

Original articles

Post-stroke dysphagia: an analysis of the competences of the care processes of the interdisciplinary team

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ABSTRACT

Objective: to analyze the competencies of the interprofessional team in the care of dysphagic stroke patients.

Methods: an exploratory-descriptive, qualitative study. The research participants i.e., nursing technicians, nurses, physiotherapists, speech therapists and physicians that provided care to patients with stroke in the acute and subacute phase, were randomly selected. The study setting was a stroke unit and neurological ward of the neurology referral hospital for Ceará State, Brazil. Data collection was performed through a semi-structured and recorded interview. The recorded data were organized and analyzed, according to the thematic analysis technique proposed by Bardin.

Results: based on the statements, three main categories were developed: “conceptualizing and identifying dysphagia”, “knowledge about the prevention of bronchoaspiration in stroke patients” and “bronchoaspiration as a complication of dysphagia”. The providers’ statements revealed that some experienced doubts and even unawareness about what dysphagia is.

Conclusion: the present study showed a complexity of care for stroke patients with dysphagia. Therefore, this scenario reflects the need for continuing education in the service and for interdisciplinarity among professional categories.

Keywords: Dysphagia; Speech, Language and Hearing Sciences; Stroke; Pneumonia; Health Assessment

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INTRODUCTION

Stroke is the leading cause of disability and death worldwide, in both high-income countries and developing countries¹. According to data from the World Stroke Organization, one in six individuals in the world will have a stroke during his/her life². In Brazil, this is the main cause of mortality, characterizing an extremely disabling disease, and considered one of the greatest public health concerns in the country³.

According to studies found in the literature, oropharyngeal dysphagia is present in more than 50% of stroke cases when still in the acute phase, with its main complications being: malnutrition, dehydration and pulmonary complications, such as aspiration pneumonia⁴. Pneumonia affects approximately 30% of these patients in the acute post-stroke phase⁵, being associated with higher mortality, worse functional outcome and longer hospital stays⁶.

The American Heart Association and the American Stroke Association confirm this finding by stating that stroke patients are up to 7 times more likely to develop aspiration pneumonia when dysphagia is not screened for, with them requiring twice the length of hospital stay⁷.

Therefore, there is growing concern related to care for post-stroke patients. In Brazil, the stroke care line aims to provide integrative and continuous care with speech therapy assessment within 72 hours after admission⁸. This is in agreement with the Stroke Care Routine Manual, which recommends that all patients should be screened for oropharyngeal dysphagia⁹. However, in Brazil, this is not a reality, as there is a deficiency in the sizing and number of healthcare providers in hospitals in the Brazilian Nation Health System (*Sistema Único de Saúde - SUS*), contributing to a failure in the care and in the integrality of the care¹⁰.

It is known that healthcare providers need to have an integrative view of the individual, so that, the complications and risks of death are reduced¹¹. The support of a multi and interdisciplinary team is extremely important for the identification of swallowing alterations and they must be trained to recognize and intervene in these changes¹². Accordingly, the evaluation process is of paramount importance, as it supports the identification of problems and the reorientation of actions and services developed. This makes it possible to better decide on the incorporation of new health practices into the routine of the providers and measure the impact of the actions implemented by the services and programs on the health status of the population¹³. The result of

this process should aim to improve actions, and not be taken as a punitive possibility for the actors¹⁴. The evaluative practice can be introduced in several ways. It can be part of the planning and management of the institutions, programs and projects and simultaneously accompany actions aimed at changes from its first design¹⁵. Currently, evaluation should not only be considered a technique, but as a “transdiscipline”, that is, a field of study that simultaneously provides instruments for reflection in other areas¹⁶.

Given the importance of the topic and the data gap in the scientific literature, this study is of great relevance, as it aims to analyze the knowledge of the care process of the interdisciplinary team with dysphagic patients affected by stroke, therefore guaranteeing safe care with adequate clinical interventions, contemplating the individual in an integrative way.

