Nursing actions for prevention and control of delirium in post-operative patients of heart surgery: an integrative review

ABSTRACT | Objective: To analyze nursing actions in the control and prevention of delirium in patients in the postoperative period of cardiac surgery presented in the literature. Method: Study of integrative literature review. The search and selection of articles was carried out through the LILACS, MEDLINE, BDENF, IBECS, MEDCARIB, CUMED, São Paulo State Health Secretariat and SUS collections. The sample consisted of nine studies. Results: We identified among the actions for the control and prevention of delirium the structured family visit, communication, the importance of carrying out verbal orientations in time and space, recognizing the delirium early and using diagnostic scales, CAM-ICU being the most recommended and best application. Conclusion: Nursing is essential to carry out preventive actions and to recognize delirium, many preventive actions are carried out and communication and the presence of the family are essential to prevent this pathology.
Keywords: Delirium; Nursing Care; Cardiac Surgical Procedures.

RESUMEN | Objetivo: Analizar las acciones de enfermería en el control y prevención del delirio en pacientes en el postoperatorio de cirugía cardíaca presentadas en la literatura. Método: estudio de revisión integradora de la literatura. La búsqueda de los artículos se realizó a través de las bases de datos LILACS, MEDLINE, BDENF, IBECS, MEDCARIB, CUMED, Secretaría de Salud del Estado de São Paulo y recolecta SUS, la muestra estuvo compuesta por nueve estudios. Resultados: Entre las acciones para el control y prevención del delirio, identificamos la visita familiar estructurada, la comunicación, la importancia de realizar una guía verbal en tiempo y espacio, el reconocimiento temprano del delirio y el uso de escalas diagnósticas, siendo Se recomienda CAM-UCI y se aplica mejor. Conclusión: Enfermería es fundamental para realizar acciones preventivas y para reconocer el delirio, se realizan muchas acciones preventivas y la comunicación y la presencia de la familia son fundamentales para prevenir esta patología.
Palabras claves: Delirio; Atención de Enfermería; Procedimientos Quirúrgicos Cardíacos.

RESUMO | Objetivo: Analisar as ações de enfermagem no controle e prevenção do delirium em pacientes pós-operatório de cirurgia cardíaca apresentados na literatura. Método: Estudo de revisão integrativa da literatura. A busca e seleção dos artigos foi realizada através das bases de dados LILACS, MEDLINE, BDENF, IBECS, MEDCARIB, CUMED, Secretaria Estadual de Saúde de São Paulo e coleciona SUS. A amostra foi composta por nove estudos. Resultados: Identificamos entre as ações para o controle e prevenção do delirium a visita familiar estruturada, a comunicação, importância de realizar a orientação verbal sobre o tempo e espaço, reconhecer o delirium precocemente e utilizar escalas para o diagnóstico, sendo a CAM-ICU a mais recomendada e de melhor aplicação. Conclusão: A enfermagem é essencial para realizar ações preventivas e reconhecer o delirium, muitas ações de prevenção são realizadas e, a comunicação e a presença da família é fundamental para se prevenir essa patologia.
Palavras-chaves: Delirium; Cuidados de enfermagem; Procedimentos Cirúrgicos Cardíacos.

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INTRODUCTION

Delirium is a transient, sudden-onset mental syndrome that develops in a short period of time. It can present itself in three forms: hypoactive which is characterized by a lower level of consciousness, prostration and reduced communication. Hyperactive where agitation, aggressiveness and even risk of self and heteroaggression predominate. And, the mixture that presents the symptoms of both poles. [1,2]

The neurological causes that lead to the onset of delirium are little known, but some factors contribute to the development of this condition, being divided into predisposing factors, among them are advanced age, basic cognitive impairment, alcohol and drug use, smoking, diabetes, heart failure and renal dysfunction. Precipitating factors such as the use of medications, such as opioids and benzodiazepines, inadequate pain management, prolonged time on mechanical ventilation, metabolic and hydroelectrolytic disorders, postoperative infection, sepsis, physical restraint, isolation and major surgeries such as cardiac , abdominal and femur. [3]

The incidence of delirium in postoperative patients varies between 10 and 60%, with an increase when they are inserted in an intensive care unit, especially if using mechanical ventilation, increasing about 80% of cases. In addition, the type of surgical procedure can also increase this incidence, as in the case of cardiac surgery where the incidence of this syndrome was more than 51%, due to the greater number of comorbidities, lower preoperative cognitive function or related problems surgery itself. [3]

