REVISIONES

Delirium: nursing interventions directed to the hospitalized adult patient– a bibliographic review

Delirium: intervenções de enfermagem dirigidas ao adulto hospitalizado – uma revisão bibliográfica

Delirium: intervenciones de enfermería en el adulto hospitalizado – una revisión bibliográfica

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ABSTRACT:
Delirium is a neuropsychiatric syndrome, characterized by an acute attention and cognition deficit disorder, of multifactorial etiology. It has a high prevalence in the elderly population and it's an indicator of a poor prognosis. It leads to a negative impact, provoking deterioration in the person's quality of life.
Objectives: This study aimed to identify the nursing interventions directed to the hospitalized adult / elderly, for the control of delirium.
Methodology: Using a PICO question as a reference, a review of articles published between 2012 and 2017 was carried out. That identified, which nursing interventions aimed at the adult / elderly person hospitalized with delirium.
Results: In this bibliographic review 5 studies were selected, in common, they present tendentially, non-pharmacological dynamic strategies of preventive character towards the delirium. This evidences the role of nursing in carrying out preventive actions (preferentially directed to risk factors, which may trigger this neurological alteration), such as the maintenance of the sensorial balance, assessing the local environment, monitoring pain, sleep and the stimulation of the early mobility.
Conclusion: The interventions for delirium should include the identification of predisposing and precipitating factors with adequate actions, for its resolution. Research is imperative, to recognize and validate witch interventions may control delirium (prevent/ treat) and thus reduce its consequences.

Keywords: Delirium; Nursing Interventions; Hospitalized Adult Patients; Evidence-Based Practice.
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RESUMO:

O *delirium* é uma síndrome neuropsiquiátrica, caracterizada por um transtorno agudo da atenção e cognição de etiologia multifactorial. Tem uma elevada prevalência na população idosa e trata-se de um indicador de mau prognóstico. Incita a um impacto negativo, conduzindo à deterioração da qualidade de vida da pessoa.

Objetivos: Identificar as intervenções de enfermagem, dirigidas ao adulto/idoso hospitalizado, para o controlo do *delirium*.

Metodologia: Utilizando como referência uma questão PICO, realizou-se a revisão de artigos publicados entre 2012 e 2017, que identificaram quais as intervenções de enfermagem dirigidas à pessoa adulta/idoso, hospitalizada apresentando *delirium*.

Resultados: Identificaram-se 5 estudos nesta revisão bibliográfica que apresentam estratégias dinâmicas, de carácter preventivo e tendencialmente não farmacológicas, perante o *delirium*. Tal, evidencia o papel do enfermeiro em desempenhar acções de prevenção (dirigidas essencialmente, aos fatores de risco desencadeantes desta alteração neurológica) na manutenção do equilíbrio sensorial, gestão do ambiente, nutrição/hidratação adequadas, monitorização da dor, sono e estimulação da mobilidade precoce.

Conclusão: A intervenção face ao *delirium*, deve incluir a identificação de fatores predisponentes, precipitantes e o recurso a acções adequadas, visando assim a resolução do quadro. A investigação torna-se imperativa, no sentido de reconhecer e validar quais as acções, que permitem controlar o *delirium* (prevenir/tratar) e desta forma diminuir as suas consequências.

Palavras-chave: *delirium*; intervenções de enfermagem; adulto hospitalizado; prática baseada na evidência.

RESUMEN:

El delirio es un síndrome neuropsiquiátrico, caracterizado por un trastorno agudo de la atención y de la cognición, de etiología multifactorial. Tiene una elevada prevalencia en la población mayor y se trata de un indicador de mal pronóstico. Incita a un impacto negativo, conduciendo a un deterioro de la calidad de vida de la persona.

Objetivos: Identificar las intervenciones de enfermería dirigidas al adulto/ mayor hospitalizado, para el control del delirio.

Metodología: Utilizando como referencia una cuestión PICO, se ha realizado la revisión de artículos publicados entre 2012 y 2017, que identificaron las intervenciones de enfermería dirigidas a la persona adulta/mayor hospitalizada presentando delirio.

