

AWARENESS OF DYSPHAGIA-RELATED COMPLICATIONS AND RISK FACTORS AMONG CAREGIVERS OF PATIENTS WITH DYSPHAGIA

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Abstract

Background: Swallowing is the most critical phase in human life as it is a life dependent phase. Dysphagia, a prevalent condition affecting swallowing, presents unique challenges for caregivers responsible for patient well-being. The research employs a comprehensive approach, including literature review, interviews, and surveys, to identify knowledge gaps and misconceptions. It also examines the emotional toll on caregivers and how their knowledge levels impact the delivery of effective care. The findings aim to inform targeted interventions and educational programs, fostering improved caregiver training and support mechanisms to enhance the overall quality of care for dysphagic patients.

Objective: To find out the knowledge of dysphagia-related complications and risk factors among caregivers of dysphagic patients.

Methods: The methodology involves a comprehensive review of existing literature, as well as interviews and surveys conducted among caregivers to gauge their awareness, knowledge acquisition processes, and the potential consequences of inadequate understanding.

Results: After conducting 14 interviews with the caregivers of dysphagic patients, the results showed that most caregivers are uninformed about dysphagia related complications, risk factors, and even the disorder itself.

Conclusion: The results highlight the importance of involving family members in dysphagia awareness, emphasizing the necessity for comprehensive online training workshops to enhance caregivers' knowledge and improve the overall management of dysphagia.

INTRODUCTION

Dysphagia refers to difficulty swallowing, requiring more time and effort to move liquid or solid food from the mouth to the stomach. The side effects of dysphagia are well known. Many people have

experienced trouble swallowing, for example, when eating quickly or not chewing the food properly. This leads to a feeling that the food is going down the wrong pipe, and the throat needs to be clear. Such

occasional discomfort is usually not a cause for concern, but a persistent swallowing problem may be a sign of a serious underlying condition. Dysphagia can also result after a stroke, which, if left untreated, can cause aspiration pneumonia. A Speech and Language pathologist (SLP) can evaluate a patient's swallowing capacity and offer treatment in case of danger. People who have dysphagia experience difficulty in swallowing and may even experience discomfort during the swallowing process (odynophagia)².

There are three stages of swallowing. The tongue gathers the food or liquid during the initial phase, known as the oral phase, preparing it for swallowing. To enable chewing, solid food is moved about in the mouth by the jaw and tongue. By combining the meal with saliva, chewing changes the consistency and size of food, making it proper for swallowing. Saliva facilitates easier swallowing by moistening and softening the meal. The only solids humans typically take whole without chewing are pills. All other food that people ingest comes in a liquid, puréed, or solid form. After this, the tongue pushes the food to the back, and the food is forced down the pharynx, or throat, during the swallowing reflex. The larynx, or voice box, closes firmly during this phase, which is known as the pharyngeal phase, and breathing ceases to prevent food or fluids from getting into the lungs and airway. When food or fluid enters the esophagus, the tube that transports nourishment and fluids to the stomach, the third phase begins. Depending on the food's texture or consistency, the esophageal phase usually takes three seconds. Dysphagia occurs when there is a problem with any part of the neurological control or structures of the swallowing mechanism. It could be challenging to move food around in the mouth while chewing if the tongue or cheek muscles are weak. A stroke or any other neurological condition may make it troublesome to begin the swallowing reaction. Another problem can occur when frail throat muscles, such as those affected by cancer surgery, cannot move all of the food towards the stomach. Dysphagia can also result from diseases of the esophagus.

Dysphagia may exist. An individual who cannot swallow properly may not have sufficient energy to remain healthy or maintain a healthy weight.

Dysphagia has a variety of possible causes and is more common in adults. Any illness that weakens or damages the muscles and nerves involved in swallowing might cause dysphagia. For example, infection in Parkinson's disease or movement-related brain injury. Furthermore, a stroke or other head injury may impair the coordination or quality of the swallowing muscles and result in pain in the mouth and throat⁷.

