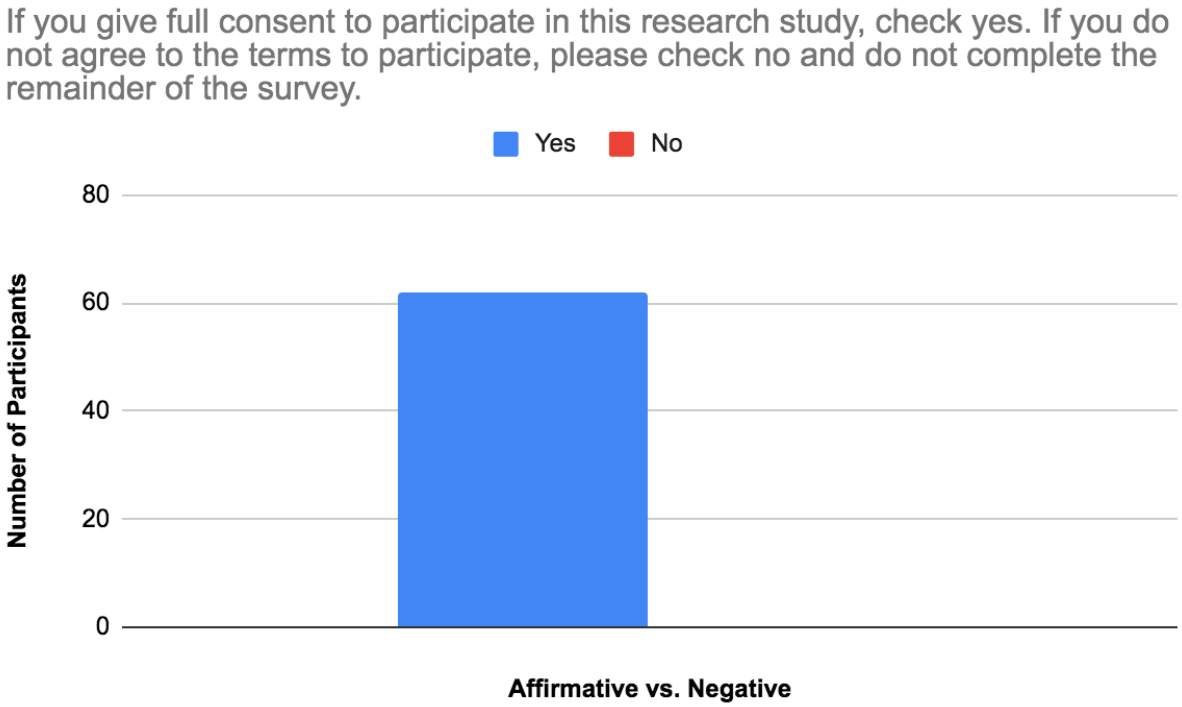


Figure 2. Number of participants that have or have not worked in long-term care in the last five years (n=60/62).