METHODS

The study was submitted to and approved by the Ethics Committee for Research Involving Human Subjects of the General Hospital of Fortaleza, Ceará, Brazil, under authorization No. 2.891.570, No. CAAE: 94918518.8.0000.5040, with the ethical requirements established in Resolution No. 466, of December 12, 2012 of the National Health Council being fully complied with.

This was a qualitative descriptive study, as the aim was to analyze, through the discourses of the healthcare providers of the multidisciplinary team, concepts, actions and relationships that are processed and produce direct reflections in the operationalization of care for dysphagic stroke patients. Qualitative research consists of understanding phenomena, taking into account the singularity of the individuals, as subjectivity is considered the manifestation of total living, regardless of whether or not it can be quantified^{17,18}.

The study setting was the stroke unit and the neurological ward that comprise the care spaces for this population in the largest public hospital in Ceará, which is also the Neurology referral hospital for the state¹⁹. The decision to carry out the study in both sectors was due to the fact that they complement each other in the process of specialized care for patients with the disease in question. Initially, the patient with acute stroke is, ideally, assisted in the unit and, after stabilization, transferred to the ward.

The study participants were 18 healthcare providers, selected by convenience, from the following professional categories: 4 Nursing Technicians (NT),

5 Nurses (N), 4 Physiotherapists (PT), 3 Speech Therapists (ST) and 2 Physicians (P) that provide care to stroke patients in the acute and sub-acute phase. In order not to identify the participants or the institution, at the end of each excerpt, the initial letter notations of each professional category were added. This choice was made, as these are the actors in the process of healthcare for dysphagic stroke patients. It is understood that these hospitalized individuals need to be approached in order to consider the complexity of the emotional and physical effects that this disease has on them, therefore, the care must be analyzed from a multidisciplinary perspective²⁰. The sample selection criterion was: being a healthcare provider that assists stroke patients in the acute and sub-acute phase.

Data collection was carried out through a semi-structured and recorded interview, from September 2018 to January 2019, using two instruments: a form with sociodemographic variables (gender, age, professional category, time since professional qualification, length of experience with stroke patients and professional training) and a semi-structured interview script with data related to care for patients with dysphagia with the following guiding questions: in your opinion, what do you understand as dysphagia? Do you know how to identify when a stroke patient has dysphagia? Explain the interventions you use to prevent bronchoaspiration in your professional practice. Have you ever encountered an episode of bronchoaspiration? Would you consider it important to receive formal training in the management of dysphagic patients? The interviews were pre-scheduled, according to the availability of the subjects. Prior to the interviews, the subjects read and signed a consent form.

The data obtained were organized and analyzed according to the thematic analysis technique proposed by Bardin, which consists of breaking the text into categories grouped analogously. The option for categorical analysis is supported by the fact that it is the best alternative when the aim is to study values, opinions, attitudes and beliefs, using qualitative data. The interviews were transcribed in full and the material was subsequently analyzed, following the 3 phases proposed by Bardin: 1) pre-analysis, 2) exploration of the material, and 3) treatment of results, inference and interpretation²¹.

RESULTS

Based on the statements, three thematic categories were composed: “Conceptualizing and identifying

dysphagia”, “knowledge about preventing bronchoaspiration in stroke patients” and “bronchoaspiration as a complication of dysphagia”. The group was formed by 18 healthcare providers, 17 females and 1 male. The ages ranged from 20 to 54 years. The length of professional experience with stroke patients was a minimum of 3 months and a maximum of 27 years. Regarding the subjects’ professional category, 4 were Nursing Technicians (NT), 5 Nurses (N), 4 Physiotherapists (PT), 3 Speech Therapists (ST) and 2 were Physicians (P). In relation to professional training, 14 have postgraduate degrees, with 3 of these having postgraduate/residency in neurology and 9 in other areas of knowledge. Two providers had Master’s degrees.

Conceptualizing and identifying dysphagia

In this thematic category, the statements of the providers revealed that, although the vast majority expressed knowledge and familiarity regarding the topic, some professionals still presented doubts and even a lack of knowledge about what dysphagia is. This could be clearly perceived, for example, in the statement of NT1, who stated that dysphagia is a breathing problem; and N1, who showed weakness in the definition of the problem. Accordingly, it can be observed that, with this gap that emerged, the care link can be broken, interfering in the ideal care for the patient with dysphagia.

