

We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

5,800

Open access books available

142,000

International authors and editors

180M

Downloads

Our authors are among the

154

Countries delivered to

TOP 1%

most cited scientists

12.2%

Contributors from top 500 universities



WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com



Chapter

Feeding at the End of Life in Brazilian Amazon: Qualitative Analysis of Medical Indications

Caroline Anjos, Katherine Dambrowski, Antonio Godoy and Paula Barrioso

Abstract

Background: Death is preceded by several medical decisions that impact the dying process. One of the challenges faced by the multidisciplinary team regarding the care for patients at the end of life process is the indication or interruption of enteral feeding. The aim of this study was to describe the decision experience of the indication of artificial nutrition for seriously ill patients at the end of life by physicians working in a private oncology clinic in Manaus-Amazonas (AM), and their perceptions about end-of-life process. **Material and Methods:** A cross-sectional and observational study based on a qualitative approach. A clinical case involving a hypothetical patient with advanced dementia, not a candidate for disease-modifying therapy, evolving with signs of end of life was applied. The doctors answered in a discursive manner a question about which nutritional option would be the most adequate. Content analysis was used to analyze the data. **Results:** A total number of 15 specialists physicians acting in a private oncologic clinic in Manaus-AM were included. Approximately 42.84% of respondents opted to indicate the placement of a nasogastric tube or a gastrostomy. A large portion of them believed that the patient had the opportunity to treat severe dementia. **Conclusions:** There is little scientific evidence of the benefits of using artificial feeding in elderly patients with advanced dementia. Further studies are needed in addition to continuing educating initiatives to inform prescribing professionals about the potential related risks of artificial diet at the end of life.

Keywords: palliative care, death, diet, Brazil, elderly

1. Introduction

Death is preceded by several medical decisions that directly impact how the dying process will happen [1]. Despite being a sensitive topic for many professionals, being able to make proportional decisions has a significant weight in the last days of life [2]. The process to decide should be a common practice among physicians, especially when they care for patients with advanced diseases. However, many of them still face problems associated with indications or interruption of treatments during the trajectory of some illnesses [3].

All life-limiting diseases have specificities during the final phase of life, some are better defined, such as cancer and others as dementia could be more complex to manage. The survival rate for dementia is around 3 to 10 years. Dementia has a trajectory with progressive losses and decreasing performance that can persist for years [4, 5]. An important dilemma for all progressive conditions is about feeding in the last days of life. The patient in the dying process reduces food intake, progressing in most cases to complete fasting. However, both the medical team and the family question the lack of food offered in this stage of disease evolution [6].

Evidence-based guidelines and approaches that incorporate quality of life and patient preferences as Palliative Care (PC) may help solve this problem [7]. Palliative Care is a holistic approach that aims to alleviate the suffering caused by serious and progressive illnesses. The goal is to maintain the highest possible quality of life in the face of these conditions. It is a person-centered approach where the object of care is the patient, family, and caregivers. In general, provides skills for decision-makers concerning end-of-life dilemmas and affords tools to align care trajectory with patient values and preferences [8].

The incorporation of PC approach in the standard care improves the decision-making process, the symptoms control in the last moments of life, and improve communication with the family [9]. However, the lack of education in palliative care among doctors has been one of the most common barriers in providing quality palliative care. Many studies have revealed that professionals often have inadequate knowledge of pain, the use of opioids, management symptoms, and the concept of palliative care and its indications. Public awareness and acceptance of the end of life should involve educational initiatives not only for health professionals but the entire community [10–12].

Given the above considerations, to understand how medical professionals deal with the decision for nutrition at the end of life and also to start studies related to this topic, the objective of the present investigation was to describe the decision experience of the indication of artificial nutrition for seriously ill patients at the end of life.

2. Methods

This was a cross-sectional and observational study based on a qualitative approach, which was approved by the local Ethics Committee under protocol number 2.925.747/2018. The study was carried out in the steps that follow: 1) The physicians included were approached individually and informed about the objective and methodology of the study. Those who agreed to participate signed written informed consent; 2) After that, each doctor received by e-mail, through google.docs, a clinical case involving a hypothetical patient with advanced dementia, who was not a candidate for disease-modifying therapy, admitted to the hospital with a respiratory infection secondary to bronchoaspiration, and with subsequent evolution involving end of life signs (**Table 1**); 3) Doctors had to analyzed the clinical case and then they had to answer a single question about which nutritional option would be the most suitable in that clinical situation.