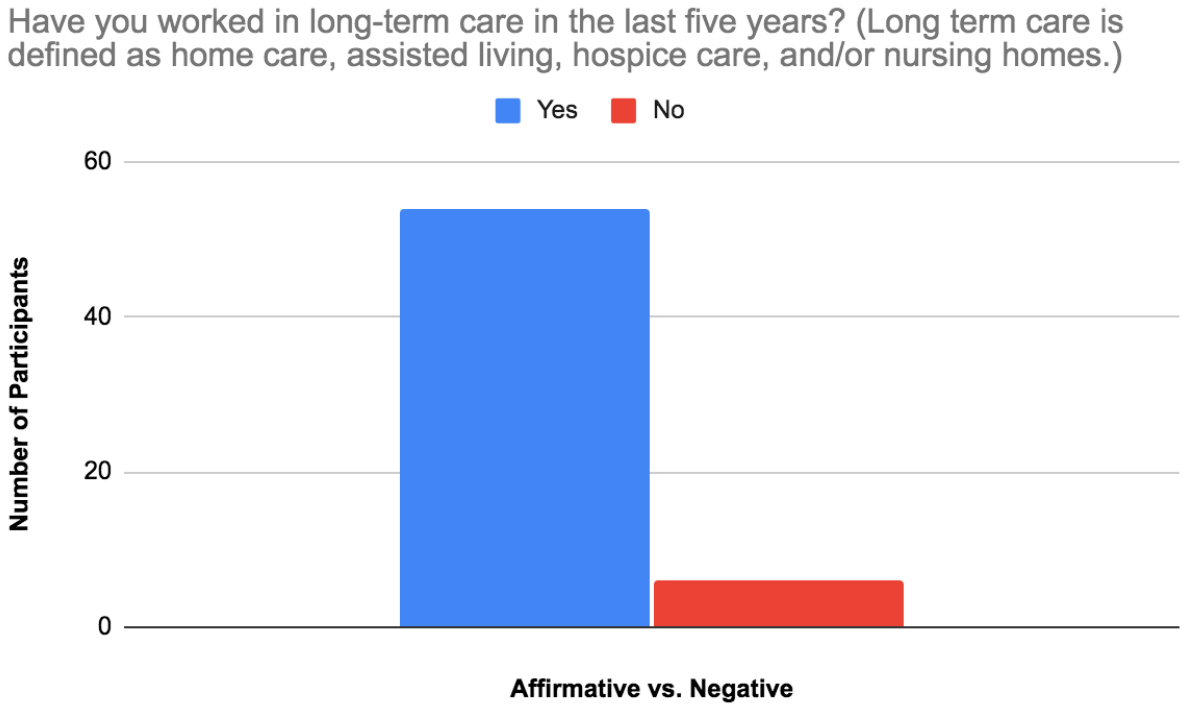


Figure 3. Experience the subjects have in long-term care (n=60/62).

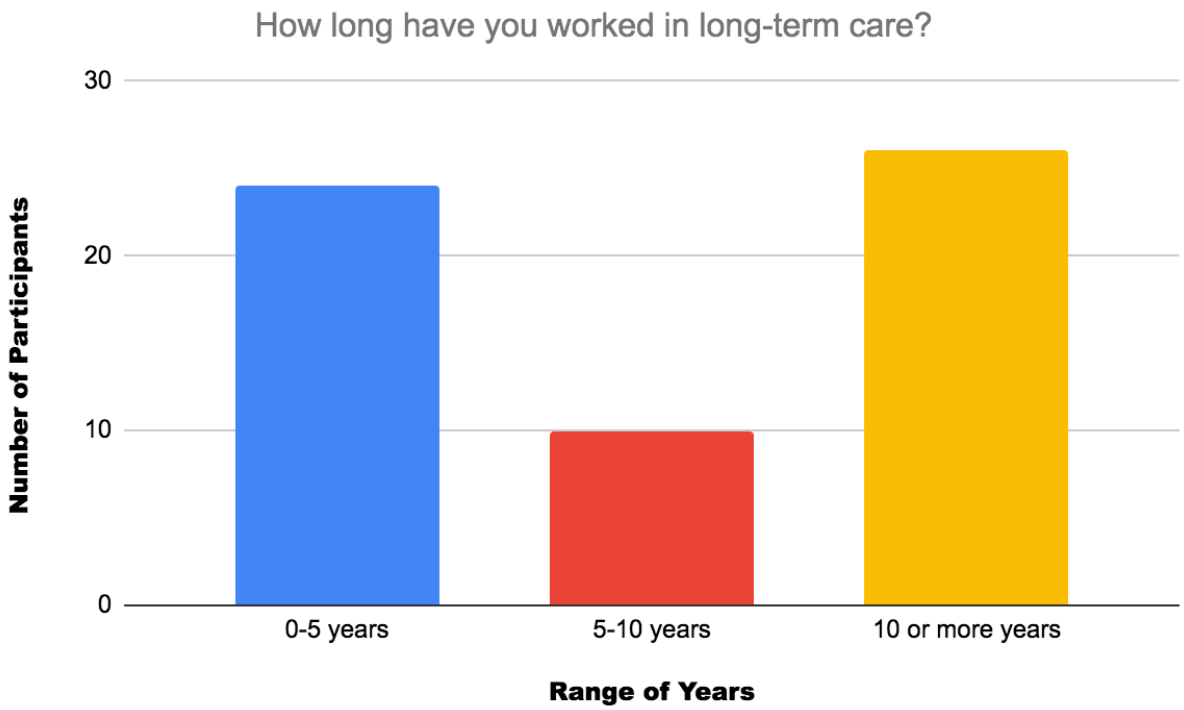


Figure 4. Region of the United States the subjects practice long-term care in (n=60/62).