Cardiac surgery in Brazil is the second most performed procedure, with an estimated 102 thousand surgeries/year behind only the United States, where approximately 300 thousand surgeries are performed/year. This increase is a consequence of the number of cardiovascular diseases, which is currently the second pathology that most causes deaths in the world. [4]

Postoperative delirium of cardiac surgery is a complication that appears more and more, the incidence of neurological complications in this type of procedure can vary from 0,4 to 80%, between the types of surgeries, myocardial revascularization and valve changes. are the ones that most show neurological changes. Currently, the etiology of delirium in cardiac surgeries is not clear, but some studies relate the appearance of this syndrome by the time of cardiopulmonary bypass (CPB), due to the alterations that can be generated in neurotransmitters. [5,6]

Postoperative delirium can cause several complications in the patient, including increased mortality and time on mechanical ventilation, long-term cognitive disorders and longer hospital stay in intensive care. Often, the recognition and diagnosis of delirium are not performed due to the patient's intubation, and, in some institutions, they do not have the instruments for early recognition by the nursing and multidisciplinary team. [2]

The nursing team has a fundamental role in the control and recognition of delirium in the postoperative period of cardiac surgery, it is one of the first to be able to recognize the presence of delirium, as the changes that the patient may present are often noticed at the moment

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when the even begins to awaken from the anesthetic state and to communicate. The nursing process and the use of scales and protocols based on scientific theory help during this process and allow nursing actions to be carried out not only for the diagnosis, but also for the prevention and control of delirium. [2]

Given the above, the guiding question of this study is: "What are the main actions of the nursing team for the prevention and control of delirium in postoperative cardiac surgery patients?"

Therefore, the objective of the work is to analyze the nursing actions in the control and prevention of delirium in postoperative cardiac surgery patients presented in the literature.

METHOD

This is an integrative literature review study. It is conducted through six stages, where the first corresponds to the identification and elaboration of the guiding question, the second stage is the establishment of criteria for inclusion and exclusion of studies, the third, definition of the information to be extracted from the selected studies, the fourth, evaluation of the studies included in the integrative review, the fifth stage consists of the interpretation of the results and, the sixth and last stage, the presentation of the review and synthesis of knowledge. [7]

To elaborate the guiding question, the PICO strategy was used, which represents an acronym for Patients (patient), Intervention (intervention), Comparison (comparison) and Outcomes (outcome), where (P) corresponds to delirium in patients after cardiac surgery. , (I) to nursing actions, (C) does not apply to the study and (O) to control and prevention. [8]

The search and selection of articles was carried out on the Virtual Health Library (VHL) portal using the databases Latin American and Caribbean Literature in Health Sciences (LILACS), Medical Literature Analysis and Retrievel System Online (MEDLINE), Base Data Database (BDENF), Spanish Health Sciences Bibliographic Index (IBECS), Caribbean Health Sciences Literature (MEDCARIB), Cuba's National Medical Science Information Center (CUMED), State Health Secretariat of São Paulo and collects

SUS, through the crossing of the health descriptors (DeCS) "delirium", "pós operatório de cirurgia cardíaca", "pacientes pós operatório de cirurgia cardíaca", "enfermagem", "cuidados de enfermagem", "prevenção de delirium", "controle do delirium", "complicações pós operatório de cirurgia cardíaca" and "cirurgia cardíaca", together with their synonyms and versions in English and Spanish.

The inclusion criteria were works related to the topic written in Portuguese, English and Spanish complete and available online, in the last 10 years. Figure 1 describes the path taken for the identification, inclusion and exclusion of articles, according to the database consulted.

Data collection was carried out from October to November 2020, using an instrument structured and validated by Ursi (2005), which presents the following information: identification of the original article, methodological characteristics of the study, evaluation of methodological rigor, measured interventions and results found. [9] The review was validated by two researchers in order to increase the reliability of the study.

RESULTS

Nine articles that fit the established inclusion criteria were included in the study. When evaluating these studies, we can observe that the years of publication of the articles varied from 2009 to 2020. Among the professions of those responsible for the authorship of the studies, most were carried out by nurses, with only one study by doctors. As for the language, English predominated, with six studies in English, two in Portuguese and one in Spanish. Among the countries where the surveys were carried out, the result was quite diverse, with a study in each country, among them Iran, Greece, the Netherlands, Sweden and Spain, and the only ones in which two surveys were carried out were in Brazil and the United States.