Resultados: Se identificaron 5 estudios en esta revisión bibliográfica que presentan estrategias dinámicas, de carácter preventivo y tendencialmente no farmacológicas, ante el delirio. Esto evidencia el papel del enfermero en el desempeñar acciones de prevención (dirigidas preferentemente a los factores de riesgo desencadenantes de esta alteración neurológica), en el mantenimiento del equilibrio sensorial, gestión del ambiente, nutrición/alimentación adecuadas, monitorización del dolor, sueño y fomentando la movilidad precoz.

Conclusión: El abordaje ante al delirio debe incluir la identificación de factores predisponentes, precipitadores y el recurso a acciones adecuadas, con el fin de la resolución del cuadro. La investigación es imperativa en el sentido de reconocer y validar, qué acciones permiten controlar (prevenir/tratar) el delirio y, de esta forma, disminuir sus consecuencias.

Palabras clave: delirio; intervenciones de enfermería; adulto hospitalizado; práctica basada en la evidencia.

INTRODUCTION

Delirium is one of the most prevalent neuropsychiatric syndromes in the hospital context, commonest in the elderly and debilitated patients, it is an important predictor on the severity and duration of the clinical scenario. Associated, it is the possibility of a poor prognosis, since it can progress to critical conditions (stupor, coma) and consequently to death if the underlying causes remains untreated [1-4].

The onset of delirium is characterized by an acute cognitive change (develops in a matter of hours or days) manifested by fluctuation of consciousness, disturbances in attention, memory, thought, perception and behavior. It is also identified by changes in the sleep-wake cycles and the worsening of symptoms occurs by night, interspersed

with periods of lucidity [3,5]. It can be projected in the hyperactive form (agitation and hallucinations), hypoactive form (psychomotor slowing, apathy, lethargy) or mixed (fluctuation of symptoms between the mentioned forms), nonetheless hypoactive type is the most frequent [1,3]. The pathophysiological mechanism is yet to be confirmed; however, there is a high probability of being related to the complex interactions between the neurotransmitter systems, the inflammatory processes or with stressful situations [4,6].

The presence of this acute mental condition influences patient's assessment, at functional and cognitive levels; making impossible establishing pain accuracy and / or other symptoms, since there is a disturbance in communication, it also prevents the patient from participating in decisions related to their own clinical condition.

The first documented references to delirium date back 2,500 years, and in the last century various terminologies have been used to describe this neurological disorder. In the last thirty years several studies have been made and it was possible to reach a consensus on its nomenclature, but it still persists today, as one of the most difficult diagnoses to identify and to treat, especially in the hospitalized elderly [1,4,6]. It is estimated that the prevalence in this population can be 10-60% and in the Intensive Care set, this probability increases exponentially to 60-80%, nevertheless 32-66% of the situations are not identified by health professionals [7].

Consequently it is considered urgent to investigate this subject. In the literature we have found several studies whether to determinate which population is most likely to present delirium, or identifying the clinical scenarios where it can occur: in the ER, nursing homes [2] as well in palliative care units [8]. In addition, there are some studies that focus on which practical guidelines can be aimed to this cognitive disorder, others focus on the perception / knowledge of health professionals [9-12] or on their training needs regarding this theme [13]. In order to optimize the identification of this major problem, several instruments were elaborated, namely the Confusion Assessment Method in 1990 [14] that is currently widely used in several scenarios, specially de for the Intensive Care Units [1,5,15,16].

Nurses spend more time with patients than do any other health care providers, so they are in a strategic position to identify this syndrome in advanced. An early recognition of the symptoms and the treatment of the conditioning agents make it possible to wisely manage the pharmacological and non-pharmacological interventions. The pharmacological treatment should be reserved for patients with significant agitation, who are at risk of physical trauma and do not respond to the other measures. Although it is assumed that some interventions are theoretical efficient, it is important to ensure their practical implementation. Confusion in the elders is quite usual, but it should not be considered a normal condition, so it is fundamental to carry on studies to identify the clinical manifestations of delirium, to determinate which risk factors are more likely and come with the most appropriate interventions for this vulnerable group. It is thus up to the nurses to intervene, so that the occurrence of delirium decreases, as a result we can prevent great suffering for both the patient and his family, as well as for all the health team.