NT1: *“I confuse it with the other one... Dysphagia with aphasia. Which is difficulty in speaking, in breathing and there is... I confuse the names. (silence) But I think it is difficulty in breathing. I’m not sure”.*

N1: *“Dysphagia... (silence) in my opinion it’s a problem with the patient’s breathing... That he needs treatment, with the speech therapist. Something like that...”.*

Other discourses that should be highlighted in this qualitative assessment process are those related to the recognition of the dysphagic patient. During the interviews, it was noticed that although there were doubts in the identification of the dysphagic patient, there was knowledge of other relevant criteria in the screening of this patient. This was perceived through weak discourses, as observed in the statements of PT1 and N4:

PT1: *“I don’t know if it’s the right one, but... If the patient chokes when he drinks liquids or eats, I think this is one of the signs of dysphagia”.*

E4: *"I don't know. This is very new to me. When I came here, I didn't have any guidance on how to identify the dysphagic patient, we get into the routine and see what happens routinely".*

This weakness in the process of identifying dysphagia could be related to the professional training, as seen in the following statements that emerged when the participants were asked if they were interested in a training process on the subject. The statements of P1, ST2, PT2 and N3 stand out, as they mentioned relevance of continuous educational processes within the institution and also of greater integration between the components of the multidisciplinary team.

P1: *"I think so. Because we do not have training, we don't have very formal guidance that helps particularly in emergency situations"*

ST2: *"We even made some formal guidelines for the techniques, but it has been a while and it changes and they also forget. I think training needs to be carried out again. Not only with the technicians, but with the other professionals as well".*

PT2: *"... it is important, everyone needs to know. It is not wanting to get involved in the work of others, but it is the multidisciplinary part, understand? Because, the patient is not just an arm, not just a brain. The patient is the whole body, right?"*

N3: *"Sure. It is always very valid. The more knowledge the better. Since this subject is so important. I would like this very much."*

Knowledge about the prevention of bronchoaspiration in stroke patients

When the topic of bronchoaspiration was approached, there was a consensus on the knowledge of the term and interventions practiced by the care providers. This must be understood as an important point to be strengthened and explored within the health service in question. It can be seen in the statements of N1 and P2.

N1: *"bronchoaspiration would be when the patient for some reason has the food or even the saliva go down the wrong way, which would be to the bronchi and the lungs." - "I would start with the guidance according to the clinical situation of the patient, guiding the companion in the correct way to feed him, to offer the food in the correct position. Positioning the head of the patient to prevent*

bronchoaspiration, to see if the consistency of the food is right for the patient. To observe whether the patient is sialorrhagic."

P2: *"Usually, we keep the head of the patient higher, because there are studies showing the influence of the head. In the 0° position, he is more likely to aspirate. The care of oral hygiene and even reduction of sialorrhagia with buscopan, atropine eye drops reduce this more. It makes it difficult for a large part of that saliva, of this sialorrhagia to go to the lung. And the question of the tube in patients with more impaired swallowing, you know? We start feeding through the tube, then it ends up decreasing even the respiratory discomfort, because we know that part of this food ends up falling into the airway".*

However, it was possible to identify a lack of knowledge in the discourses of some providers in relation to the interventions necessary for the prevention of bronchoaspiration, limited to the concern with the positioning of the headboard. This can be seen in the statements of N2, NT3 and PT2.

N2: *"To prevent bronchoaspiration, it is important to adjust the positioning of the headboard; to observe whether the patient is sialorrhagic "*

NT3: *"Keep the headboard elevated to 30°, the feeding is carried out with the patient seated and after he eats he has to stay seated in order not to aspirate".*

PT2: *"Headboard elevation, I think it is one of the most important things for prevention, right? In my practice it is this. So, in my practice it would be the headboard elevation of at least 30°, right? And... prevention? And if I think that the patient is not swallowing or else he is accumulating liquid in his mouth or possibly aspirating food, I inform the team of what is happening".*

Bronchoaspiration as a complication of dysphagia

It can be confirmed through the discourses that some providers had already experienced serious consequences of bronchoaspiration. This fact can be seen in the statements of PT4, ST1 and P2.