Discursive responses were collected between December 2018 and March 2019 and confidentiality was guaranteed throughout the Project. The authors used the SRQR checklist when writing our report as a requirement for qualitative studies [13].

M.A.S.S., 86 years old, female, admitted in the emergency with productive cough (hyaline expectoration) and report of the caregiver of post-eating gags. The caregiver is her only child, 62 years old, no children, single, exclusive caregiver of the mother in the last 3 years when she had to abandon her job to dedicate herself to her mother exclusively.

Vital signs: PA = 90 x40mmHg; FC = 104 bpm; FR = 20irpm; SatO2 = 96% (in ambient air); TAX = 36.7°C.

In view of the hypothesis of pneumonia secondary to bronchoaspiration, hospital admission was requested. Physician that receives the patient and after initial clinical measures (oxygen therapy and nebulization) the patient stay stable.

Morbid-personal antecedents: Patient with elderly's fragility syndrome and Alzheimer's dementia for about 3 years and, for about 1 year, totally dependent on basic daily activities (bathing, clothing, transference, continence, hygiene). She has been enrolled for a year with recurrent infections (pneumonia and urinary tract infection).

Already accompanied by a multidisciplinary team of palliative care since the diagnosis of dementia. She has been attending a low oral intake and coughing after feeding for 6 months and 1 month ago, had been treated for pneumonia with oral antibiotic. No pain or other symptoms.

Medications on use: Donepezil 10 mg/day; Lactulose 10 ml 12/12 hours.

Significant findings on physical examination: Sarcopenia, spontaneous ocular opening but not contacting, snoring transmission on the pulmonary auscultation.

In view of the clinical case presented, in the current hospitalization, we would like to know what you would be conduct in relation to food. Would you recommend the beginning of artificial diet? Justify your answer.

Table 1.
Clinical case.

3. Participants

The study was conducted at an Oncology clinic of the private health sector in Manaus-AM. The physicians were chosen to participate if they had a specialty, clinical or surgical, and at least three years of experience in their areas.

The subjects were 15 physicians working in the following specialties: Clinical Oncology (1), Radio-Oncology (3), Mastology (3), Hematology (1), Gastroenterology (1), Head and Neck Surgery (1), Digestive Tract Surgery (1), Orthopedics (1), Geriatrics (2), and Thoracic Surgery (1). Exclusion criteria were physicians not involved in the clinical care of adult patients, specialists with less than 3 years of practical clinical activity, and physicians caring exclusively for pregnant or puerperal women, children, and patients in the intensive care unit (ICU).

4. Data analysis

The discourses obtained were analyzed by Content Analysis. This methodology proposes a set of techniques for the analysis of verbal communication to obtain indicators, qualitative or not, that will permit the description of the content of the messages of the persons interviewed. The method consists of three phases (analysis, exploration of the material and treatment of the results, inference, and interpretation) and one of the criteria for data categorization can be a semantic one or a thematic one when all topics having the same meaning are grouped. All the discourses were transcribed in their entirety.

5. Results

Among the 15 physicians included, only one did not complete the stages of the study and was excluded. They were divided in the following specialties: Clinical oncology (1); Radio-oncology (3); Mastology (3); Hematology (1); Head an neck surgery (1); Thoracic surgery (1); Digestive system surgery (1); Geriatric (2) and Orthopedic (1). The others informations about the physicians included are in **Table 2**.

Regarding the indication of an alternative nutritional route for an artificial diet at the time of hospitalization of a patient with advanced dementia and in an active dying process, the following discourses were obtained from the doctors who opted to indicate the placement of a nasoenteric feeding tube or a gastrostomy (42.84%):

“... There still is the possibility of treatment of the base disease.”

“... Patient with poor performance status, functionally dependent, with aspiration pneumonia and sarcopenia. She indicates definitive enteral nutrition. I would

| Variables | n (%) | Mean |
|-----------------------|-------------|------------|
| Gender | | |
| Female | 5 (35.71%) | |
| Male | 9 (64.29%) | |
| Age group | | |
| 25–30 years | 1 (7.14%) | |
| 31–35 years | 7 (50%) | 35.5 years |
| 36–40 years | 4 (28.57%) | |
| 41–45 years | 2 (14.28%) | |
| Marital status | | |
| Single | 4 (28.57%) | |
| Married | 9 (64.28%) | |
| Divorced | 1 (7.14%) | |
| Children | | |
| Yes | 9 (64.29%) | |
| No | 5 (35.71%) | |
| Religion | | |
| Yes | 13 (92.85%) | |
| No | 1 (7.14%) | |
| Specialty | | |
| Clinical | 7 (50%) | |
| Surgical | 7 (50%) | |
| Practice time | | |
| = 7 years | 5 (37.71%) | |
| > 7 years | 9 (64.28%) | |

Table 2.
Social professional characteristics.

first prescribe the passage of a nasogastric feeding tube and I would program a gastrostomy.”