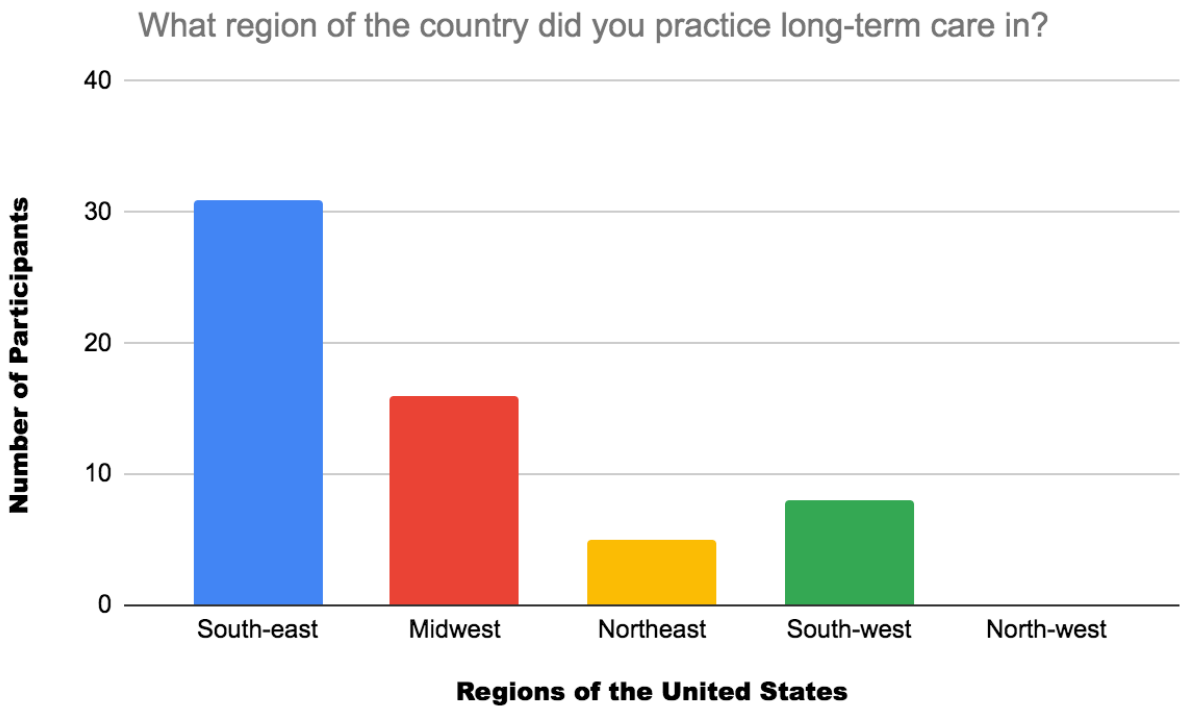


Figure 5. Most recent continuing education training/course about dysphagia (n=54/62).