The difficulty in understanding the complexity of this condition may be related to the lack of knowledge about it, given its multifactorial nature or the difficulty in identifying the more effective treatment/prevention strategies to be adopted [9]. Appropriate nurse ratios, balanced working hours and the implementation of protocols directed to prevent/treat delirium can be effective [12].

In this perspective, this study aims to identify which are the nursing interventions, directed to hospitalized adult / elderly, for the control of delirium.

RESEARCH QUESTION

Given the importance to identify which are the nursing interventions, directed to hospitalized adult / elderly, for the control of delirium, it was determined as the guiding question: What is the scientific evidence regarding nursing interventions directed to the hospitalized adult / elderly to control delirium? The need to provide an answer makes emerge other questions, in order to contribute to a broader understanding of this topic: To what extent do these interventions influence delirium? And, in what form can they be managed? In view of such questions, the methodology and results are presented next.

METHODS

This study is a review of the specialized literature, whose main objective is to know the scientific evidence regarding the nursing interventions directed to the hospitalized adult / elderly for the control of delirium. The research question was constructed according the PICO method - Population, Intervention, Comparison and Outcome [17]. The **population** consisted of hospitalized persons, aged 19 years or older, with delirium or at risk of delirium; **intervention** - nursing interventions; **comparison** - does not apply; **outcome** - to identify the nursing interventions adopted to control delirium (with the aim of reducing associated complications, optimizing nursing care and improving the quality of life).

The definition of the inclusion criteria had the purpose of guiding the research and selecting the literature according to the desired results and the question formulated (Table 1). Thus, the inclusion criteria were: articles published in Portuguese, Spanish, English or French, whose population was people aged ≥ 19 years at risk or in delirium, without dementia or other mental disorders, since we intended to identify non-pharmacological interventions directed at the hospitalized adult / elderly; studies analyzing nursing programs / interventions applied to the patient with or at risk of delirium and aimed at preventing and reducing the incidence of delirium.

Studies published in other languages or with interventions not performed with the participation of nurses were excluded. The five - year temporal cut - off was aimed at knowing the most recent scientific evidence. The search and selection process was carried out by two independent researchers. Doubts or inconsistencies were discussed and consensuses were established.

Table 1 - Inclusion Criteria

Inclusion Criteria	
Population	People aged ≥ 19 years Hospitalized, with risk or in delirium, without dementia or other mental disorders
Nature of the Intervention	Studies that refer protocols/nursing interventions directed to delirium control
Type of Publications	_ Articles fully available _ Published between January 2012 and June 2017 _Documents written in Portuguese, Spanish, English or French
Results/ outcomes	Protocols/ nursing interventions that aimed delirium control and its decrease

The research strategy was conducted in three steps, initially was outlined a Boolean research strategy using B-ON and EBSCO host - Research Databases. The database search was conducted from April to June 2017 in the following database search engines: CINAHL complete, MEDLINE complete, Cochrane Central Register Of Controlled Trials, Cochrane Database of Systematic Reviews, Cochrane Methodology Register, Library Information Science & Technology abstracts, Medication, Nursing & Allied Health Collection: Comprehensive. This was followed by a selection of terms searched in the titles, abstracts and descriptors. Subsequently, a second search was performed, using all keywords and descriptors identified (previously), in the selected databases. Finally, some of the bibliographic references of the identified articles were analyzed to select additional studies. The database search strategy covered a combined search terms, Boolean operators and PICO strategy components, as indicated in Table 2.

