

Delirium onset within a palliative care programme: nursing care for the patient and family

Dalia Caleffi,¹ Andrea Fabbo,²
Luca Gelati,³ Cinzia Monti¹

¹Università degli studi di Modena e Reggio Emilia; ²UOC Disturbi Cognitivi e Demenze Ausl Modena, ³Ausl Modena, Italy

Abstract

Delirium is a neurocognitive syndrome correlated with increased risk of hospitalization, functional and cognitive impairment, and mortality. Patients under palliative treatment regime are at higher risk of developing the syndrome due to their debilitated physical condition. In this context delirium is one of the most frequent complications, affecting around 85% of people at the end of the life. It augments the distress of the expiring individual and their family, aggravating suffering and compromising the quality of the life of the terminally ill people. The aim is to prevent the incidence of delirium identifying people at risk. If an episode of delirium occurs, it is essential to identify it with specific clinical assessment tools, to assess and to treat reversible causes in combination with environmental, psychological and pharmacological intervention to control the symptoms. The close supporting role of the nurse within the family group confers them a fundamental role in the recognition and management of delirium. It is essential to analyse the peculiarities of assistance for patients under palliative treatment affected by delirium, together with their family. To provide personalized treatment that offers support, relief and hope, considering the person as a whole within the family setting, nurses can use the taxonomy of Nanda international classification of nursing diagnosis (Nanda-I), Nursing outcomes classification (Noc) and Nursing interventions classification (Nic).

Introduction

Palliative care aims at the relief from the symptoms and mental stress of people with life-limiting illnesses. The goal is to improve the quality of life for both the person and their family. The relief from suffering conditions is generally made through multidisciplinary

assessment and global approach, which can alleviate symptoms and meet personal needs.^{1,2} Pain, fatigue, dyspnea, delirium, nausea, vomiting and constipation are symptoms which can be frequently found at the end of the patient's life.³

Delirium is responsible for a high degree of distress both of the patient and of the family members.^{4,5} It is a psycho-organic syndrome with multifactorial etiologies characterized by an alteration of the state of consciousness with a reduced ability to sustain, maintain or shift the attention, with consequent onset of cognitive and perceptual disorders. It develops over a short period of time (hours or days), it has a fluctuating trend throughout the day and different presentation methods, such as hypoactive, hyperactive and mixed delirium.⁶

Definition and clinical phenomenology

Delirium is a complex neurocognitive syndrome which is one of the most frequent complication encountered in palliative care.⁷

Changes of attention and awareness are the essential characteristics of delirium. Attention is the ability to focus mental activity on environmental or internal stimuli, supporting the related behavioral responses and switch attention towards a new stimulus.⁸ As regards the alteration of consciousness a distinction is needed between content, which is the ability to be aware of the environment and of oneself, and level of consciousness, attributable to the concept of wakefulness.⁹ The disturbance develops over a short period of time, tends to fluctuate in severity during the course of a day and it is associated to an additional disturbance in cognition.⁶

Difficulties in finding right words for conversation, filled with expressions such as *You know what I mean* or synonyms, until confabulation or even substitutions of letters with others, are manifestations of cognitive impairment. Perceptual changes, associated with confusional state, more frequently presented as visual, include perceptual distortions, illusions and hallucinations.⁸

The diagnosis of delirium is based on clinical assessment and is guided by standard criteria classified in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), based on the best scientific evidence and experts' opinions, and in the tenth edition of the International Classification of Diseases (ICD-10).¹⁰

Delirium can be classified into different clinical subtypes on the basis of the psy-

Correspondence: Dalia Caleffi, Università degli studi di Modena e Reggio Emilia.
E-mail: dalia.caleffi@gmail.com

Key words: Delirium; palliative care; terminal illness; end-of-life-care; nursing care.

Received for publication: 23 May 2018.
Accepted for publication: 20 August 2018.

This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0).