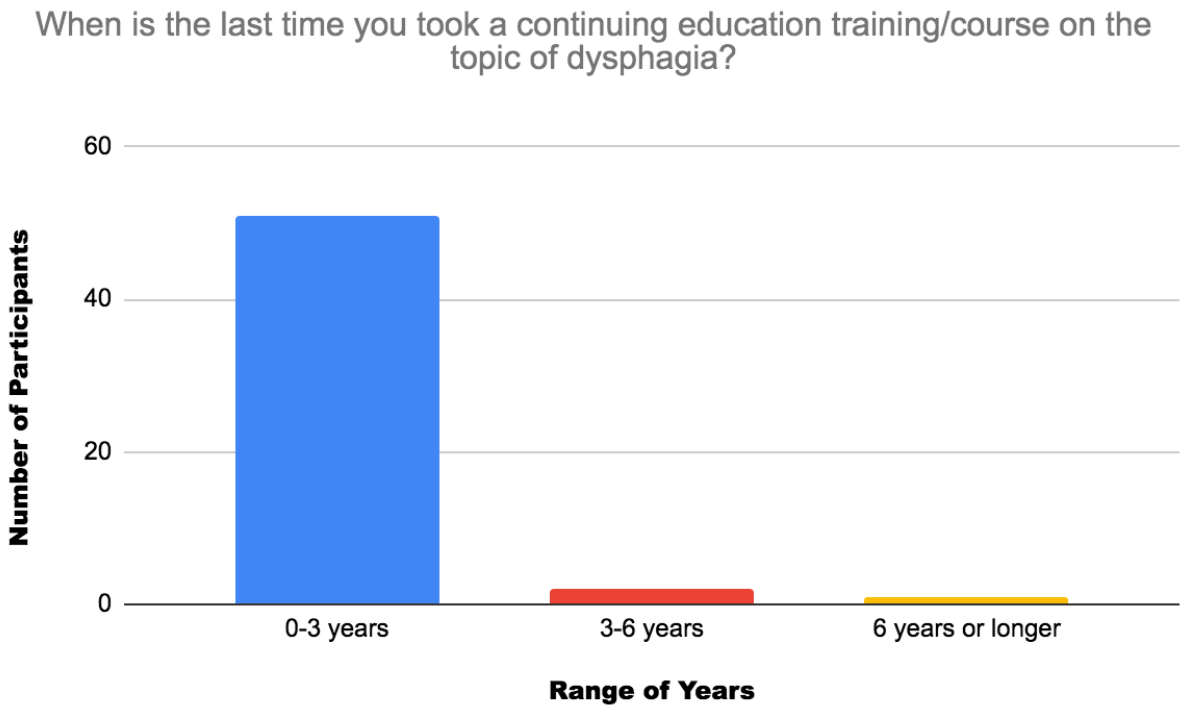


Figure 6. Availability of assessments at the subject's facility(ies) (n=62). FEES=Fiberoptic Endoscopic Evaluation of Swallowing; sEMG= Surface Electromyography.