PT4: *"The patient had a thickened liquid diet. His bed was not elevated. So, I already had these difficulties... And so... I didn't witness the act. But, I knew that the companion was giving liquid water without being thickened and lying down, because his bed*

did not elevate. Then he aspirated, this evolved into bronchospasm and with that he had to be incubated”.

ST1: *“Yes, several times. Patients that had a specific underlying disease and that we knew what the evolution would be and what was the risk of that patient being exposed to ... the oral diet ... to water orally. And we restricted this patient to that and... (silence) it was not done. So it happened that the patient had bronchial aspiration and needed ventilatory support and, in some cases, if I'm not mistaken, 3 patients died. There were other times the patient aspirated the contents of his diet that went through the nasogastric tube. So I have seen some cases of bronchoaspiration. Unfortunately...”.*

P2: *“I have already observed this... I think it was two cases of bronchoaspiration that I saw in which this was very important in the patient's final outcome. These were cases where the aspirated volume was large enough to actually generate respiratory decompensation and then there was a bad outcome. This happened twice...”.*

DISCUSSION

Post-stroke dysphagia is characterized as a swallowing disorder that commonly affects patients after cerebral ischemia²². This symptom can be present in approximately 42% to 92% of cases^{23,24} and the individual may develop serious complications, such as, for example, the increased risk of bronchoaspiration, malnutrition and dehydration²².

During the interviews, it was observed that the participants were aware of the topic, however, there were also those that presented weaknesses in conceptualizing dysphagia. This fact must be considered, as it is an aspect that can affect the continuity and comprehensiveness of the care provided to the patient. Leonor et al. (2015)²⁵ highlighted the importance of constructing a culture of continuing education, enabling the instrumentalization of the entire multidisciplinary team to care for dysphagic patients. This is because integrative care is only achieved when the care providers are able to harmonize competencies and interventions, as scientific knowledge from different areas of health does not make sense in isolation^{25,26}.

There was greater discomfort in responding to the concept of dysphagia and the identification of dysphagic patients in the nursing team, especially in

the technical level professionals. This is relevant, as these providers play a fundamental role in the care of dysphagic patients. It is them that can identify changes in swallowing, because nurses, nursing technicians and nursing assistants are present at the bedside twenty-four hours a day, especially at mealtimes. From this perspective, the need for adequate training in oropharyngeal dysphagia is highlighted, through educational processes, which would broaden the theoretical basis of this alteration, improving the care provided to the patients²⁷. Therefore, continuous education is essential for the professional development of an institution's human resources, making use of the place of the work activity itself, making use of everyday and real situations as the learning environment²⁸. In the discourses there was a positive inclination towards education actions related to the continuous need for qualification. This corroborates the fact that these activities must be anchored in the reflection of daily practices. The present study discusses this aspect and also corroborates the integrality that is important in the care of the dysphagic patient^{29,30}.

The main consequence of dysphagia is bronchoaspiration, with high prevalence in large hospitals. Its pathophysiological mechanism occurs through the infiltration of food particles, oropharyngeal fluids or gastric contents into the lower airways, which can trigger chemical pneumonitis, respiratory distress syndrome and infectious pneumonia³¹. The latter is considered the most common infection in the hospital environment. Therefore, it is necessary to have a multidisciplinary team to work on dysphagia, in which each professional must know their role well to favor the treatment of the patient³².

It is essential to know the medical history, signs and symptoms of patients and the most prevalent type of dysphagia to implement measures for the prevention and control of pneumonia^{33,34}. Accordingly, there are recommendations regarding interventions to minimize the risks of aspiration, these are: to position the patient vertically with an angle equal to or greater than 30 degrees, reaching up to 90 [degrees] if possible; monitor the level of consciousness and lung status; assess the cough reflex and swallowing ability; control vomiting; keep the head elevated for 30 to 40 minutes after feeding; inspect for food or medication retained in the oral cavity; provide oral care and check gastric/enteral/gastrostomy tubes³⁵. There is a scenario of plurality in the care of dysphagic patients that not only permeates the interventions that have

been exemplified, but also goes beyond them. As an example, there is the modification of the food consistency, preparation for medication administration, bed positioning at 90 degrees, and care with the cuff of the intubation cannula or tracheostomy during nutritional therapy, among others.