©Copyright D. Caleffi et al., 2018
Licensee PAGEPress, Italy
Geriatric Care 2018; 4:7563
doi:10.4081/gc.2018.7563

chomotor activity and the non-cognitive symptomatology, compared to the usual model.¹¹ Three subtypes of delirium, hyperactive-hyperalert, hypoactive-hypoalert and mixed type are relevant in a palliative care context.⁸ Hyperactive delirium, characterized by an increase in psychomotor activity, restlessness, illusions, wandering and emotional lability is the form most frequently recognized by a casual observer.¹² Hypoactive presentation is characterized by having less psychomotor activity. The absence of destructive and bizarre behavior, lethargy, the reduction of vigilance and apathy negatively affect both correct and timely identification, diagnosis, management and prognosis.¹¹ Since weakness is often typical of terminal ill patients, there is the risk that the hypoactive subtype is misdiagnosed as depression, fatigue or disease progression.¹³

In terminal phases of the oncological or chronic and non-curable disease, in the last days and hours of life, delirium⁴ is the manifestation of multi-organ failure associated with irreversible impairments.¹⁴

Epidemiology

The risk of presenting delirium varies depending on the patient's characteristics and on the setting of care. Risk for delirium can be divided into predisposing and precipitating factors. Patients at high risk of delirium, because of multiple or severe predisposing factors, can develop delirium even after exposure to minimal precipitating factors (Table 1).^{4,15,17,18}

Delirium, at the end of life, is not only a phenomenon of the older people, but it can appear at any age.¹² The data of prevalence and incidence, due to the frequent lack of recognition and screening, are very variable.

According to the Canadian Coalition for Seniors' Mental Health (CCSMH) guidelines up to 85% of terminally ill patients may experience delirium before they die; The British Geriatric Society (BGS) states that more than 30% of elderly hospitalized patients may suffer from an increase in prevalence in relation to the patient's criticality. Prevalence on admission in a palliative care programme ranges between 13% and 42%.¹³

A percentage ranging from one third and to one half of cases of delirium, not associated with organ failure or very serious clinical conditions, is reversible, particularly when they are caused by medication toxicity or metabolic abnormalities, with the exception of the terminal delirium which occurs in the last few days preceding death. It may be a consequence of the dying process and therefore not reversible.^{4,7}

Clinical assessment tools

In addition to the standard diagnostic criteria of the ICD-10 and the DSM-5 (Table 2), several other assessment scales have been developed,¹¹ with the aim of obtaining an early diagnosis, assessing the severity and the course of the symptomatology.⁸ It is essential to be aware of the patient's cognitive performance before admission or upon admission, evaluated at the time of taking charge and collecting

information from the family members, in order to have a baseline reference one can compare a potential change.¹³

The Confusion Assessment Method (CAM), with a sensitivity of 94-100% and a specificity of 90-95%,¹⁹ is the most widely used scale for the screening and diagnosis of delirium.¹⁰ The CAM comprises nine operationalized criteria and four diagnostic algorithm items.¹⁹ It can be administered, in less than 5 minutes, by clinicians and health workers who have been trained in the method.⁷

Another brief test for the screening of delirium, is the 4A's Test (4AT), which has

been validated in clinical settings involving dementia patients. It is easy to administer, with a sensitivity of 90% and a specificity of 84%.²⁰

Memorial Delirium Assessment Scale (MDAS) is a scale designed to assess the severity of delirium.

It is composed of ten items yielding a global score ranging from 0 to 30.

The MDAS adequately detects hypoactive psychomotor subtypes of delirium. However, the assessment of arousal disturbance can only include reduced level of consciousness and it does not detect hyperarousal or hypervigilance.¹⁹ It is also

Table 1. Predisposing and precipitating factors for delirium at the end of life.

Predisposing	Precipitating
- Age of 65 years or older	- Hypoxia
- Dehydration	- Ischaemia (<i>i.e.</i> cerebral, cardiac)
- Drug intoxication and polypharmacy	- Anaemia
- Co-morbidities	- Infection
- Sensory impairment	- Metabolic disturbances
- Immobility	- Pain
- Malnutrition	- Severe illness/metastatic disease/organ failure
- Emotional Stress	- Urinary or stool retention
- Environmental factors	- Unfamiliar environment
- Functional status	
- History of cognitive impairment	
- Sleep deprivation	

Table 2. DSM-5 and ICD-10 diagnostic criteria.