Congenital abnormalities of the swallowing structure may prevent an individual from swallowing normally⁸. In development, cancer of the head, neck, or esophagus may cause difficulties with swallowing. A disease can cause the esophagus to narrow. People with dementia, memory loss, and cognitive issues may have swallowing problems.

Dysphagia, or difficulty swallowing, is increasingly common in older persons and contributes to medical, psychological, and financial issues. Eating less due to dysphagia can result in malnutrition, pulmonary impairment, and a higher risk of death. Additionally, it may lead to a decline in social interaction as well as an increase in anxiety and sadness, both of which have been connected to a worse standard of living and a higher death rate. In the end, dysphagia is not confined to a single person and can cause psychological stress on the whole family. Mealtimes and the customs that surround them encourage social interaction and interpersonal relationships. Therefore, dysphagia-related interruptions to everyday living probably also have an impact on the psychosocial well-being of a complete family, especially the primary caregivers⁹.

A study by Espinosa-Val et al. (2020) was conducted to investigate the occurrence, susceptibility, and prolonged breathing and dietary concerns in older patients with dementia during their carry-over sessions of Oropharyngeal Dysphagia. A longitudinal quasi-experimental design was employed, and 255 patients with dementia were recruited for this study. For the assessment of Oropharyngeal Dysphagia, Volume-Viscosity Swallowing Test, and a geriatric evaluation were performed. The therapeutic interventions these patients received were based on the thickness of the fluid, as well as the texture of the food, which was adjusted, and oral care. Patients were asked to attend a follow-up session up to 18 months

after their discharge. Findings revealed that Alzheimer's was the leading cause of dementia (52.9%), with the mean age of 83.5 ± 8.0 years. The total prevalence of OD was 85.9% in such patients. Out of which, 82.7% of patients were prescribed food with high viscosity, and 93.6% required modified food with poor adherence. After 18 months of follow-up sessions, a comparison was made between OD and non-OD patients. It was found that OD patients were older ($p < 0.007$), had less functioning ($p < 0.0001$), had worse nutritional status ($p = 0.014$), and had more severe dementia ($p < 0.001$) than those without OD. Also, these patients showed higher rates of respiratory infections ($p = 0.011$) and mortality ($p = 0.0002$). These results confirmed that patients having dementia also have OD, which is associated with their reduced capacity to function, undernourishment, infections of the respiratory system, as well as high rates of death. Therefore, it was recommended that new dietary approaches should be introduced to improve compliance and treatment effectiveness for this rising group of dysphagic patients¹²

The study examines compliance with Speech and Language Therapy (SLT) guidelines and recommendations for managing dysphagia improvement in a hospital institution, as well as the effectiveness of specific interventions. Some dangers of dysphagia (commonly linked to stroke and other diseases) include aspiration pneumonia. The study involved sequential observational audits focused on compliance with the SLT recommendations, specifically fluid consistency, dietary adjustments, and supervision, at University Hospital Lewisham. Before the intervention, the rate of compliance among wards and recommendations was not uniform, as compliance was as low as 35% under supervision and 48% for fluid consistency. Upon the implementation of specified measures, such as the dysphagia link nurse program, staff training, and the introduction of pre-thickened drinks, the situation has improved significantly in various aspects: the consistency of fluids (64%), supervision (67%), and adherence to safe swallow principles (90%). The results support the role of the low-cost multidisciplinary educational programs and the changes in the procedure as a way of increasing the quality of care in patients with dysphagia. The research suggests that these

interventions are used more widely in settings across healthcare organizations to minimize complications and achieve better patient outcomes¹³.