Table 2 - Research formulas and applied limiters by database and their results

Database (results for Boolean operator)	Boolean formula
EBSCO host – Research Databases: 172	Delirium [Title] AND " Nursing interventions" NOT "Children": After applying limiters _16
EBSCO host – Research Databases: 334	Delirium [Title] AND " Nursing" AND " Strategies" NOT "Children": After applying inclusion_62
EBSCO host – Research Databases: 39	Delirium [Title] AND " Nursing" AND " Assessement" : After applying limiters _ 9
EBSCO host – Research Databases: 51	Delirium [Title] AND " Nursing Care" : After applying limiters _ 11
EBSCO host – Research Databases: 98	Delirium [Title] AND "Nursing" AND "Interventions" AND "Managing" AND "Hospitalized adult patients" : After applying lmiters_ 10
EBSCO host – Research Databases: 427	Delirium [Title] AND " Nursing" AND " Management" : After applying limiters _ 94, 62 for excluding the duplicate publication
EBSCO host _ Research Databases: 392	Delirium [Title] AND "Interventions" AND "Nursing": After applying limiters _ 54, 40 for excluding the duplicate publication
B-ON: 10	"Nursing Management of delirium" [Title]: After applying inclusion limiters _ 10
B-ON: 2960	"Delirium" [Title] AND "Nursing" AND "Management": After applying limiters _ 7

Two independent reviewers assessed the methodological quality of the five studies using the JBI Meta-Analysis of Assessment and Review Instrument (JBI-MAStARI) [17]. The cut-off point set by the authors for inclusion of a study in the review was the "yes" answer to at least six questions from the JBI-MAStARI critical analysis instrument. The divergences that emerged among the reviewers were reviewed by discussion or by a third reviewer, and there was agreement among reviewers about the inclusion of the five final studies in this literature review.

RESULTS

The Figure 1 shows the sum of the survey, 4483 studies after the concordance between the eligible terms, as previously demonstrated, in Table 2. Of these, 4256 were excluded, either because they were duplicated publications or by the search limiters; including the year of publication (2012 to 2017), articles in full text only, written in Portuguese, Spanish, English or French, with patient's age ≥ 19 years. Of the remaining 227, 78 were excluded after the title reading and 107 after assessing the abstract: they were not research studies or focused in dementia or other mental disorders. After having read the full text of the remained 42 selected documents, only 15 were found relevant, since they were concerning with nursing protocols / interventions. Ten articles were excluded after assessing methodological quality and failing to meet all the defined inclusion criteria (some were studies still ongoing or planned to be carried out in 2018 or their sample covered health professionals out of the scope of this review). The remaining 5 studies were included in the review, representing the sample.

Figure 1 - Studies selection process flowchart.
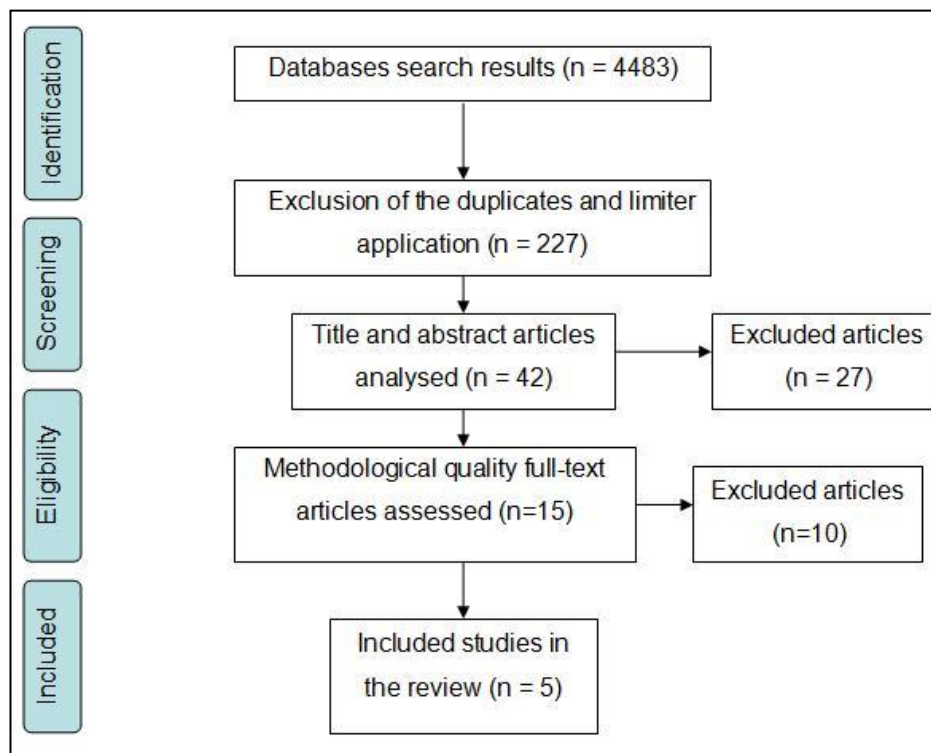
The information provided in the 5 analyzed articles, allows to identify an efficacy of preferably non-pharmacological, preventive guidelines towards delirium. Most of these measures are focused on the risk factors of this syndrome, such as the sensory