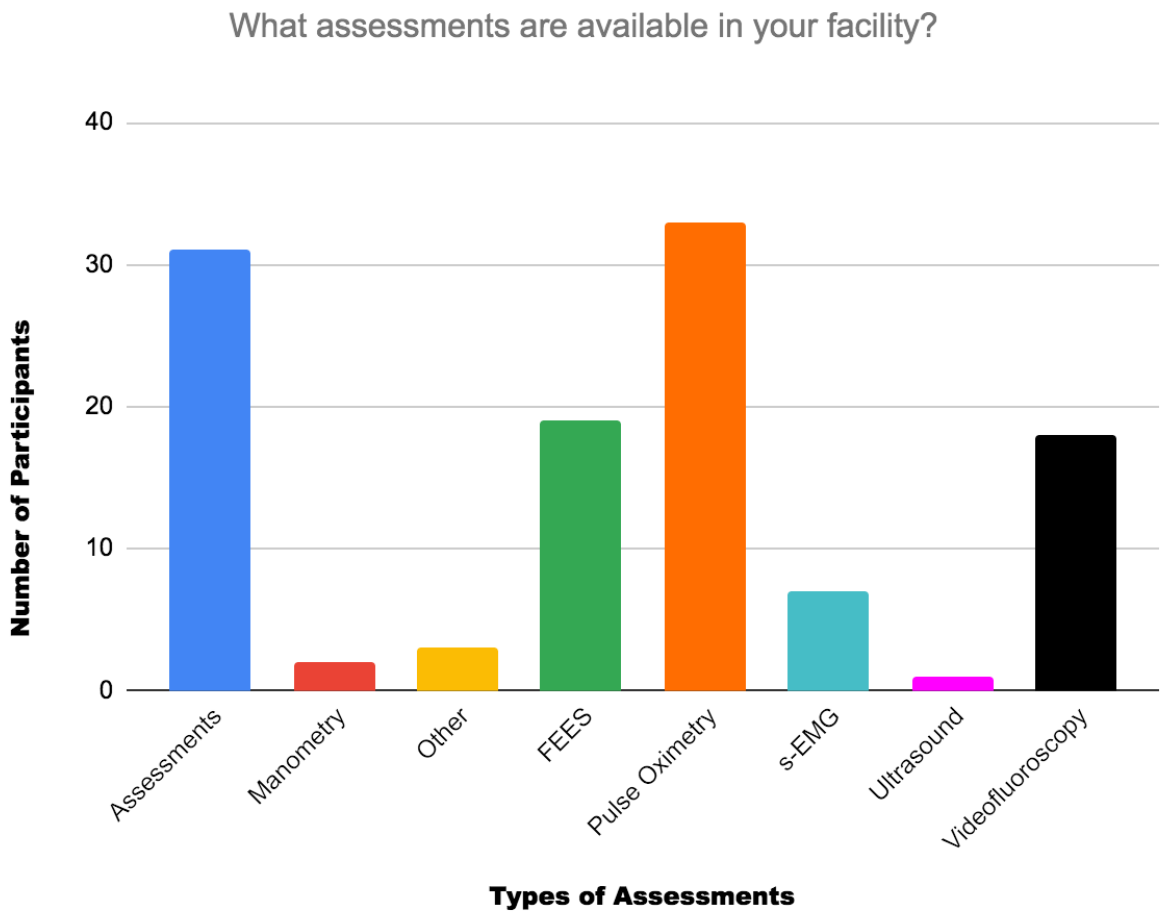


Figure 7. Assessment trainings received (n=62). FEES=Fiberoptic Endoscopic Evaluation of Swallowing; sEMG= Surface Electromyography.

Figure 8. Different treatment methods used (n=62).

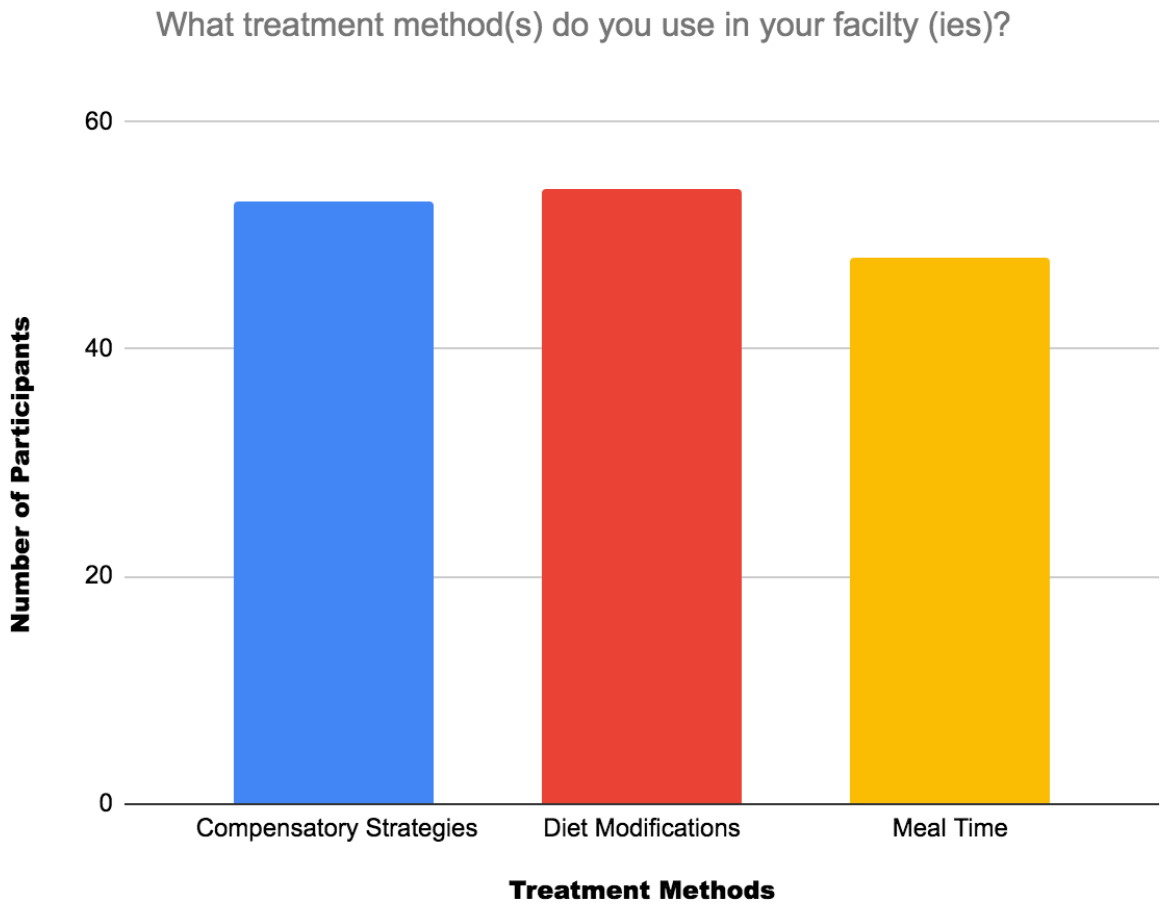


Figure 9. The amount of days a patient is kept on the participant's active case load (n=54/62).