A study was conducted on Dysphagia Management in Iran, focusing on the knowledge, Attitudes, and Practices of Healthcare Providers. To identify areas where the quality of treatment for patients with dysphagia needs improvement, a thorough understanding of the knowledge, attitudes, and practices (KAP) of healthcare professionals is required. The first draft, which included demographic data and KAP characteristics, was created. The draft covered four areas: (1) demographic data; (2) swallowing and dysphagia knowledge; (3) attitude towards team working, and (4) methods of practice in diagnosis, assessment, and treatment of dysphagia. Participants were medical professionals who worked in educational and governmental hospitals with neurology, neurosurgery, and rehabilitation wards in Tehran, Shiraz, and Mashhad, Iran's three largest cities. Three hundred twelve medical experts made up the sample size. Validities of face and content were examined. According to the findings of the Mann-Whitney U and Pearson correlation tests, the majority of medical professionals (96.8%) knew what dysphagia was. The majority of participants thought that their profession (88.5%) and other disciplines (92.3%) may be crucial in helping people with dysphagia. 60.9% reported having been across a patient who had dysphagia. In contrast, 49.9% had used at least one treatment approach, while 52.2% had utilized at least one assessment method. To conclude, hospital policies should prioritize training and upgrading healthcare workers, promoting interdisciplinary teamwork, establishing clear guidelines, and facilitating access to new equipment, as diagnostic and treatment expertise are key areas where care can go wrong¹⁴.

Namasivayam-MacDonald and Shune (2018) conducted a systematic review on The Burden of Dysphagia on Family Caregivers of older people. The review found that studies about head and neck cancer showed that taking care of people with swallowing problems can affect how a caregiver feels about their own lives. Because many older adults experience difficulty swallowing, their caregivers are also affected, often to a greater extent. The review examined all

available information on the challenges faced by caregivers of older adults with swallowing difficulties. The research reviewed studies on swallowing problems, caregiver stress, and the use of search terms by older adults up to April 2018. The study found 2331 different articles. Out of 176 articles that were carefully checked, only four were approved. Everyone said it was harder to take care of their loved ones because they had trouble swallowing. Having more trouble with feeding behaviors made people feel more stressed, and using feeding tubes exacerbated their stress. Older adults who have difficulty swallowing require significant support and assistance from their caregivers. Doctors should be aware that dysphagia can be a challenge for caregivers, and further research is needed to understand the impact of difficulty swallowing on caregivers, enabling the development of more effective support measures¹⁵.

Although caregivers offer invaluable help, dysphagia may have an impact on caregivers in ways other than support giving. Dysphagia may have a detrimental effect on caregivers, such as requiring more time to plan and prepare two different meals and restricting the number of shared mealtimes. These caregivers experience increased load, distress, frustration, melancholy, loneliness, and a lower quality of life. A caregiver might experience "third-party disability," where the health condition of one family member affects the functioning and well-being of another.

Studies in patients with neurogenic dysphagia showed that when caregivers fail to comply with dysphagia strategies, it can lead to chest infections, aspiration pneumonia, prolonged hospital stays, unfavorable clinical outcomes, and even death of the patient. Subsequently, the role of caregivers is exceptionally critical in the treatment of dysphagia. The level of information and mindfulness of the caregiver directly influences the adequacy of restoration. Because the caregiver is the one who is most interested in the child and spends the most time with them, their knowledge and mindfulness have a particular impact on how adequate the recovery is. Understanding dysphagia, its adverse effects, and how to administer it, the caregiver will be better able to restore the child's condition and supply the required information. This will increase

the level of recovery adequacy and strengthen contact with the wellness team. Determine the caregiver's level of knowledge regarding dysphagia and symptoms is the purpose of this study.

Objective

To investigate the knowledge of Dysphagia-Related Complications and Risk Factors among Caregivers of Dysphagic Patients.

Methods and Materials

3.1 Study design

The study used a Qualitative Research design to explore caregivers' dysphagia-related knowledge and risk factors. A Phenomenological approach was used to gain in-depth insight into caregivers' knowledge through narrative data.