balance, environment (luminosity / noise), nutrition / hydration, neurological condition, pain, sleep and mobility. Given the multifactorial nature of this disorder we found that only by implementing practical guidelines and clinical pathways, can be guaranteed the reduction in the incidence of delirium. Data were extracted based on Joanna Briggs Institute (2014) guidelines [17] considering: title, year and place of study, methodological orientation, objectives, participants, intervention, results and conclusion. These details were compiled in Table 3, with the purpose of proceeding to the narrative summary of the data. The Oxford Center for Evidence Medicine classification was used to delineate the Levels of Scientific Evidence and the Degree of Recommendation [18].

Table 3 – Summary of the included studies characteristics

Author, Year, Country	Study Design /Population	Objectives	Levels Evidence/ Degree of Recommendation	Interventions	Results/ Outcomes
Bounds, Kram, Speroni, Brice, Luschinski, Harte, Daniel (2016) (U.S.A.)	Retrospective Study/ ≥ 19 Years, in the ICU ≥ 24h, 159 patients	Quantify the prevalence and duration of delirium in patients before and after implementation of the ABCDE bundle.	2B Level/B	• Implementing the ABCDE bundle (*Awakening and Breathing Choice of Analgesia and Sedation, Delirium Monitoring and Management, e Early Mobility*): • Monitoring pain, agitation, sedation and delirium • Manage the sensorial balance (removing unnecessarily tubes, guarantee de ring bell access, reinforce day/nigth activities, cognitive stimulation, reorient patient frequently, minimize environmental stimuli and have sensory aids available) • Promote an early physical mobility • Reinforce family engagement and empowerment	• Decreases in both delirium prevalence (38% to 23%) and duration (62% to 77%) • Increased the patients assisted to a sitting position (1% to 10%) • Improvement in the delirium assess, prevention and management • Improvement of the quality care
Mudge, Maussen, Duncan, Denaro (2012) (Australia)	Controlled Trial / 206 patients, ≥ 65 years, admitted in a general medical ward more than 3	Implement delirium guidelines to reduce incidence and duration of delirium and improve outcomes in delirious patients	2B Level/B	• Application of screening scales (Mini Mental State Examination (MMSE), Abbreviated Mental Test (AMT), Confusion Assessment Method (CAM)) • Cognitive and sensory management (incentive the use of sensory aids, pleasant areas established for the patients and their families	• Fewer patients were discharged with persistent delirium (32% vs 71%) • Low incidence of new delirium • Reduced inpatient mortality (0% vs 18,5%) and falls (11% vs 22%) • Ward-based