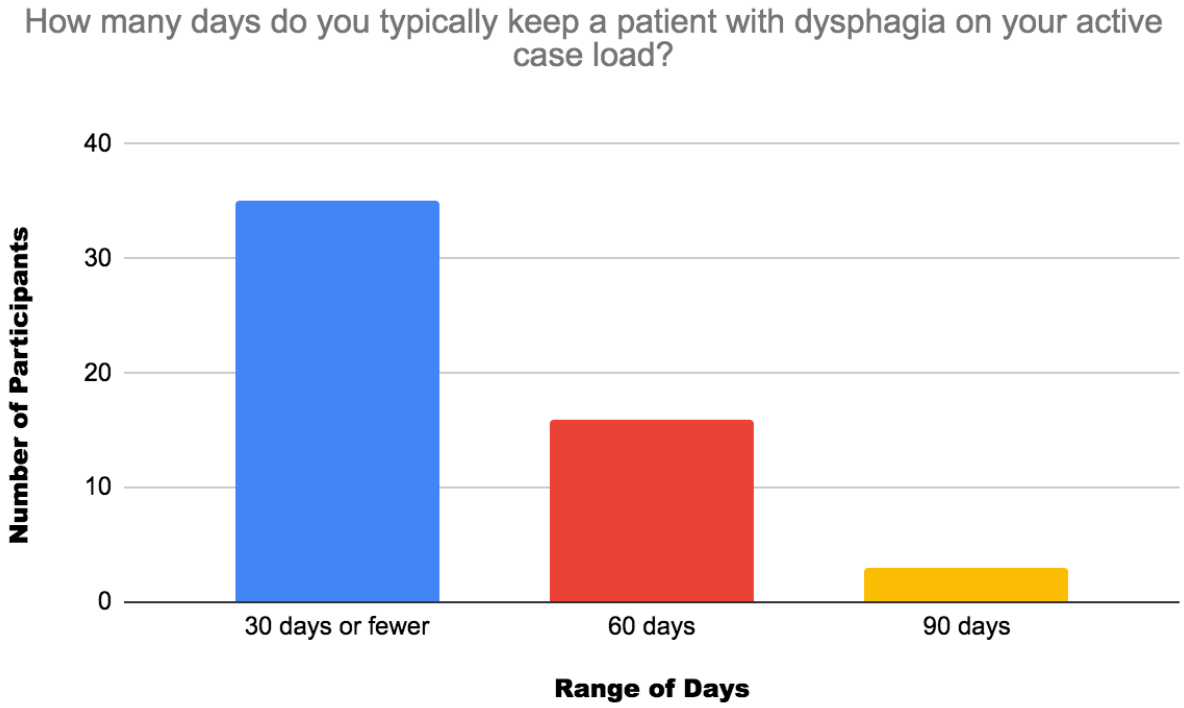


Figure 10. Health professionals involved in information about dysphagia management (n=62).