DSM-5 Diagnostic criteria for delirium	ICD-10, Diagnostic criteria for delirium not induced by alcohol and other psychoactive substances
A. a disturbance in attention (<i>i.e.</i> reduced ability to direct, focus, sustain and shift attention) and awareness-reduced orientation to the environment)	A. clouding of consciousness: reduced clarity of awareness of the environment, with reduced ability to focus, sustain or shift attention
B. the disturbance develops over a short period of time (usually hours to a few days), represents a change from baseline attention and awareness and tends to fluctuate in severity during the course of a day	B. disturbance of cognition, manifested by both: impairment of immediate recall and recent memory and disorientation in time, place or person
C. an additional disturbance in cognition (<i>e.g.</i> memory deficit, disorientation, language, visuo-spatial ability or perception)	C. at least one psychomotor disturbances among: rapide, unpredictable shifts from hypo-activity to hyper-activity; increased reaction time; increased or decreased flow of speech and enhanced startle reaction
D. the disturbances in attention and cognitive functions are not better explained by another preexisting, established or evolving neurocognitive disorder and they do not occur in the context of a severely reduced level of arousal, such as coma	D. disturbance of sleep or of the sleep-wake cycle, manifested by at least one among: insomnia; nocturnal worsening of symptoms and disturbing dreams and nightmares which may continue as hallucinations or illusions
E. there is evidence from the history, physical examination or laboratory findings that the disturbance is a direct physiological consequence of another medical condition, substance intoxication or withdrawal (<i>i.e.</i> because of an abuse of drug due to a medication), or exposure to a toxin or because of multiple etiologies	E. rapid onset and fluctuations of the symptoms over the course of the day
	F. objective evidence from history, physical and neurological examination or laboratory tests of an underlying cerebral or systemic disease (other than psychoactive substance-related) that can be presumed to be responsible for the clinical manifestations in A-D

designed for repeated daily evaluation and to capture short-term fluctuations of symptoms and to document response to treatment.⁸

Delirium rating scale-Revised-98 (DRS-R-98) is a severity delirium rating tool. It consists of a 16-item clinician-rated scale, with 13 severity items and 3 diagnostic criteria.⁸ It has high inter-rater reliability, validity, sensitivity and specificity to distinguish delirium from mixed neuropsychiatric populations, including dementia, depression, schizophrenia. It can be used by clinicians and other health workers, such as nurses, who have received an adequate training, for initial assessment and repeated measures.^{8,14,19}

The Family CAM (FAM-CAM) has also been developed as a validated way of determining delirium based on reports by informal caregivers.⁸

Delirium is identified by clinicians in a high percentage of cases of delirious patients, because of its fluctuating nature and varying behavioral presentations.^{7,12} It is also due to the lack of formal cognitive assessment as part of routine screening across care setting and due to the fact of not obtaining adequate informant history regarding the patient's premorbid level of cognition and function.^{10,12}

Management

The philosophy of palliative care is aimed at a global management of the person and their family members, alleviating suffering and improving the quality of life until death.²

First of all it is crucial to establish the goals of care, preferably with the patient himself, if not with the family members.^{14,21}

The first aim in the management of delirium is the identification and treatment of potential causes,^{12,18} bearing in mind that it might have multiple etiologies.^{22,23}