	days				with appropriate lighting, clocks, calendars, minimise attachments, catheters or cannulae) • Multisensory diversion and relaxation strategies • Support and encourage the nutrition, hydration, mobility • Monitoring pain and constipation • Encourage families to bring familiar items	strategies more adequate for the patient support • Raising delirium awareness
Smith, Grami (2017) (U.S.A.)	Controlled interventional cohort study/ 2 similar medical -surgical ICUs, with 447 delirium negative critically ill patients	Evaluate the effectiveness in a *Delirium Prevention Bundle* (DPB), decreasing delirium incidence	2B Level/B		• Pain management (assess and document) • Sensory stimulation (visible and accurate clocks and calendars, opening or closing window blinds adjusted to the day time, allowing vision, hearing aids and age-appropriate television and radio programs, suitable to personal taste; orienting patients to time, place and date) • Improve mood and movement, including frequently turning bed-bound and conducting passive/active range-of-motion exercises (having patients dangle their legs) • Promote uninterrupted sleep (clustering nursing interventions, not administering hypnotic medication after 2 [AM··], minimizing lightening and noise to < 80 decibels)	• Reduction the odds of delirium by 78% • The DPB was effective in reducing the delirium incidence
Tovar, Suarez, Munoz (2016) (Colombia)	Quantitative, prospective and pre-experimental study/ ≥ 23 years, 49 patients at ICU, Richmond	Determine the effectiveness of nursing delirium care, using the Nursing guide based in the Betty Neuman´s model	1B Level/A		• Managing the set (reduce noise and overhead lights) • Providing a comfort and relaxed environment (informing the patient about the features of the ICU, procedures that may be applied, stimulating patient orientation, encouraging personal items, such as books, music, visual/hearing aids, promote the conversation between	• Prevention of delirium occurrence in 94% of the patients and reducing it incidence (6% vs. 28%) • Reduction of the difficulty to fall asleep, 24,48% • Minimizing the environmental precipitin factors of delirium,

	Agitation_Sedation Scale (RASS) score: -3 to +3, plus CAM-ICU negative.				patient and relatives, during the day). • Improve de sleep pattern (avoid sleeping during the day, minimize the nurse interventions at night, as well reduce the noise, avoiding talk loud and telephones, monitors, ventilators alarms, promote a comfortable and relaxed environment) • RASS and CAM-ICU assessment, at each shift	contributes to its prevention
Wand, Thoo, Sciuriaga, Ting, Baker, Hunt (2014) (Australia)	Before and after study/ ≥ 65 years, general medical ward, 255 patients	Evaluate the effectiveness of the education program in delirium prevention	2B Level/B	• Assess cognitive impairment using proper scales (MMSE, *Rowland Universal Dementia Assessment Scale*, if English was not patient´s first language, *Blessed Dementia Scale*, CAM and Barthel´s index). • Monitoring daily the bladder and bowel function. • Promote and monitoring the nutrition, hydratation (encourage patient to drinks, and ensure food and drinks are accessible, proper aids, adequate food consistency) • Assess for pain. • Promote a comfort environment (encourage the presence of a key family member and allow personal items, optimize patient´s location on the ward, lights, temperature, encourage day time activities, minimize noise and remove indwelling catheters or restraints) • Promote mobility. • Optimize communication (allow orientation aids, clocks, calendars, glasses, newspapers, interpreters if necessary) • Assess for hypoxia and provide supplemental oxygen if necessary • Asses the sleep difficulties and initially	• Reduction in incident delirium 19% vs. 10.1%. • Improvement of the staff knowledgment and practice towards delirium allowing quality care

				implement non pharmacological methods.	

Font: [19-23]

DISCUSSION

The analysis and discussion of data points to a scientific evidence regarding nursing Interventions for the delirium control.

Results of this review enhances visible advantages for implementing this type of strategy, both economically and as well for a favorable clinical evolution, since reducing the incidence of this disorder reduces predictable comorbidities and the probability of death [1, 2, 19-24].

After considering the analysis of the articles we verified that for preventing/controlling delirium it is imperative to operate and optimize the implementation of daily and systematic measures. In the context of delirium control it was evidenced that nursing interventions directed to hospitalized adult / elderly, can provide in a timely manner the prevention of delirium and only a bundling of care, not an isolated intervention, can determine this goal. This strategy, focus mainly on education and work within a multidisciplinary team, on neurological surveillance, managing sensory balance and the patient's environment, monitoring sleep and pain, stimulating early mobility (avoiding immobilization), promoting an adequate nutrition / hydration and the interaction with family members.

On the under study articles there were sets of strategies or even protocols that included these topics, such as the ABCDE bundle [19], DPB [21] or the Nursing Delirium Interventions in the Intensive Care Unit (UNDERPIN-ICU) [11]. Those guidelines aimed the improvement of the quality of care practice, which were implemented by the health team (nurses mostly, physicians and physiotherapists).