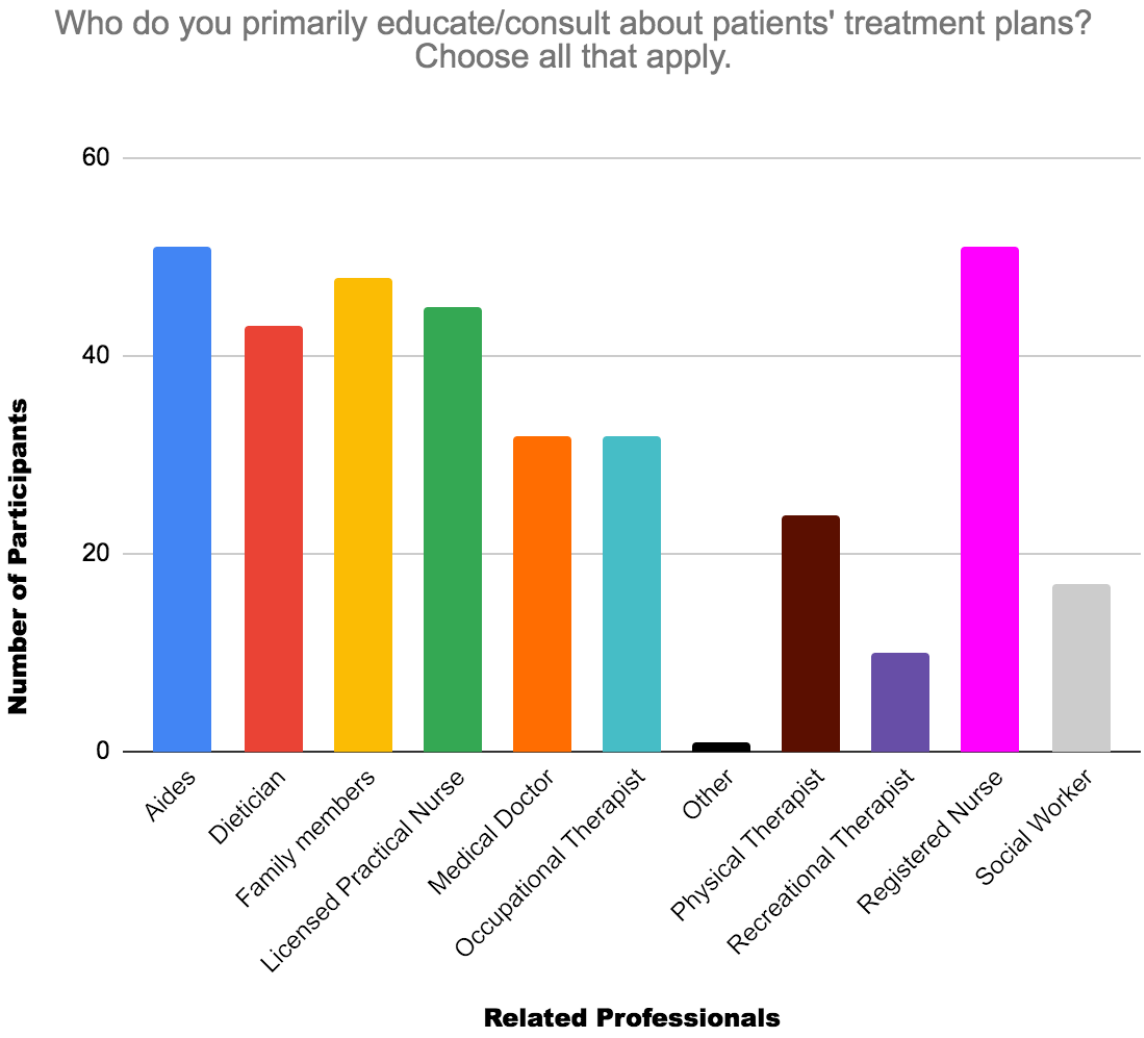


Figure 11. Accessibility of instrumental dysphagia assessments (n=54/62).