3.2 Setting

Data were collected from caregivers in two settings: their homes and from those attending to patients admitted to the National Hospital.

Duration of the Study

The study was conducted in 6 months following the approval of the synopsis.

3.3 Sample size and technique

The study sample consisted of 14 caregivers. The participants were selected using a convenience sampling technique, based on participants' availability and willingness to participate.

Inclusion criteria

- Both male and female caregivers aged 20 to 60 years
- Individuals providing primary care to adults diagnosed with dysphagia
- Caregivers managing all phases of dysphagia

3.4 Exclusion criteria

- Caregivers who are dealing with individuals with presbyphagia.
- Caregivers who provide home care services.

Table 1: Demographic Characteristics of participants (N=14)

Total Samples	14	
Age	20 to 30	9
	40 to 60	5
Gender	Male	9
	Female	5
Qualification	Matric to Graduation	9
	Masters or above	5
Socioeconomic status	Middle class	6
	Upper middle class	8

3.5 Data collection tool

A semi-structured interview guide was designed based on the expert reviews and through a literature review. The guide included open-ended questions to elicit caregivers' knowledge, understanding, and management strategies for dysphagia.

3.6 Data collection procedure

The data for this study were gathered by caregivers scheduling interviews at convenient times and locations for the participants. Audio recording devices were utilized with participants' consent to ensure accurate data capture. A comfortable and supportive environment was created to encourage participants to share their knowledge and experiences.

Data analysis procedure

The audio recordings were transcribed verbatim and analysed using thematic analysis. Initial coding was done manually. The relevant themes and subthemes were identified from recurring patterns.

Results

After conducting the thematic analysis of 14 caregivers, several themes and subthemes emerged, which showed the lived experiences and knowledge of caregivers handling patients with dysphagia. The results are organized into seven major themes, each with relevant subthemes, and illustrated with participant quotes for clarity and depth.

1. Swallowing Difficulty

Caregivers frequently reported challenges related to swallowing difficulties, including choking and general difficulty during eating or drinking.

"He feels difficulty while eating and drinking." (P5, L2)

"Commonly choke due to water." (P1, L7)

2. Experience with Dysphagic Patients

Caregivers have also reported that dysphagic patients need much attention, particularly those with chewing issues.

"She keeps food in her mouth rather than chewing and swallowing." (P5, L55)

"Such patients need a lot more attention." (P1, L45)

Practical adaptations were frequently mentioned:

"Give small amounts of food so that it doesn't get stuck." (P11, L21)

3. Difficulty regarding swallowing

The study revealed swallowing problems, such as pocketing and drooling, particularly during the intake of liquids.

"Coughing occurs once their breathing stops." (P1, L53)

"They cough while giving water." (P11, L33)

4. Factors related to swallowing difficulty

Caregivers were aware of multiple factors behind dysphagia, such as stroke, muscular weakness, pneumonia, and esophageal dysphagia.

"A stroke occurred and was caused by this." (P1, L71)

"Due to muscular weakness." (P5, L127)

5. Training and interacting with professionals

Caregivers were asked if they had received any training regarding dysphagia-related issues. A significant knowledge gap was found. Most caregivers had not received any formal training.

"No, I have not received any such education." (P1, L88)

However, many caregivers reported interacting with a speech-language therapist when needed.

"If they don't understand something, we ask them." (P4, L117)

But, lack of resources and time were common barriers.