The most prevalent type of study was the prospective study (44,5%), followed by the exploratory descriptive (22,2%), the randomized clinical trial (22,2%) and the retrospective (11.1%). Regarding the evidence level of the studies, based on the categorization of the Agency for Healthcare Research and Quality (AHRQ) in the United States of America, the classification ranged from one to four, with the level of evidence predominating three (50%) among the surveys. [10]

In relation to the objectives and main subjects of these researches, the great majority explores the evaluation of scales for the detection of delirium, in addition to also having studies on the actions taken for prevention, triggering factors of delirium and nursing actions for the management and control of this complication.
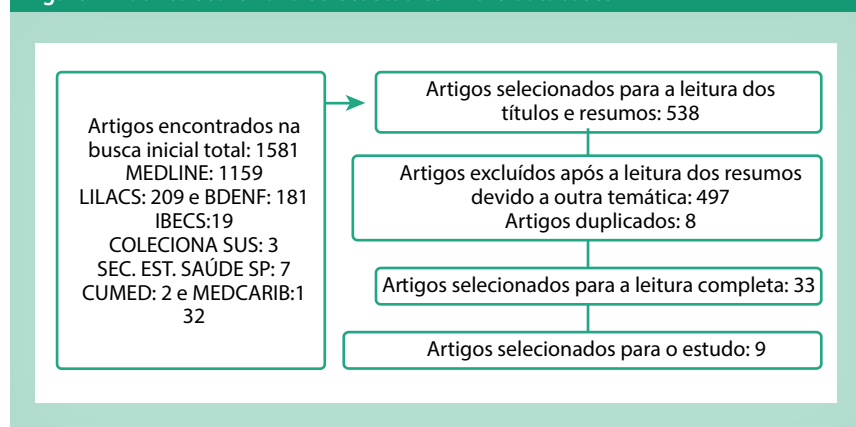
DISCUSSION

Delirium does not have a specific cause, it is known that some factors predispose the presence of this pathology. In an article published in 2015, a survey of medical records was conducted, showing that patients who underwent cardiac surgery and who had delirium in the postoperative period, had a longer period of surgery and CPB, increased blood loss and had age over 70 years. Among the comorbidities presented in patients who had delirium were hypertension, dyslipidemia, diabetes, smoking, heart failure, kidney disease, and arrhythmias and the use of medications such as zolpidem and benzodiazepines. [11]

In a recent study with patients in the postoperative period of cardiac surgery, it was possible to analyze that patients who underwent coronary artery bypass surgery and valve replacement and who had a longer period of CPB and ischemia during CPB had a higher incidence of delirium. Delirium can lead to various complications such as sedation and mechanical ventilation for a longer time, longer hospital stay and increased risk of falls, so it is necessary to diagnose and recognize delirium early. [12]

In order to predict the onset of delirium, a study suggests that it is necessary to assess the presence of risk factors for the delirium that the patient has and, if the patient has three or more factors, he is considered to be at high risk for the development of the delirium. [13]

Regarding actions for the prevention of delirium, one of the focuses of one of the studies was communication and family participation, in which on the second day of cardiac surgery and after the end of mechanical ventilation and still inserted in the intensive care unit, this patient receives, in the morning, a

Figure 1: Path to search and select studies in the databases

Artigos encontrados na busca inicial total: 1581
MEDLINE: 1159
LILACS: 209 e BDENF: 181
IBECS:19
COLECIONA SUS: 3
SEC. EST. SAÚDE SP: 7
CUMED: 2 e MEDCARIB:1
32

Artigos selecionados para a leitura dos títulos e resumos: 538

Artigos excluídos após a leitura dos resumos devido a outra temática: 497
Artigos duplicados: 8

Artigos selecionados para a leitura completa: 33

Artigos selecionados para o estudo: 9

Source: Research data, 2020.

family visit structured for about 30 to 40 minutes, in which the family member, before the visit, is guided by the nursing team on what they should address during the visit, such as how to advise on their current location, date and time, the reason for being hospitalized, in addition to offering the patient prostheses such as glasses, a hearing aid, if used, for better communication and self-identification. [14]

It was possible to observe that after this action, the incidence of delirium decreased about 21%. It was also mentioned that many patients had delirium in the late afternoon, therefore, the authors suggested family visits also during this period. [14]

Another study carried out only with nurses working in intensive care, presents the main actions taken to prevent and detect delirium. Among the actions are extended family visits, actions to avoid the indiscriminate use of mechanical restraint, control of the environment regarding noise and light. Regarding the use of tools for the diagnosis and control of delirium, many respondents answered that they do not use it because they are not part of the local protocol or because they do not know any strategy. [15]