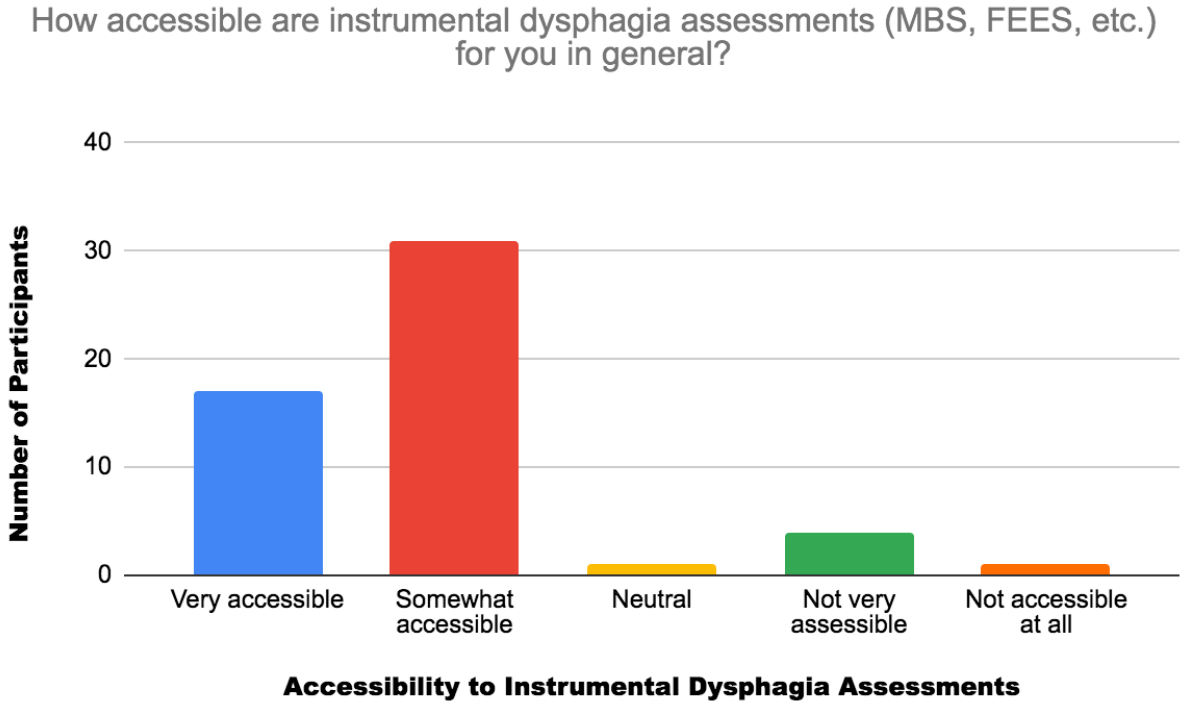


Figure 12. Confidence of the subjects training (n=54/62).

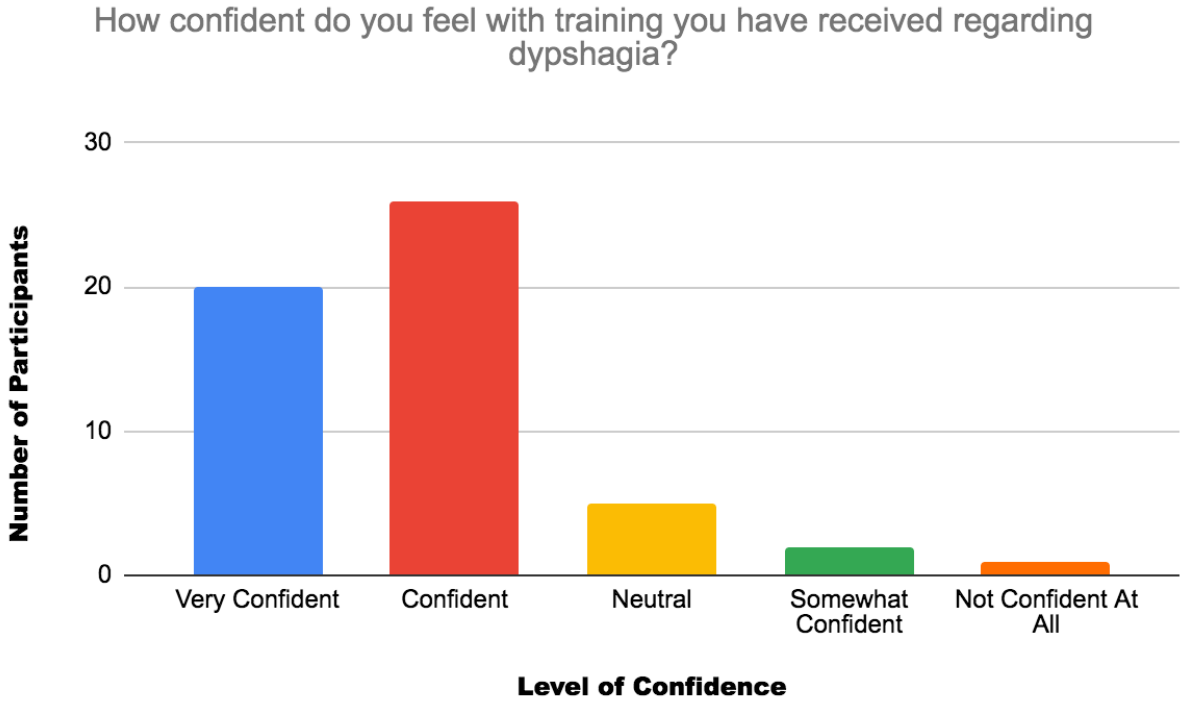


Figure 13: The comparison of what SLPs have received training in versus what is accessible to them.