Possible causative factors may be hypoxia, infection, malnutrition, unmanaged pain, dehydration and poor renal and liver function.¹² Patient drug therapy should be carefully reviewed since many medications such as sedatives and hypnotics, opioids, anticonvulsants, antiparkinsonians, steroids, antibiotics, selective serotonin reuptake inhibitors (SSRIs) and drugs with anticholinergic effects, may be involved in the onset of acute confusional state.⁴ However it is not just the medication itself that affects the alteration of cognitive function, but rather dehydration, use of high doses of drug¹³ and decreased renal and liver function, with resulting poor metabo-

lism and excretion that lead to toxic levels of medications for the organism.¹²

Although the identification and treatment of causes is essential, it is not always possible at the end of life. Drug therapy oriented to treatment of symptoms may be required.⁸ The incidence of delirium is not to be reduced, but one operates on gravity and duration of the episode.²⁴ In a review of the 2012 Cochrane on drug therapy for delirium in terminal ill patients, Candy *et al.* however report that there is insufficient evidence to drive conclusions on the role of drug therapy because some drugs could lead to the worsening of symptoms and to anticipated death.

Antipsychotics are the treatment of choice to manage the symptoms of delirium, with the exception of alcohol or benzodiazepine withdrawal delirium.⁴ It is possible to distinguish between typical and atypical antipsychotics. Typical antipsychotics represent a class of drugs which share the property of blocking dopaminergic D₂ activity; this results in a block of positive psychotic symptoms. The atypical ones are characterized by a specific pharmacological property of serotonin and dopamine.⁸

Haloperidol is the typical antipsychotic of choice for the management of delirium. It has a high-potential dopamine-blocking agent with few anticholinergic side effects, minimal cardiovascular side effects and no active metabolites. Compared to other antipsychotics, it is characterized by a minor sedative effect.^{25,26} It can be administered orally and intramuscularly, but the dosage indications in the literature are variable²⁴ and must be modified basing on the patient's response.⁸

Benzodiazepines should be considered as second-line treatment when antipsychotics fail and when consciousness sedation is the aim of the therapy.⁸ In monotherapy, the use of benzodiazepines should be limited only to people with hyperactive delirium caused by withdrawal from alcohol or sedative/hypnotics, as in other conditions they should prolong delirium or worsen its symptoms. When needed, it is appropriate to use benzodiazepines with a short half-life and no active metabolites. Two examples are lorazepam and midazolam. Midazolam has been employed mainly in the palliative care.⁸ It is in fact the most commonly used drug for palliative sedation.^{14,27} It has the advantage of being easily absorbed after SC administration, it features a very fast onset of action and short elimination half-life (1.9 +/-0.6 hours) which, allows easily reversible sedation⁸, but requires continuous infusion.¹⁴

In addition to Hui and colleagues's study, comparing the efficacy of haloperidol

use in association with a single dose of lorazepam, versus the use of haloperidol alone, has shown benefits on the control of agitation for 8 hours without additional negative effects.²⁸

Palliative sedation may be started by clinicians when the patient's suffering is believed to be very high and symptoms are refractory to drugs.^{5,29} According to the Italian Society of Palliative care (SICP) protocols, delirium should be considered one refractory symptom and may be therefore suitable for palliative sedation in particular cases.⁵

Palliative sedation is generally used for a short period of time (on average 2.8 days according to SICP). There is no evidence that the sedation in question affects the reduction of survival. However it must be adequately administered because incorrect management and pharmacological abuse can lead to an acceleration of death.²⁷

The use of drugs, the level of sedation and the patient's distress must be carefully evaluated several times a day through assessment scales and reported in the medical records.¹⁴

In all the phases of care it is possible to use non-pharmacological interventions in order to prevent delirium or reduce its severity.⁴ Environments with either too high or too low stimuli can exacerbate delirium.²⁶ The patient should be kept in a quiet and well lit environment, promoting the presence of tools that favor orientation in time and space. To this purpose, it is important to avoid sensory deprivation, to promote ordinary staff's approaches and to avoid unnecessary changes of room.^{7,8,26}

Delirium increases the risk of a patient's fall, but the use of physical restraints should be avoided since it can exaggerate the severity of delirium symptoms and that of patient's personal suffering. The environment must be therefore free from obstacles, the bed lowered to ground (if required) and the presence of family members should be favored.^{4,7,8}