Regarding the management of delirium, it is mentioned by a study that one of the main non-pharmacological actions is to know about delirium, its types and main symptoms. It is also important to provide verbal guidance in time and space for the patient using auxiliary devices for locating space and time, such as clocks, televisions, windows, among others. The family's participation in the reorientation process is again mentioned in this work. [16]

It is necessary that mechanical restraint is used only when it is the only possible means of preventing damage. Reduce noise as much as possible, adjust and organize medication schedules and procedures in order not to disturb the patient's sleep period, reduce mobility restriction, stimulate early mobili-

zation, which is important for maintaining muscle activity, passive or active, minimizing atrophy, decreasing days of mechanical ventilation and length of stay in the unit. In addition, early recognition of delirium is required. One of the most cited scales is the Confusion Assessment Method (CAM), where four characteristics are evaluated, the first being the acute change in mental state or its fluctuating course, followed by lack of attention, disorganized thinking and changed level of consciousness. [16]

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The Delirium Observation Screening (DOS) scale was designed to measure the first symptoms of delirium that nurses can assess during regular nursing care. In this scale, 13 items are evaluated. A total score of three or more points indicates the presence of delirium. [17]

In this study it was possible to verify that this scale has a high sensitivity and specificity, of 100% and 96.6%, respectively. This makes the DOS scale a useful, valid and friendly instrument for determining delirium in patients who have undergone cardiac surgery and can be performed by both nurses and doctors when trained. However, according to the study, the DOS scale, in patients who are intubated may not be a valid instrument, in these cases it is recommended to use other scales such as CAM-ICU. [17]

Another study evaluated the use of the Nursing Delirium Screening Scale (Nu-DESC or NDSS) by nurses in patients in the postoperative period of cardiac surgery. This scale does not require patient participation and five items are evaluated. This scale requires a score greater than two for the diagnosis of delirium and can bring a maximum score of 10 points, indicating a more severe delirium. [18]

According to Lingehall et al (2012) this scale has low sensitivity and high specificity, in addition, NU-DESC does not detect all types of delirium, especially hypoactive, which is the predominant one in cardiac surgery, requiring a test to be performed cognitive to make the correct diagnosis. Therefore, NU-DESC cannot diagnose delirium alone. [18]

Another study compared the use of NDSS with the Confusion Assessment Method for Intensive Care Units (CAM-ICU) scale. This scale is currently recommended internationally for the recognition and diagnosis of delirium in units with critically ill patients. Before performing the CAM-ICU assessment, it is necessary to carry out a previous asses-

sment of the patient with the RASS scale (Richmond Agitation Scale) for patients using sedation. And, if the patient scores between –3 to +4, he can be examined for delirium. [19]

At CAM-ICU, four characteristics are evaluated: 1st fluctuation of the basal mental state, 2nd intention, 3rd alteration in the level of consciousness and 4th disorganized thinking, delirium is diagnosed when characteristics 1 and 2 are positive and characteristics 3 or 4 are present. [19]

Comparing the two scales, it was found that the use of NDSS over CAM-ICU would not be indicated in the immediate postoperative period of cardiac surgery, as NDSS would overestimate its incidence by up to 8%, which would lead to excessive treatment inadequate, in these cases CAM-ICU would be the best choice for diagnosing delirium. The NDSS is easy to apply, but it is best used in wards. [19]

Currently, the scale that best detects delirium and the most recommen-ded in protocols is CAM-ICU, it can be used by any health professional, but this scale is still little used due to the lack of knowledge of professionals, lack of training in institutions and difficulty application in patients admitted to these units. [19]

CONCLUSION

In this study, it was evidenced through the selected articles, that delirium is a complication that does not have a specific cause, but some factors can influence this appearance, such as the prolonged time of surgery and CPB, type of surgery, age and the comorbidities that patient has and to predict the onset of delirium it is necessary to assess the presence of these factors. Nursing is essential to carry out preventive actions and to recognize and diagnose delirium in postoperative cardiac surgery patients. Many actions, mainly prevention, are carried out, and communication and the presence of the family is essential to prevent the appearance of this pathology.

In addition, it was possible to verify that there are some easy-to-apply scales to perform the early identification of delirium, with CAM-ICU being the most suggested and best applied scale, among the scales presented in the literature, however they are little known and used by professionals, being necessary to disseminate the existing ones, so that they are more employed and consequently reduce the complications that these patients may present due to the presence of delirium.

It is hoped that the present study can contribute to a reflection on the performance and actions of nursing for the management and control of delirium in these patients and that these interventions are more performed. It was observed that although there are studies related to the theme, there is still a need for more investments in conducting future research on the issue. 🐦

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