“... Despite the sarcopenia, the patient may still have some time of life if she responds to antibiotic therapy. If the patient does not show a satisfactory response, no invasive procedure should be indicated, and nutrition should be interrupted.”

“... I would indicate enteral nutrition due to the severe status and clinical signs and symptoms of the patient.”

“I would indicate endoscopic gastrostomy, which permits a satisfactory nutritional route of easy manipulation and that would avoid discomfort and frequent losses such as those occurring with nasogastric feeding tubes.”

The following responses were obtained from the professionals who were against the indication of an alternative route for an artificial diet:

“... Despite the short duration of Alzheimer’s disease, the patient is in an advanced phase of the disease and is dependent on all her basic daily life activities. An alternative route (nasogastric feeding tube or gastrostomy) is not indicated in these cases since it does not reduce the risk of aspiration. The decision is shared and, since the patient is already monitored by a PC team, probably it would be easier for her daughter to accept not to use an alternative nutrition route.”

“No additional nutrition route due to the reserved clinical signs and symptoms of the patient, with no perspective of reversal of the basal clinical condition, with a strong negative impact on the quality of life of her relatives.”

“... I would maintain the indication of the oral route because it would be less invasive and painful for the patient.”

“... A patient with a progressive incurable disease and multiple infectious interurrences over the last year, so that the current hospitalization could be considered to involve the end of life care.”

6. Discussion

6.1 Epidemiology and dementia definition

In the US, Alzheimer’s disease is a condition whose mortality has been increasing and a recent analysis has demonstrated that in 2010 about 32% of the deaths in elderly were due to the evolution and secondary complications of dementia. This number is projected to increase to 43% by 2050. According to the World Health Organization (WHO), is estimated about 50 million people with dementia around the world and is expected to triplicate this number by 2050 [14].

Several instruments have been developed to assess the severity and staging of dementias. One of these is the FAST scale (Functional Assessment Staging) and it is divided into 16 stages of progression (normal to severe dementia). FAST scale has no interference with low education and gives more details of the functional stages of severe dementia [15].

6.2 Artificial diet indication

There is little scientific evidence about the benefits of the use of artificial nutrition for older patients with advanced dementia [16, 17]. However, when feeding difficulties and weight loss occur, it is necessary to decide between about continuing to offer food by the oral route or placing a feeding tube (enteric tube or endoscopic gastrostomy) [18]. The

estimate is that more than one-third of patients with severe cognitive impairment admitted on a home care basis in the US are being fed through a tube for artificial nutrition [9].

Patients with dementia usually experience feeding difficulties in addition to the decline of cognitive, language, and functional skills given the progressive neurodegenerative process. The reduction of oral intake in the presence of advanced dementia is expected, not only due to nutritional problems but also due to the natural course of the disease [18]. Another theory suggests that patients with advanced dementia have reduced calorie needs due to their low basal metabolic rate and inactivity. Besides, as is the case for other advanced clinical conditions, patients are expected to eat less as part of the natural progression towards the end of life [18, 19]. However, it is important to distinguish between death due to lack of nutrition and hydration and the dying process in which failure to eat and drink is due to the natural dying process secondary to a chronic disease in the absence of therapy that modifies the disease. In the latter case, maintaining artificial nutrition could be a form of “forced feeding” and improper treatment. However, the initiation of an artificial diet and hydration has been experienced as a basic form of care that prevents death from starvation [19].

A recent Cochrane meta-analysis concluded that the use of artificial nutrition did not prolong the survival of patients with advanced dementia compared to a comfort diet. However, most of the studies included were observational and the absence of randomized clinical studies limited the quality of information [18].