Experiences of patients and caregivers

The distress caused by delirium may strongly affect the quality of life and the dignity of the patients, reporting feelings of terror, isolation, fear and alienation.^{30,31} At the same time, family members and caregivers may experience feelings of anxiety, fear, disappointment, sadness, desperation or sense of guilt for not having had enough time to spend with their relatives.^{8,32,33}

Clinicians must be therefore sensitive to

the relationship that caregivers and patients need, helping them to understand, and express their experiences, concerns and emotions, maintaining an attitude of empathetic interest, respect and hospitality. The patient and the caregiver must feel welcomed and taken care, thus alleviating distress and promoting hope.^{33,34}

Educational interventions for the family members help them to take active care of the person, providing earlier detection and treatment of delirium.³² There is evidence that this has also psychological benefits on the family and the patient^{33,34} (Table 3).^{4,18,33,35}

Nursing cares

Nurses play a key role in the prevention, detection and management of delirium, as they are at the front line of care with the patient.³⁶ In order to perform prevention the nurse must be aware of the diagnostic criteria of the DSM-5, the screening and severity tools and be able to use them as well.³⁷ Whenever risk factors or symptoms related to clinical picture of the delirium are identified, the nurse must develop, in collaboration with the interprofessional team and the family, a tailored multi-component prevention plan, including non-pharmacological intervention aimed at their control.³⁵ The Nanda International classification (NANDA-I) of nursing diagnosis includes delirium syndrome within the perception/cognition domain, identifying the diagnosis of *Acute Mental Confusion* and defining it as *a sudden onset of reversible disorders of the state of consciousness, attention, cognitive functions*

and perception that develop in a short period of time.³⁸ Prevention is the first step of care. If patients at risk are identified it is possible to state the nursing diagnosis *Acute Mental Confusion Risk*.³⁸ Therefore clinical assessment should be done and documented on a daily bases and whenever changes in cognitive, perceptual, physiological and behavioral functions are observed and reported.³⁵ Individualized nursing care needs to consider personal aspects of the patients, characteristics of their clinical status, their personal life situation and their preferences to promote their participation in their decision making.³⁹ The care plan must be changed continuously basing on the patient's clinical situation.³⁷ Throughout the care process, the nurse must establish and maintain a supportive therapeutic relationship, a helping relationship with the patient and the family, starting from the individual psychological and social characteristics. This will enable the nurse to better understand them and to support their experiences, concerns and emotions³⁴ (Table 4).^{38,40,41}

Strategies & search and selection criteria

Reference articles for processing the review were selected from databases such as PubMed, Cochrane, Uptodate and Chinal, through Google search engine and the consultation of the Bibliomo catalog. Priority was given to guidelines, systematic reviews and meta-analyzes and only publications from 2004 to 2017 were included. In addition it has been also included the ICD-10 published in 1993.

Conclusions

Delirium is a clinical condition of significant relevance and complex management in palliative care. Treatment and management are hindered by frequent underrecognition or misdiagnosis, also related to the variable forms of manifestation. An

Table 3. Educational topics on delirium for the person and the family.

1. Explanation and description of delirium
2. Strategies to prevent delirium
3. Communicative strategies between healthcare staff to improve early detection and management of delirium
4. Management strategies (assessment scales, pharmacological and non-pharmacological treatments, ways to communicate and reorient the person with delirium)
5. The role and the benefits of family members' presence (prevention, monitoring, symptoms management and emotional support)
6. The importance of sharing with healthcare professionals the experience one is going through

Table 4. Selection of nursing interventions and activities, based on Nursing interventions classification (Nic) taxonomy related to Nanda-I diagnosis: *Acute Mental Confusion* and to the result of the Nursing outcomes classification (Noc) *Level of delirium* taxonomy.