Reducing the occurrence of this syndrome implies as it was already mentioned an adequate education and training of the health professionals through programs with well-defined strategies (mainly non-pharmacological and directed to the predisposing factors). Education can provide adequate knowledge and understanding, providing a more proactive team that can easily recognize the clinical manifestations of delirium [10,13,19,20,23]). The aim is focusing on prevention of this disorder, rather than just acting in the presence of it. In the study by Baker et al. (2015), only 20% of the nurses had a general knowledge on this matter[9].

It is the work of a sensitized health team that makes it possible the operationalization of the flow diagrams to prevent / identify / reduce delirium, taking as an example the protocol "Wake and Breathe" or the protocol of sedation and analgesia [15,19, 21]. Although nurse's job is not prescribing medicines, they are who administers it, monitors for possible side effects and relevant hemodynamic values. It is extremely important to recognize the latent consequences of these actions [5,10,23]. The studies also show that delirium diagnosis can be based on laboratory evidence, such as fluctuations in urea, creatinine, sodium or CRP values [1,15,20]. Nurses can collaborate in the analytical harvest, but it is up to the physician to interpret these results.

The nurse's role is preponderant on the patient's neurological surveillance, so for an early detection of behavioral and / or consciousness changes it, there are several instruments, namely the Intensive Care Delirium Screening Scale Checklist (ICDSSC) [19] and the CAM-UCI [21,22]. This one is translated and validated for the Portuguese population [25], which is considered a good sensitivity and simple use instrument to be

applied by nurses at clinical practice [10]. As a complement for the cognitive evaluation other scales are also favored, to refer the MMSE and the AMT [10,13,20].

Actions aimed at favoring maintenance of sensory balance are also considered with added value for the delirium control. There are several aspects such as the lack of clocks or deprivation of the visual and hearing aids that can trigger this disturbance [13]. In this sense, it is pointed out as relevant that nurses assess for patient's sensory deficits (stimulate whenever possible, the use of glasses and hearing orthotics), ensure the appropriate luminosity of the environment to the time of the day, clocks / calendars should be kept at patient's field vision, encourage activities such as playing cards, reading newspapers, viewing appropriate television programs, and allowing frequently reorientation at time, space, and person [19-23].

The literature points to rates for sleep deprivation in the ward of 22%, and in ICUs the percentage reaches 61% [26]. Changes in the normal sleep pattern for hospitalized patient are recurrent and can condition cognitive modifications, so the studies indicate the need to maintaining sleep/wake cycle to reduce the impact of delirium [21-23,26]. At ICUs, critically ill patients experience changes in sleep patterns as a result of the noise and the permanent intense lights [27], thus reducing and turning off equipment alarms as fast as possible, avoiding loud talk, and answering the phones immediately, as well as to organize nursing procedures to be performed, are part of the strategies to be adopted to guarantee periods of continuous sleep at night, avoiding the reversal of the sleep cycle [21,22].

Other nursing therapeutic attitudes that are related, can help sleep promotion as well as facilitate sensory balance and the maintenance of a safe environment are music therapy, massage [10,21,22], relaxation [20-22], and the assess for pain [21, 22]. There is scientific evidence that uncontrolled pain is the cause of delirium, therefore, it should be evaluated [1,6]. Nurses have different scales for this purpose through the neurological status of the patient.

Early mobilization is encouraged throughout the studies as an activity to be adopted, thus reducing the risk of mental confusion [11,19,21,23]. The valid nursing techniques in this area that were identified refer to stimulate movements in the bed as alternating decubitus, or if tolerated, walk (with vigilance) [21].

Physical restraint may increase the probability of triggering delirium by 2.82 times, so another intervention that stands out in this investigation is avoiding this measure [21,23]. Also the invasive devices (catheters, intravenous lines) appear as potential risk factors for this problem, minimizing or avoiding it, will contribute to the maintenance of a safer environment [5,20].