6.3 Risks of artificial diet indication

Feeding tubes are associated with countless adverse effects that have not yet been properly quantitated. The current literature suggests rates of complications ranging from 32 to 70%. Also, keeping the feeding tube properly positioned in patients with dementia it may require physical restraint or pharmacological sedation, which may negatively affect the quality of life of patients in these conditions. The patients may also be deprived of the pleasure of eating by mouth and of the interpersonal interaction brought about by nutrition [18]. In addition, there are problems related to the inadvertent removal of the tube by the patients, leading to the need for physical or pharmacological restraint [19]. The complications most frequently described are pain and others directly related to tube placement (e.g., infection, bleeding, increased risk of aspiration, increased risk of pressure ulcers, gastrointestinal symptoms such as reflux, diarrhea and constipation, increased incidence of physical or chemical restraint to prevent tube removal by the patient, volemic overload leading to increased pulmonary edema, and peripheral edema). Also, the increase in the volume of airway secretions in the presence of edema may increase the perception of hunger [9].

When the artificial diet and hydration are discontinued, the dehydration caused is isotonic and causes less thirst than the hypertonic dehydration that occurs when only the artificial diet is discontinued. Besides, dehydration may lead to increased dying comfort because it reduces the occurrence of secretions in the respiratory and gastrointestinal systems, thus also reducing vomiting and diarrhea. It may also reduce the volume of urine in patients with incontinence, leading to fewer skin irritations. Dehydration causes a reduced release of vasopressin and there is some evidence that it also reduces the release of endorphin and the perception of pain [14].

Other mechanisms whereby the discontinuation of an artificial diet and hydration leads to more comfort for the patient, probably concerning the formation of ketone bodies. The increased formation of ketones leads also to the formation of

g-aminobutyric acid which therefore acts as an inhibitory brain neurotransmitter and reduces the occurrence of convulsion [14].

6.4 Medical prescription

Physicians can prescribe artificial nutrition and hydration as a form of care based on ethical principles more than on scientific evidence and motivated by their personal belief that providing food and water satisfies basic human needs [19]. Physicians and other health professionals play an important role in the perpetuation of excessive indication and use of feeding tubes for patients with advanced dementia. One should consider some misunderstandings among these professionals, such as the fact that the risk of bronchoaspiration and pneumonia is an important factor to be considered for the indication of a feeding tube [9]. However, this scenario is not unique to Brazil. A recent systematic review shows that professionals from other countries, such as the USA, Japan and Israel, have not applied the latest evidence to their clinical practice either [20].

A systematic review of therapeutic decisions regarding artificial diet and hydration for patients at risk of reduced mental capacity has revealed that the first reason behind the initiation of the two interventions, including patients with dementia, is to prolong life. However, there is evidence indicating that neither approach, when started in patients with advanced dementia, courses with increased survival or improves the quality of life of these patients. Indeed, enteral nutrition through a tube places the patient at risk for countless complications and deprives them of their dignity [9].

However, the absence of artificial nutrition may cause dissatisfaction among the patient's relatives since it is widely felt culturally that feeding is symbolically associated with the act of caring. Also, it is felt that, when artificial nutrition is not started, the patient will suffer hunger and thirst in the absence of adequate oral intake [18]. It is common to observe that the cultural conceptions of nutrition as "basic care" conflict with its medical-legal definition since this is a form of technological intervention. Research specifically focusing on removing or refusing nutrition and hydration has demonstrated that the ensuing death is not particularly painful. However, these investigations have been conducted only on older, frail and/or sick patients in the final phase of life [19, 21].

6.5 Recognizing signs of the end of the life

Conducting a prognostic assessment and identifying signs of an active process of death are constant challenges in medical practice. Especially between non-palliative health care professionals and the biggest difficulty to recognize signs of imminent death. The inconsistencies to make a prognostic analysis can reflect insufficient medical training in medical schools and graduate programs [22].

A recent study carried out with patients with oncological diseases in the final stage identified that for the recognition of imminent death, PPS was the most important factor among doctors, followed by the presence of Cheyne-Stokes breathing, declining clinical condition, agitation or lowering of the level of consciousness and noisy breathing due to hypersecretion of the airways in addition to peripheral cyanosis. Surprisingly, there was no difference in the ability to do prognostic analysis between older doctors, suggesting that clinical experience alone may not optimize the ability to predict [22].

Symptoms related to imminent death are: patient restricted to bed, decreased level of consciousness, patient able to swallow small sips of fluids and the patient loses the ability to ingest medications orally [23].