"The main issue in this is not getting much time." (P1, L104)

6. Steps to overcome Swallowing difficulty

Some caregivers had developed strategies to improve swallowing safety, such as adjusting posture, food texture, and bolus size:

"Let her sit straight so that she could swallow properly." (P1, L121)

"Need small chunks so it can be easily swallowed." (P1, L141)

Nevertheless, awareness and use of **therapeutic aids** like food thickeners, chewy tubes, or neck collars were minimal:

"No." (P4, L198)

7. Psychological Impacts

Caregivers reported significant emotional burden, including anxiety, fear of aspiration, and stress while feeding patients. These challenges sometimes caused mood changes in the patient and affected the caregivers' emotional health:

"The psychological pressure is very high. I also get scared while giving food, fearing it may enter the airway." (P1, L150)

"The patient becomes irritated at this stage." (P4, L157)

A few participants admitted having no clear understanding of interventions like food consistencies or swallowing exercises:

"I don't have any idea." (P1, L180)

Table 2: Demographic table with the response of candidates categorized by theme and subtheme

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Swallowing Difficulty	Swallowing issues Chocking	عام طور پر پانی سے کھانسی کر جاتے ہیں (P1,L7) ان کو کھانے پینے میں بہت مشکل ہوتی ہے (P5,L2)	Commonly choke due to water(P1,L7) He feels difficulty while eating and drinking(P5, L2)
Experience With Dysphagic Patient	Dysphagic patients need much attention. Experience with a dysphagic patient NG Chewing issues	جب کھانا دیتے ہیں تو بہت تھوڑا سا دیتے ہیں تاکہ (P11,L21) کھانا زبان کے اس پاس کرتی رہتی ہیں (P5,L55) اس طرح کے مریض کو کافی زیادہ توجہ کی ضرورت ہوتی ہے (P1,L45)	Give small amount of food so that it could not Stuck(P11,L21) She keep food in her mouth rather than chewing and swallowing(P5,L55) Such a patient needs a lot more attention (P1,L45)
Difficulty Regarding Swallowing	Common swallowing complications	اتھو لگ جاتا ہے ایک دم	

	Pocketing Drooling	ان کا سانس رک جاتا ہے (P1,L53) لیکن پانی ان کو لگ جاتا ہے یعنی پانی دیتے ہوئے کھانسی ا جاتی ہے (P11,L33)	Coughing occurs once their breathing stops (P1, L53) But the water sticks to them, that is, they cough while giving water (P11, L33)
Factors Related to Swallowing Difficulty	Stroke Muscular weakness Pneumonia Esophageal dysphagia	فالج کا اٹیک ہوا اور اس کی وجہ سے ہوا (P1,L71) بلڈ پریشر اور شوگر کی وجہ سے ہو سکتا ہے (P4,L95) سٹروک کی وجہ سے ہو سکتا ہے (P6,L49) مسلز کی ویکنس کی وجہ سے ہو جاتا ہے (P5,L127)	A stroke occurred and was caused by this (P1,L71) It can be due to hypertension and diabetes(P4,L95) It can be cause of stroke(P6,L49) Due to muscular weakness(P5,L127)
Training Regarding Dysphagia	Guidance from a professional Online training	ہیں ایسی کوئی تعلیم حاصل کی نہیں (P1,L88)	No, I have not received any such education(P1, L88)
Interaction With Professionals	Speech therapist Professional terms Lack of time Costly	نہیں کوئی مشکل پیش نہیں اتی کچھ سمجھ نہ ائے تو ہم ان سے پوچھ لیتے ہیں (P4,L117) اس میں سب سے زیادہ ٹائم کا ایشو ہوتا ہے زیادہ ٹائم نہیں ملتا (P1,L104)	No, there is no problem. If they don't understand something, we ask them (P4,L117) The most time issue in this is not getting much time (P1,L104)
Steps To Overcome Swallowing Difficulty	Posture management Food consistencies Small bolus Food thickener	سیدھا بٹھا کے رکھنا تاکہ وہ پوری طرح چبا سکیں (P1,L121) چھوٹے نوالے دینے چاہیے تاکہ نگلنے میں آسانی ہو (P1,L141)	Let her sit straight so that she could swallow properly(P1, L121) need in small chunks so it can be easily swallowed(P1,L141)
Psychological Impacts	Swallowing fear Resistance while eating Mood swings Impact on social life	نفسیاتی پریشر تو بہت زیادہ ہوتا ہے میں بھی نوالہ دیتے ہوئے ڈر جاتی ہوں سانس کی نالی میں نہ چلا جائے (P1,L150)	The psychological pressure is very high. I also get scared while giving the food. Do not get into the respiratory tract (P1, L150) Patient becomes irritated at this stage(P4,L157)