The discourses indicated that the majority of the team recognized the basic interventions necessary to assist the dysphagic patient. This shows that the care, despite the weaknesses in the concept and interventions demonstrated by a part of the team, is surrounded by potential, and can be refined with institutional quality programs, such as those based on risk management.

The difficulties in implementing transformative educational practices and their important role should be emphasized, as they are fundamental in the context of health education, considering the individual and local needs, which involves the institution³⁶. The educational practices developed influence the quality of the care provided to the patient, as they are based on the daily reality of these providers, reinforcing the implementation of the systematization of the assistance, an essential tool for patient care³⁷. A study on budgetary impact, which aimed to estimate the prevalence of bronchoaspiration and verify the cost-effectiveness of applying a preventive protocol, concluded that adherence to a preventive program through the application of a protocol, including a speech therapist, is cost-effective, generating cost reductions for hospitalization and reducing hospital stay³⁸.

Finally, it is essential to emphasize the enthusiasm of the healthcare providers to learn about dysphagia. This is best performed in the work environment, as it is through everyday life that practices are questioned and instrumentalization occurs in order to identify and act, knowing that overcoming these practices allows the effective incorporation of the technical, cultural and ethical instruments necessary for competent intervention³⁵. It is also necessary that the providers understand their professional praxis. This starts with comprehending their individual role with their specific disciplinary knowledge and attitudes and later their role within the health team; understanding that their scientific knowledge is essential, but does not make sense in isolation. Health, due to the complexity of its object, is considered a transdisciplinary field²⁵.

CONCLUSIONS

The present study highlighted weaknesses in the knowledge regarding the conceptual scope of

dysphagia in the multidisciplinary team, which can compromise the quality of the care offered, with theoretical support being necessary for taking qualified and effective actions. The discourses also evidenced interventions not that diversified, which is inconsistent with the large amount of evidence already existing in the literature.

In view of this, the need to institute this theme in the continuous education program of the hospital is emphasized, as recommended in the National Policy for Continuous Education. This provides a higher quality in the care actions of the professionals, through clinical, critical and reflective reasoning, with the purpose of improving behaviors with a focus on integrality and comprehension of the possible actions to be taken. The importance of continuous evaluation processes, through the triangulation of methods in the health institution, is also highlighted, allowing a deeper understanding of the care process.

REFERENCES

1. Goldstein LB, Bushnell CD, Adams RJ, Appel LJ, Braun LT, Chaturvedi S et al. Guidelines for the primary prevention of stroke. A guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke*, 2011; p. 517-84.
2. World Health Organization. Stroke, cerebrovascular accident [homepage na Internet]. [up dated 23 Sep 2017; Cited 02 Feb 2019]. Available at: http://www.who.int/topics/cerovascular_accident/en/
3. Go AS, Mozaffarian D, Roger VL, Benjamin EJ, Berry JD, Blaha MJ et al. Heart disease and stroke statistics – 2016 update: a report from the American Heart Association. *Circulation*. 2016;129(3):e28-e292.
4. Yang S, Choi KH, Son YR. The effect of stroke on pharyngeal laterality during swallowing. *Ann Rehabil Med*. 2015;39(4):509-16.
5. Powers WJ, Rabinstein AA, Ackerson T, Adeoye OM, Bambakidis NC, Becker K et al. 2018 Guidelines for the early management of patients with acute ischemic stroke: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke*. 2018;49(3):e46-e110.
6. Westendorp WF, Nederkoorn PJ, Vermeij JD, Dijkgraaf MG, van de Beek D. Post-stroke infection: a systematic review and meta-analysis. *BMC Neurol*. 2011;11(1):110.