Both the health team and family members have doubts about the definition of end-of-life. Due to this uncertainty and the unpredictability of the evolution of the patient's condition, clinical support must be specifically focused on the individual's needs [24].

6.6 Advanced care planning

Anticipated directives were developed in the United States in the 1960s with the aim to empower patients and improve professionals' and family caregivers' compliance with patient preferences in the event of loss of decision-making capacity [25].

A recent population study has demonstrated that people are more afraid of a diagnosis of dementia than of a diagnosis of cancer (21% vs. 18%) and this fear is especially common among persons older than 60 years (29% are more afraid of being diagnosed with dementia and only 9% are more afraid of being diagnosed with cancer). There are countless reasons for this fear, among them: loss of memory, loss of autonomy, becoming dependent on another person for self-care, loss of dignity, the possibility of suffering, and the increased health costs [14].

Most insertions of a feeding tube occur during hospital admission when specialists and clinicians have no relationship with the relatives and prescribe health care under pressure from family and caregivers regarding the initiation of artificial nutrition. It is necessary to start early during the course of dementia the discussions about artificial diet and hydration [9].

Anticipated wish directives specifying whether or not the patient wishes to receive artificial nutrition and hydration if he/she should progress to an advanced stage of dementia, represent a manner of guaranteeing the autonomy of the patient, regardless of the family's desire [14].

7. Conclusion

There is little scientific evidence about the benefits of using artificial feeding among elderly patients with advanced dementia, precisely benefit of starting an artificial diet at the end of life. This is may be as a result of the lack of adequate medical training in this field.

Despite, medical professionals still keep using this type of health intervention in clinical practice.

Acknowledgements

This study was supported by the Clinic of Oncologic Therapy and Diagnostic Imaging (SENSUMED Oncology) and the authors had the support of an extremely competent brazilian geriatric physician: Claudia Burlá, MD.

Conflict of interest

The authors declare no conflict of interest.

Funding

The authors received no financial support for the research, authorship and publication of this article.

Abbreviations

| | |
|------------|-------------------------------------|
| PC | Palliative care |
| ICU | Intensive Care Unit |
| WHO | World Health Organization |
| FAST scale | Functional Assessment Staging scale |
| US | United States |
| PPS | Palliative Performance Scale |

Author details

Caroline Anjos¹, Katherine Dambrowski², Antonio Godoy^{3*} and Paula Barrioso⁴

1 Medical Oncologist, Sensumed Oncology, Manaus, AM, Brazil


2 Medical Family and Community, Pontifical Catholic University of Paraná, Curitiba, PR, Brazil

3 Medical Oncologist, Brazil Cancer Institute, TrêsLagoas, MS, Brazil

4 Oncology and Palliative Care Nurse, Instituto Paliar, São Paulo, SP, Brazil

*Address all correspondence to: acgodoypsn@gmail.com

IntechOpen

© 2022 The Author(s). Licensee IntechOpen. This chapter is distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. 