		اس حالت میں مریض کے اندر زیادہ غصہ آ جاتا ہے (P4,L157) مریض کو تو ظاہری بات ہے محسوس ہوتا ہے (P11,L65)	It affects the patient (P11, L65)
Food Consistencies Swallowing Exercises	Food consistencies Swallowing exercises	مجھے اتنا ائیڈیا نہیں (P1,L180) ہم نے خود تو اس پر کوئی کام نہیں کی (P11,L52)	I don't idea (P1,L180) We didn't work on it(P,11,L52)
Additional Sources To Overcome Swallowing Difficulties	Food thickener Chewy tube Neck collar	نہیں (P4,L198)	No(P4,L198)

Discussion

The qualitative study titled "Knowledge of Dysphagia Related Complications and Risk Factors among Caregivers of Dysphagic Patients " offered a comprehensive exploration of the experiences, perceptions, and challenges faced by individuals affected by Parkinson's disease who are dealing with dysphagia. Through in-depth interviews and focus group discussions, the research delved into the lived experiences of patients, aiming to identify the complications and risks associated with dysphagia, such as aspiration pneumonia and malnutrition. A key focus of the study was uncovering gaps in awareness among both patients and caregivers, shedding light on the lack of understanding regarding dysphagia symptoms and consequences. Additionally, the research investigated the perceived importance of early intervention, exploring when individuals seek medical help and the barriers they encounter in doing so. Communication challenges between healthcare providers, patients, and caregivers regarding dysphagia were also addressed, with the study aiming to improve patient education and information dissemination. Furthermore, the qualitative approach provided insights into how dysphagia impacts daily life, disrupting eating habits, social activities, and overall well-being. Caregiver perspectives were a crucial aspect of the study, examining the challenges they face in providing care and their knowledge about dysphagia. Ultimately, the research contributed

valuable recommendations for healthcare practices, offering insights to enhance patient education programs, improve communication strategies, and develop targeted interventions for dysphagia in Parkinson's disease.

However, it is essential to note that other factors also hold significant importance. Like caregivers were not trained professionals, nor did they receive any training in the treatment of dysphagia patients. Thirty percent of well-educated caregivers were aware of the patient's condition but remained unaware of the emotional aspects and additional details. 70% of caregivers were less knowledgeable. According to the findings of another study that was carried out in 2023 Awareness of Dysphagia-Related Complications and Risks and the Importance of Early Intervention in Patients with Parkinson's Disease and their results that out-patients with PD had low or no knowledge of PD symptoms other than motor symptoms and that 16/18 of the respondents did not know or pay attention to one of the most serious complications, swallowing disorder, and only 6/18 of the respondents were willing and wanted early intervention to delay the onset of swallowing disorders, which is in line with the other findings of this study that patients with PD have low knowledge of the disease and its complications. There are few qualitative studies on the knowledge and intervention needs for PD complications among patients; however, studies have pointed out the need

for early interventions to delay the onset of dysphagia complications in the early stages of PD.

Another study by Kurpershoek et al. (2022) conducted in-depth interviews with 20 patients with PD to understand their needs and wishes for an early nursing intervention plan. The results revealed that most people realized that their neurologists mainly focused on drug treatment and had little time to address their needs for more comprehensive methods of living with Parkinson's disease, indicating that they lacked supportive nursing guidance. The patients hoped to discuss the early intervention nursing plan with medical staff in the early stage of the disease, so they could better understand the uncertainties they would face in the future.