7. Arnold M, Liesirova K, Broeg-Morvay A, Meisterernst J, Schlager M, Mono ML et al. Dysphagia in acute stroke: incidence, burden and impact on clinical outcome. *PLoS One*. 2016;11(2):e0148424.
8. SUS-CONITEC, Incorporação de Tecnologias. Linha de cuidados em AVC na rede de atenção às urgências e emergências; 2013. [cited 03 Jun 2017]. Available at: <http://conitec.gov.br/images/Protocolos/pcdt-cuidados-AVC.pdf>.
9. Ministério da Saúde. Manual de rotinas para atenção ao AVC. Editora MS: Brasília, 2013.
10. Leite KKA. Indicadores do risco de broncoaspiração em pacientes com acidente vascular cerebral isquêmico em fase aguda [Tese]. São Paulo (SP): Universidade de São Paulo; 2018.
11. Padovani AR. Protocolo fonoaudiológico de introdução e transição da alimentação por via oral para pacientes com risco para disfagia (PITA) [Dissertação]. São Paulo (SP): Faculdade de Medicina da Universidade de São Paulo; 2010.
12. Costa MM. Videofluoroscopy: the gold standard exam for studying swallowing and its dysfunction. *Arq Gastroenterol*. 2010;47(4):327-8.
13. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Avaliação da Atenção Básica em Saúde: caminhos da institucionalização. Brasília: Ministério da Saúde; 2005. 34p.
14. Brasil. Ministério da Saúde. Secretaria-Executiva. Sistema de Planejamento do SUS: uma construção coletiva: monitoramento e avaliação: processo de formulação, conteúdo e uso dos instrumentos do Planeja SUS. Brasília: Ministério da Saúde, 2010. 56p.
15. Minayo MCS. Importância da avaliação qualitativa combinada com outras modalidades de avaliação. *Saude Transform Soc*. 2011;1(3):2-11.
16. Scriven M. Evaluation in the new millennium: the transdisciplinarity vision. Pp.1-30. In: Donaldson P, Steward I, Scriven M (eds). *Evaluating social programs and problems: visions for a new millennium*. New Jersey: Lawrence Earlbaum Associates Publishers; 2005. p.1-30.
17. Minayo MCS. Análise qualitativa: teoria, passos e fidedignidade. *Ciênc. saúde coletiva*. 2012;17(3):621-6.
18. Bosi MLM, Uchimura KY. Avaliação da qualidade ou avaliação qualitativa do cuidado em saúde? *Rev Saúde Publica*. 2007;41(1):150-3.
19. Unidade de AVC do HGF – o atendimento que faz a diferença. Available at: <http://www.hgf.ce.gov.br/index.php/component/content/article/7-instituicao/44145-unidade-de-avc-do-hgf-o-atendimento-que-faz-a-diferenca>. Cited 20 Mar 2019.
20. Othero MB. Produção do cuidado a pacientes com condições neurológicas muito graves: contribuições interdisciplinares para uma fundamentação teórica [Tese]. São Paulo (SP): Universidade de São Paulo, Curso de Medicina, Medicina Preventiva; 2016.
21. Bardin L. Análise de conteúdo. Lisboa: Edições 70, 1977.
22. Cohen DL, Roffe C, Beavan J, Blackett B, Fairfield CA, Hamdy S et al. Post-stroke dysphagia: a review and design considerations for future trials. *Int J Stroke*. 2016;11(4):399-411.
23. Mourão A, Almeida E, Lemos S, Vicente L, Teixeira A. Evolution of swallowing in post-acute stroke: a descriptive study. *Rev. CEFAC*. 2016;18(2):417-25.
24. Ramsey DJ, Smithard DG, Kalra L. Early assessments of dysphagia and aspiration risk in acute stroke patients. *Stroke*. 2003;34(5):1252-7.
25. Silva MVS, Miranda GBN, Andrade MA. Sentidos atribuídos à integralidade: entre o que é preconizado e vivido na equipe multidisciplinar. *Interface Comun Saúde Educ*. 2017;21(62):589-99.
26. Leonor VD, Santos RS, Mendes JM, Willig MH. The contributions of continuing education on oropharyngeal dysphagia for pediatric nursing care at a teaching hospital. *Rev. CEFAC*. 2015;17(5):1531-40.
27. Bucchi SM, Mira VL, Otrenti E, Ciampone MHT. Enfermeiro instrutor no processo de treinamento admissional do enfermeiro em unidade de terapia intensiva. *Acta Paul Enferm [periódico na Internet]*. 2011 [cited 2016 Jul 10];24(3):381-7. Available at: http://www.scielo.br/pdf/ape/v24n3/en_12.pdf
28. Falkenberg MB, Mendes TPL, Moraes EP, Souza EM. Health education and education in the health system: concepts and implications for public health. *Ciênc. saúde coletiva*. 2014;19(3):847-52.
29. Campos KF, Sena RR, Silva KL. Permanent professional education in healthcare services. *Esc. Anna Nery*. 2017;21(4):e20160317.
30. Silva CT, Terra MG, Mostadeiro SCTS, Ribeiro DR, Lavich CR, Xavier MS. Nucleus of permanente education in nursing: perspectives in a teaching hospital. *Rev Pesq Cuid Fundam [periódico]*