References

- [1] Åvik Persson H, Sandgren A, Fürst C, et al. Early and late signs that precede dying among older persons in nursing homes: The multidisciplinary team's perspective. *BMC Geriatrics*. 2018;**18**:134. DOI: 10.1186/s12877-018-0825-0
- [2] Buiting HM, Rietjens JA, Onwuteaka-Philipsen BD, van der Maas PJ, van Delden JJ, van der Heide A. A comparison of physicians' end-of-life decision making for non-western migrants and Dutch natives in the Netherlands. *European Journal of Public Health*. 2008;**18**:681-687 IN END OF LIFE CARE AND DECISION MAKING Opinions and experiences of the general public, bereaved relatives, and professionals
- [3] Fringer A, Stangle S, Buche D, Ott SC, Schnepf W. The associations of palliative care experts regarding food refusal: A cross-sectional study with an open question evaluated by triangulation analysis. *PLoS One*. 2020;**15**(4):e0231312. DOI: 10.1371/journal.pone.0231312
- [4] van der Steen JT. Dying with dementia: What we know after more than a decade of research. *Journal of Alzheimer's Disease*. 2010;**22**(1):37-55
- [5] Strand BH, Knapskog AB, Persson K, et al. Survival and years of life lost in various aetiologies of dementia, mild cognitive impairment (MCI) and subjective cognitive decline (SCD) in Norway. *PLoS One*. 2018;**13**(9):e0204436. Published 2018 Sep 21. DOI: 10.1371/journal.pone.0204436
- [6] Costa MF, Soares JC. To feed and to nourish: Significances and meanings in oncologic palliative care. *Revista Brasileira de Cancerologia*. 2016;**62**(3):215-224
- [7] Tan A, Durbin M, Chung FR, et al. Design and implementation of a clinical decision support tool for primary palliative Care for Emergency Medicine (PRIM-ER). *BMC Medical Informatics Decision Making*. 2020;**20**(1):13. Published 2020 Jan 28. DOI: 10.1186/s12911-020-1021-7
- [8] Radbruch L, De Lima L, Knaut F, et al. Redefining palliative care-a new consensus-based definition [published online ahead of print, 2020 may 6]. *Journal of Pain and Symptom Management*. 2020;**S0885-3924**(20):30247-30245. DOI: 10.1016/j.jpainsymman.2020.04.027
- [9] Sinuff T, Dodek P, You JJ, Barwich D, Tayler C, Downar J, et al. Improving end-of-life communication and decision making: The development of a conceptual framework and quality indicators. *Journal of Pain and Symptom Management*. 2015;**49**(6)
- [10] Aldridge MD, Hasselar J, Garralda E, et al. Education, implementation, and policy barriers to greater integration of palliative care: A literature review. *Palliative Medicine*. 2016;**30**:224-239
- [11] Kovács MJ. Educação para a morte: desafiação de profissionais de saúde e educação. São Paulo: Casa do Psicólogo; 2003. p. 178
- [12] Xie Y, Xu Y, Yang S, et al. Investigation of the awareness of and demand for hospice care and attitudes towards life-sustaining treatment at the end of life among community residents in Hangzhou. *BMC Palliative Care*. 2020;**19**:128. DOI: 10.1186/s12904-020-00628-8
- [13] O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for

- reporting qualitative research: A synthesis of recommendations. *Academic Medicine*. 2014;**89**(9):1245-1251
- [14] Vellani S. Enteral versus oral feeding in advanced dementia. *Journal of the American Association of Nurse Practitioners*. 2019
- [15] Reisberg B. Functional assessment staging (FAST). *Psychopharmacology Bulletin*. 1988;**24**:653-659
- [16] Volicer L, Stets K. Acceptability of an advance directive that limits food and liquids in advanced dementia. *The American Journal of Hospice & Palliative Care*. 2016;**33**(1):55-63
- [17] Sampson E, et al, Candy B, Jones L. Enteral tube feeding for older people with advanced dementia (review). *Cochrane Database of Systematic Reviews* 2009, Issue 2. Art. No.: CD007209. DOI: 10.1002/14651858.CD007209.pub2.
- [18] Komiya K et al. Medical professionals' attitudes toward tube feeding for themselves or their families: A multicenter survey in Japan. *Journal of Palliative Medicine*. 2012;**15**(5):561-566
- [19] Ying I. Artificial nutrition and hydration in advanced dementia. *Canadian Family Physician*. 2015;**61**(3):245-248
- [20] Baumstarck K, Boyer L, Pauly V, et al. Use of artificial nutrition near the end of life: Results from a French national population-based study of hospitalized cancer patients. *Cancer Medicine*. 2020;**9**(2):530-540. DOI: 10.1002/cam4.2731
- [21] Valentini E et al. Artificial nutrition and hydration in terminally ill patients with advanced dementia: Opinions and correlates among Italian physicians and nurses. *Journal of Palliative Medicine*. 2014;**17**(10):1143-1149
- [22] White N et al. How do palliative care doctors recognize imminently dying patients? A judgement analysis. *BMJ Open*. 2018;**8**:e024996. DOI: 10.1136/bmjopen-2018-024996
- [23] Ellershaw J, Ward C. Care of the dying patient: The last hours or days of life. *BMJ*. 2003;**326**:30-34
- [24] Browne B, Kupeli N, Moore KJ, Sampson EL, Davies N. Defining end of life in dementia: A systematic review. *Palliative Medicine*. 2021;**35**(10):1733-1746. DOI: 10.1177/02692163211025457
- [25] Bosisio F, Sterie AC, Rubli Truchard E, Jox RJ. Implementing advance care planning in early dementia care: Results and insights from a pilot interventional trial. *BMC Geriatrics*. 2021;**21**(1):573. Published 2021 Oct 19. DOI: 10.1186/s12877-021-02529-8