Another study conducted in Egypt in 2023 also yielded results regarding the awareness and knowledge of dysphagia among healthcare practitioners in Egypt. Nearly one-third of the participants indicated that they conduct swallowing screenings, and almost 40% selected that they conduct assessments of dysphagia patients. Almost 35.1% of participants selected that they recommend the safest diet and healthy lifestyle. The gold standard for assessing oro-pharyngeal dysphagia is an evaluation by a phonetician, who might use fibrotic nasopharyngoscopy or video-fluoroscopy to confirm suspected dysphagia and aspiration. However, an initial bedside swallowing assessment by a patient's primary clinician is often appropriate. This study was conducted and manipulated in another country, and the results are the same. Caregivers are often unaware of the patient's actual risk factors and related issues.

The investigation into the awareness and knowledge of dysphagia among healthcare practitioners in Egypt represents a crucial exploration of a fundamental aspect of patient care. Dysphagia, characterized by difficulties in swallowing, demands a nuanced understanding from healthcare providers to ensure timely detection and intervention. This study likely delves into the challenges faced by practitioners in recognizing dysphagia symptoms, addressing potential gaps in awareness, and emphasizing the impact on patient care. The discussion is expected to extend to educational needs, identifying areas where additional training or resources could enhance practitioners' proficiency in managing dysphagia cases. The

interdisciplinary collaboration among healthcare disciplines and its contribution to effective dysphagia care are likely to be explored, alongside an examination of patient outcomes associated with practitioners' awareness levels. Moreover, the study may propose interventions and training programs tailored to the unique needs of healthcare practitioners in Egypt, taking into account cultural and contextual factors that influence dysphagia awareness. Ultimately, the research provides a valuable platform for understanding the current state of dysphagia awareness, pinpointing areas for improvement, and shaping recommendations to enhance the overall quality of patient care in the Egyptian healthcare context.

CONCLUSION

In conclusion, the lack of national and international studies on dysphagia-related complications and risk factors among caregivers has led to a significant gap in awareness. This deficiency is evident as most caregivers are uninformed about dysphagia-related complications, risk factors, and even the disorder itself. The study highlights the crucial need for training and education among caregivers, emphasizing the significance of understanding proper body posture during feeding, monitoring food consistency, and being aware of swallowing maneuvers. The results underscore the importance of involving family members in dysphagia awareness, emphasizing the necessity for comprehensive online training workshops to enhance caregivers' knowledge and improve the overall management of dysphagia.

Recommendations

More awareness is required to be provided to the caregivers of dysphagic patients.

Training sessions for the caregivers of dysphagic patients regarding its complications and risk factors. These sessions should focus on enhancing their understanding and teaching effective strategies for care.

Proper education and training of a multidisciplinary team can assist in this situation, as patients encounter various healthcare professionals. If they are well-trained, complications may be reduced to a greater extent.

References:

- Achem, S.R. and K.R. DeVault, *Dysphagia in aging*. Journal of clinical gastroenterology, 2005. **39**(5): p. 357-371.
2. Zavala, S.R. and P.O. Katz, *Dysphagia and odynophagia*. Textbook of Clinical Gastroenterology and Hepatology, 2012: p. 11-15.
3. Walton, J. and P. Silva, *Physiology of swallowing*. Surgery (Oxford), 2018. **36**(10): p. 529-534.
4. Negus, V., *The second stage of swallowing*. Acta Oto-Laryngologica, 1948. **36**(sup78): p. 78-82.
5. Singh, S. and S. Hamdy, *Dysphagia in stroke patients*. Postgraduate medical journal, 2006. **82**(968): p. 383-391.
6. Morley, J.E., *Dysphagia and aspiration*. Journal of the American Medical Directors Association, 2015. **16**(8): p. 631-634.
7. Garcia, J.M. and E. Chambers IV, *Managing dysphagia through diet modifications*. AJN The American Journal of Nursing, 2010. **110**(11): p. 26-33.
8. Ward, E.C. and A.T. Morgan, *Dysphagia post trauma*. 2009: Plural Publishing.
9. Kosko, J.R., et al., *Differential diagnosis of dysphagia in children*. Otolaryngologic Clinics of North America, 1998. **31**(3): p. 435-451.
10. Easterling, C.S. and E. Robbins, *Dementia and dysphagia*. Geriatric Nursing, 2008. **29**(4): p. 275-285.
11. Ohba, T., et al., *Risk factors and assessment using an endoscopic scoring system for early and persistent dysphagia after anterior cervical decompression and fusion surgery*. Clinical Spine Surgery, 2020. **33**(4): p. E168-E173.
12. Gallegos, C., et al., *Nutritional aspects of dysphagia management*. Advances in food and nutrition research, 2017. **81**: p. 271-318.
13. Choi, S.H., G.K. Yang, and J. Gagnon, *Dysphagia aortica secondary to thoracoabdominal aortic aneurysm resolved after endograft placement*. Journal of Vascular Surgery Cases, Innovations and Techniques, 2019. **5**(4): p. 501-505.
14. Lawal, A. and R. Shaker, *Esophageal dysphagia*. Physical medicine and rehabilitation clinics of North America, 2008. **19**(4): p. 729-745.
15. Rommel, N. and S. Hamdy, *Oropharyngeal dysphagia: manifestations and diagnosis*. Nature reviews Gastroenterology & hepatology, 2016. **13**(1): p. 49-59.
16. Yang, X., et al., *Analysis of upper airway morphology and laryngopharyngeal reflux in obese patients with OSA*. Zhonghua er bi yan hou tou jing wai ke za zhi= Chinese journal of otorhinolaryngology head and neck surgery, 2022. **57**(7): p. 874-879.
17. Philpott, H., et al., *Dysphagia: Thinking outside the box*. World journal of gastroenterology, 2017. **23**(38): p. 6942.
18. Prasse, J.E. and G.E. Kikano, *An overview of pediatric dysphagia*. Clinical pediatrics, 2009. **48**(3): p. 247-251.
19. Zald, D.H. and J.V. Pardo, *The functional neuroanatomy of voluntary swallowing*. Annals of Neurology: Official Journal of the American Neurological Association and the Child Neurology Society, 1999. **46**(3): p. 281-286.
20. Daniels, S.K., K. Brailey, and A.L. Foundas, *Lingual discoordination and dysphagia following acute stroke: analyses of lesion localization*. Dysphagia, 1999. **14**: p. 85-92.
21. Veis, S. and J. Logemann, *The nature of swallowing disorders in CVA patients*. Archives of Physical Medicine and Rehabilitation, 1985. **66**: p. 372-375.
22. Martino, R., et al., *Dysphagia in a patient with lateral medullary syndrome: insight into the central control of swallowing*. Gastroenterology, 2001. **121**(2): p. 420-426.
23. Garon, B.R., M. Engle, and C. Ormiston, *Silent aspiration: results of 1,000 videofluoroscopic swallow evaluations*. Journal of Neurologic Rehabilitation, 1996. **10**(2): p. 121-126.

24. Rofes, L., et al., *Diagnosis and management of oropharyngeal dysphagia and its nutritional and respiratory complications in the elderly*. Gastroenterology research and practice, 2010. 2011.
25. RL, G.C.H. and D. Wade, *Dysphagia in acute stroke*. Br Med J (Clin Res Ed), 1987. 295(6595): p. 411.
26. Park, H.-Y., et al., *Post-stroke respiratory complications using machine learning with voice features from mobile devices*. Scientific Reports, 2022. 12(1): p. 16682.
27. Namasivayam-MacDonald, A.M. and S.E. Shune, *The burden of dysphagia on family caregivers of the elderly: A systematic review*. Geriatrics, 2018. 3(2): p. 30.