- na Internet]. 2013 Apr; [cited 20 Mar 2017]; 5(3):114-21. ISSN 2175-5361. Available at: http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/2044/pdf_825
31. Almeida AEM, Alcântra ACC, Lima FAM, Rocha HAL, Cremonin Junior JR, Costa HJM. Prevalência de risco moderado e alto de aspiração em pacientes hospitalizados e custo e efetividade da aplicação de protocolo preventivo. *J Bras Econ Saúde*. 2016;8(3):216-20.
 32. Guedes LU, Vicente LCC, Paula CM, Oliveria E, Andrade EA, Barcelos WCO. Conhecimento dos profissionais de enfermagem que assistem pacientes com alterações da deglutição em um Hospital Universitário de Belo Horizonte. *Rev. soc. bras. fonoaudiol.* 2009;14(3):372-80.
 33. Carmo LFS, Santos FAA, Mendonça SCB, Araújo BCL. Management of the risk of bronchoaspiration in patients with oropharyngeal dysphagia. *Rev. CEFAC*. 2018;20(4):532-40.
 34. Santos BP, Andrade MJC, Silva RO, Menezes EdC. Dysphagia in the elderly in long-stay institutions-a systematic literature review. *Rev. CEFAC*. 2018;20(1):123-30.
 35. Bulechek GM, Butcher HK, Dochterman JM. *Classificação das Intervenções de Enfermagem-NIC*. 5. ed. Rio de Janeiro: Elsevier; 2010.
 36. Backes VMS, Lino MM, Prado ML, Reibnitz KS, Canaver BP. Competência dos enfermeiros na atuação como educador em saúde. *Rev Bras Enferm*. 2008;61(6):858-65.
 37. Ricaldoni CAC, Sena RR. Educação permanente: uma ferramenta para pensar e agir no trabalho de enfermagem. *Rev. Latino-Am. Enfermagem*. 2006;14(6):837-42.
 38. Garcia MAA. Saber, agir e educar: o ensino-aprendizagem em serviços de saúde. *Interface*. 2001;5(8):89-100.

APPENDIX A

Interview Instrument

PROFESSIONAL INFORMATION	
Sex:	Age:
Professional category:	
Years of experience in the area:	
Years of experience with stroke patients:	
Professional qualification: () Technical course () Undergraduate () Postgraduate () Master's () Doctorate () Postdoctorate	
GUIDING QUESTIONS	
In your opinion, what is dysphagia?	
Do you know how to identify when a stroke patient has dysphagia?	
What is the main complication caused by dysphagia in stroke patients?	
Explain what bronchoaspiration is.	
What are the consequences of bronchoaspiration?	
Relate (in detail) your interventions for preventing bronchoaspiration.	
Do you find it difficult to apply the aforementioned interventions? If so, what are the difficulties?	
Do you know of an episode of bronchoaspiration? Provide examples.	
Would you consider it important to receive formal training in the management of dysphagic patients?	