Nic
Management of delirium
Activities
- Identify the causative factors of delirium
- In agreement with the doctor, start the treatments to reduce or eliminate causative factors of delirium
- Identify and document the delirium clinical subtype (for example hypoactive, hyperactive or mixed)
- Inform the person about what is happening and what may happen in the future
- Administer the drugs for anxiety or agitation, but limit those with anticholinergic side effects
- Promote the visits of significant people, if appropriate
- Ensure a stimulating environment for the person whose disorientation is increased by hyperstimulation
- Act to keep the physical environment and the daily routine constant
- Inform the client about people, place and time, if necessary
- Use environmental stimuli (for example signals, pictures, clocks, calendars) to stimulate memory, reorient and encourage appropriate behavior
- Speak to the patient by calling him by his/ her name when starting an interaction

interdisciplinary and personalized approach is required, in order to prevent delirium and identify its causes when developed.

The management of delirium in people at the end of life needs also to take into account the priorities of the care and the patient's preferences. In some cases, it might be appropriate to avoid invasive diagnostic tests for the identification of causes of delirium, focusing only on the palliation of the symptoms and on improvement of mental and spiritual well-being.

References

- 1 Hinkle, JL, Cheever KH. Brunner-Suddarth. Medical-surgical nursing. Fifth edition. Ambrosiana Publishing House; 2017. Volume 1, chapter 16, pp 412-437.
- 2 Prandi, C. Nursing in palliative care. Milan: Edra S.p.A.; 2015. pp 3-13, 15-25, 301-307.
- 3 Registered Nurses' Association of Ontario. End of life care during the last days and hours. Clinical best practice guidelines. Toronto, ON: Registered Nurses' Association of Ontario; 2011. pp 29-31, 47-49.
- 4 Canadian Coalition for Seniors' Mental Health. Guideline on the assessment and treatment of delirium in older adults at the end of life. Toronto, ON; 2010. pp 5-38.
- 5 Italian Society of Palliative Care. Recommendations of SICP on terminal sedation/palliative sedation. Milan; 2007. pp 6, 10-17, 19-24-26-38.
- 6 American Psychiatric Association (2013). Diagnostic and Statistical Manual of Mental Disorders (DSM-5). Fifth edition. Raffaello Cortina Publisher; 2013. pp 687-689.
- 7 Grassi L, Caraceni A, Mitchell, et al. Management of delirium in palliative care: a review. *Curr Psychiatric Rep* 2015;17:550.
- 8 Caraceni A, Grassi L. Delirium acute confusional states in palliative medicine. Second edition. Oxford; 2011. pp 19-39, 42-56, 110-124, 129, 130, 132, 136, 141-144, 147, 151-155, 162-171.
- 9 Caraceni A, Simonetti F. Palliating delirium in patients with cancer. *Lancet Oncol* 2009; 10:164-72.
- 10 Lawlor PG, Bush SH. Delirium diagnosis, screening and management. *Curr Opin Support Palliat Care* 2014;8:286-95.
- 11 Leonard M, Agar M, Spiller J, et al. Delirium Diagnostic and classification challenges in palliative care: subsyndromal delirium, comorbid delirium-dementia and psychomotor subtypes. *J Pain Sympt Manage* 2014;48:199-214.
- 12 Moyer DD. Terminal delirium in geriatric patients with cancer at the end of life. *Am J Hospice Palliat Med* 2011;28:44-51.
- 13 Bush SH, Tierney S, Lawlor PG. Clinical assessment and management of delirium in the palliative care setting. *Ther Pract* 2017;77:1623-43.
- 14 Bush SH, Leonard MM, Agar M. End-of-life delirium: issues regarding recognition, optimal management, and the role of sedation in the dying phase. *J Pain Sympt Manage* 2014;48:215-30.
- 15 Kalish VB, Gillham JE, Unwin BK. Delirium in older persons; evaluation and management. *Am Family Phys* 2014;90: 150-8.