The result of this review reflects that preferentially non-pharmacological measures are firstly to be adopted at the delirium prevention and control [1]. In addition it is up to nurses to optimize nutrition/ hydration, facilitating the resources for each person in this matter (use of dental prostheses, maintaining oral hygiene / hydration) [20,23], thus avoiding either constipation as well as urinary retention and consequently delirium, since these are predictive agents of it [6].

Disorders associated to delirium can be prolonged after discharge, affecting the patient's and their relative's quality of life [15]. The importance of integrating family members in this process is recognized, and this is the right and duty's health professionals [19,20]. It is crucial to involve caregivers, especially of elderly patients, educating them appropriately about the specific and sometimes disguised characteristics of this syndrome [1,6]. Lack of communication between nurses and family members may lead to difficulty in preventing / detecting delirium [13]. In this

context, one of the study added family empowerment as a technique aimed at delirium control, complementing a program that was already underway (ABCDE bundle), and replacing it for the ABCDEF bundle [19]. When nurses consents and encourages the presence of significant relatives / persons, it allows a more comfortable and safe environment for the patient [22,23].

The selected studies were carried out in various continents, demonstrating a wide geographical variety, which is an indicator of the importance attributed by these countries to the problematic in question. This finding is in agreement with what several authors refer by considering delirium as a "medical emergency" [1,4], we can thus infer, on a global scale. Due to the pertinence of this theme, several investigations are underway, namely an experimental study that is based on the implementation of the UNDERPIN-ICU program, which determines several nursing interventions directed to delirious patients and which is intended to evaluate their effectiveness [11].

Related to patient surveillance, only one article mentioned this peculiar aspect, referring to a "Delirium Bay" [20]. Probably this data is related to the characteristics of the contexts where some of the investigations took place, where surveillance is intrinsic (ICU) in it. Delirium is a frequent complication in hospitalized adult / elderly patients, particularly in the ICU, may occur in about 80% of the admitted patients and 66% of cases may be underdiagnosed [15]. Given this prevalence, the reason that three of the studies were conducted in ICUs can be justified [19,21,22], while the other two studies were conducted in medical services [20,23].

At this setting there are several conditions considered a risk for delirium, such as the sensory overload, multiple therapy and the etiology of the disease itself. Keeping an adult / elderly in a critical situation in a context of differentiated care, entails exacerbated monetary costs, one of the studies found that by reducing the early discharge of patients with delirium, there was an increase in hospitalization time, which led to increased costs to the institution [20]. However, another point of view, focus that if prevention is effective, using a set of guidelines, the opposite must occur, we expect lower costs associated with prevention rather than with treatment [1,6].

Although this syndrome is considered to be one of the most frequent at the end-of-life (40%) [28], none of the studies was taking part at palliative care area. This may lead us to consider that the lifetime of people experiencing this health situation may constitute a limitation on research. In this context, there is still little research related to nurses' ability to recognize, evaluate and direct interventions to patients who manifest this neurological disorder [8].

The limitations for this analysis are related with the fact that most of the studies were at the ICU context and also there is no evidence of the implementation of similar programs in Portugal. Therefore, it is considered relevant to carry out studies in our country, both in the context of ICU and in other clinical contexts.

CONCLUSION

The present literature review outreached scientific evidence regarding nursing interventions directed to the hospitalized adult / elderly to control delirium. According to the analyzed studies, it was verified that delirium occurs frequently at the health institutions settings and a correct / timely diagnosis yet is not always made, allowing an early intervention. We can infer that the way to optimize nursing practice concerning this problem is to stimulate the critical awareness of professionals and to

activate a methodical and strategically elaborated daily plan, thus reducing this syndrome incidence and the comorbidities that may result of it.

The nursing care team is at a privileged position, to observe, identify and act before the first cognitive disorders that mat occur. Prevention is a first-line resource and it is mainly directed to measures related to the surveillance / recovery / maintenance of sensory balance (cognitive and communication stimulation, reorientation of the person, identification of the potential causes for sensory and motor deficit), environmental and pain management, sleep promotion, adequate nutrition / hydration, early patient mobilization. The optimization of the therapy (sedation / analgesia), education/training of the team members and the presence of family members are also preponderant aspects, as it was demonstrated.

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