- 16 British Geriatrics Society. Guidelines for the prevention, diagnosis and management of delirium in older people in hospital; 2006. Available from: <http://www.bgs.org.uk/clinicalguides/resources/catclin-guidelines/clinguidedeliriumtreatment/all-pages> Accessed: 29/09/17.
- 17 Dylan H. Delirium in advanced disease. *Postgrad Med J* 2007;83:525-8.
- 18 National Institute for Health and Clinical Excellence. Delirium: Diagnosis, prevention and management. London, UK; 2010.
- 19 Leonard M, Nekolaichuk C, Meagher D, et al. Practical assessment of delirium in palliative care. *J Pain Sympt Manage* 2014;48:176-87.
- 20 Bellelli G, Morandi A, Davis D, et al. Validation of the 4AT, a new instrument for rapid delirium screening: a study in 234 hospitalised older people. *Age Ageing* 2014;43:496-502.
- 21 World Health Organization. The ICD classification of mental and behavioural disorders: diagnostic criteria for research. Geneva: World Health Organization; 1993.
- 22 Brown M, Hardy, K. Delirium: assessment and treatment of patients with cancer. Part 2. *Br J Nursing (Oncol Suppl)* 2016;25:S4-9.
- 23 Coggins CC, Curtiss CP. Assessment and management of delirium: A focus on hepatic encephalopathy. *Palliat Support Care* 2013;11:341-52.
- 24 Francis J. Delirium and acute confusional states: Prevention, treatment, and prognosis. *UpToDate* 2014;1-18.
- 25 Candy B, Jackson KC, Leurent B, et al. Drug therapy for delirium in terminally ill adult patients (Review). *Cochrane Library* 2012;CD004770.
- 26 American Psychiatric Association. Practice Guideline for the Treatment of Patients With Delirium. APA Practice Guidelines; 2010. pp 10-26.
- 27 Maltoni M, Scarpi E, Nanni O. Palliative sedation in end-of-life care and survival: A systematic review. *Curr Opin Oncol* 2013;25:360-7.
- 28 Hui D, Frisbee-Hume S, Wilson A, et al. Effect of lorazepam with haloperidol vs haloperidol alone on agitated delirium in patients with advanced cancer receiving palliative care. *JAMA* 2017;318:1047-56.
- 29 National Committee for Bioethics (CNB). Deep palliative sedation continues in the imminence of death; 2016. pp 6-7-8-9-18.
- 30 Wright DK, Brajtman S, Macdonald ME. A relational ethical approach to end-of-life delirium. *J Pain Sympt Manage* 2013;48:191-8.
- 31 Bélanger L, Ducharme F. Patients' and nurses' experiences of delirium: a review of qualitative studies. *Nursing Crit Care* 2011;16:303-15.
- 32 Carbone MK, Gugliucci MR. Delirium and the family caregiver: The need for evidence-based education interventions. *Gerontol Soc Am* 2015;55:345-52.
- 33 Finucane A, Lugton J, Kennedy C, Spiller, JA. The experiences of caregiver of patients with delirium, and their role in its management in palliative care settings: a integrative literature review. *Psycho-Oncol* 2017;26:291-300.
- 34 Day J, Higgins I. Adult family member experiences during an older loved one's delirium: a narrative literature review. *J Clin Nursing* 2014;24:1447-56.
- 35 Registered Nurses' Association of Ontario. Delirium, Dementia, and Depression in Older Adults: Assessment and Care. Clinical best practice guidelines. Toronto, ON: Registered Nurses' Association of Ontario; 2016. pp 44-54.
- 36 Lawley H, Hewison A. An integrative literature review exploring the clinical management of delirium in patients with advanced cancer. *J Clin Nursing* 2017;1-12.
- 37 Brugnellini L, Chiarabelli M., Frattarolo R. Nursing care for the hospitalized adult patient with acute confusional state/delirium. *EBN study center*; 2004. pp 25-42.
- 38 Herdman TH. NANDA International Nursing Diagnosis: Definitions and Classification 2015-2017. Milan: CEA; 2015.
- 39 Henao-Castano AM, Amay-Rey MCP. Nursing and patients with delirium; a literature review. *Invest Educ Enferm* 2014; 32:148-56.
- 40 Moorhead S, Johnson M, Maas M. NOC classification of nursing results. Milan: CEA; 2013.
- 41 McCloskey Dochterman J, Bulechek G. NIC classification of nursing interventions. Milan: CEA; 2014.