

Nursing interventions for stroke patients: an integrative literature review

INTERVENÇÕES DE ENFERMAGEM AOS PACIENTES COM ACIDENTE VASCULAR ENCEFÁLICO: UMA REVISÃO INTEGRATIVA DE LITERATURA

INTERVENCIONES DE ENFERMERÍA EN PACIENTES CON ACCIDENTE VASCULAR ENCEFÁLICO: UNA REVISIÓN INTEGRADORA DE LA LITERATURA

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ABSTRACT

The objective of this study was to analyze the knowledge on nursing interventions for hospitalized stroke patients. An integrative literature review was performed by accessing five online databases, in September 2009. The descriptors used in the search were nursing care and stroke, in Portuguese, English and Spanish. A total 223 articles were found, and 12 were selected. It was found in the articles that there was a greater number of clinical nursing interventions, followed by educational, managerial and research interventions. Clinical interventions are more related to the biological aspects of patients. As to the educational interventions, the articles point at the fundamental role of nurses, as well as that of relatives and caregivers. The main managerial intervention was the coordination of health care. As for research interventions, only one was identified and described as the development and improvement of health care practice through clinical evidence.

DESCRIPTORS

Stroke
Nursing care
Review

RESUMO

O objetivo do estudo foi analisar o conhecimento sobre as intervenções de enfermagem aos pacientes hospitalizados por acidente vascular encefálico. Realizou-se uma revisão integrativa da literatura a partir de acesso on-line a cinco bases de dados, no mês de setembro de 2009. Utilizou-se os descritores Cuidados de Enfermagem e Acidente Cerebral Vascular nas línguas portuguesa, inglesa e espanhola. Foram encontrados 223 artigos e selecionados 12. Identificou-se nos artigos um maior número de intervenções de enfermagem assistenciais, seguidas das educacionais, gerenciais e de pesquisa. As do domínio assistencial estão mais relacionadas aos aspectos biológicos dos pacientes. Em relação às educativas, os artigos apontam o papel fundamental do enfermeiro, bem como dos familiares e dos cuidadores. A principal intervenção gerencial foi a coordenação dos cuidados. Quanto às intervenções de pesquisa foi identificada apenas uma descrita como o desenvolvimento e aprimoramento da prática de cuidados por meio de evidências clínicas.

DESCRITORES

Acidente cerebral vascular
Cuidados de enfermagem
Revisão

RESUMEN

El estudio objetivó analizar el conocimiento sobre las intervenciones de enfermería efectuadas a pacientes hospitalizados por accidente vascular encefálico. Se realizó una revisión integradora de literatura a partir del acceso online a cinco bases de datos, en setiembre de 2009. Se utilizaron los descriptores Cuidados de Enfermería y Accidente Cerebral Vascular en portugués, inglés y español. Se encontraron 223 artículos, de los que se seleccionaron 12. Se identificó en ellos un mayor número de intervenciones asistenciales de enfermería, seguidas de las educativas, gerenciales y de investigación. Las del dominio asistencial tienen mayor relación con aspectos biológicos de los pacientes. En las educativas, los artículos describen el papel fundamental del enfermero y de los familiares y cuidadores. La principal intervención gerencial fue la coordinación de cuidados. En cuanto a las intervenciones de investigación, se identificó apenas una, descrita como el desarrollo y mejoramiento de la práctica de cuidados mediante evidencias clínicas.

DESCRIPTORES

Accidente cerebrovascular
Atención de enfermería
Revisión

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INTRODUCTION

Stroke stands out as the main cause of mortality in Brazil, which makes it a severe public health program⁽¹⁻²⁾. Besides the epidemiological importance of strokes around the world and in Brazil, this disease entails a wide range of neurological deficits, depending on the injury location, the size of the inadequate perfusion area and the quantity of the collateral blood flow⁽³⁾.

Dysfunctions like anxiety, depression, sleep and sexual disorders, motor, sensory, cognitive and communication disorders are prevalent alterations in stroke patients. This situation makes them dependent on nursing interventions⁽⁴⁾. According to the Nursing Interventions Classification, an intervention is a treatment, based on clinical judgment and knowledge, the nurse performs to improve patient outcomes⁽⁵⁾.

Stroke patients require intensive care at some moment during hospitalization, mainly at the emergency unit. No reliable evidence and recommendations exist yet, however, to intervene in all problems these patients manifest⁽⁶⁾. In addition, difficulties exist to deliver care to people with multiple care needs. It is highlighted that, the larger the number of patient needs are affected, the greater the urgency to plan care, as the systemization of actions aims for the organization, effectiveness and validity of care delivery⁽⁷⁾.

These considerations support the interest in an integrative review of scientific production related to knowledge on nursing interventions delivered to stroke patients. In that context, evidence-based practice encourages the use of research results in health care, which reinforces the importance of this review, which will provide a synthesis of the set of nursing interventions for hospitalized stroke patients and will facilitate the construction and definition of care protocols.

Moreover, the integrative literature review as the research method will permit summarizing the state of knowledge on the theme, besides appointing knowledge gaps that need to be completed through new studies, and facilitating decision making on interventions that can result in more effective care, especially for stroke patients⁽⁸⁻⁹⁾.

Table 1 – Distribution of identified and selected papers

Articles/Base	LILACS	MEDLINE	CINAHL	SCOPUS	COCHRANE	Total
Identified	4	13	28	134	44	223
Excluded	4	13	26	124	44	211
Selected	0	0	2	10	0	12

It is highlighted that those papers that were not initially available in the databases during the data collection period were sought on the journal portal of the Coordination for the Improvement of Higher Education Personnel (CAPES), in line with recommendations⁽¹⁰⁾. If papers could not directly be sought in the five databases used in the study, the CAPES portal was also considered as a data source.

In view of the range of dysfunctions stroke patients present, the following question emerged: What interventions have nurses used in the hospital context to take care of adult and elderly stroke patients?

Considering the above and with a view to contributing and adding up efforts to improve nursing care for the clients under analysis, this study was proposed to analyze knowledge on nursing interventions for stroke patients in the hospital environment.

METHOD

To reach the objective, the integrative review method was chosen, as it joins and summarizes research results on a specific theme, in a systematic and organized way, contributing to deepen knowledge on the research theme⁽⁸⁾.

To elaborate this review, the following phases were accomplished: identification of the research question and study aim, literature search, data assessment, data analysis and presentation⁽⁹⁾.

To select the articles, on-line access to five databases was used: LILACS (Latin American Health Sciences Literature), MEDLINE (National Library of Medicine and National Institutes of Health), CINAHL (Cumulative Index to Nursing and Allied Health Literature), SCOPUS and COCHRANE. The search in different databases aimed to broaden the research context and minimize possible biases.

The search was developed in September 2009, using the descriptors taken from the BVS Portal DECS (Health Sciences Descriptors) and National Library MeSH (Medical Subject Headings): *Cuidados de Enfermagem* and *Acidente Cerebral Vascular* in Portuguese, English and Spanish. In the databases SCOPUS and COCHRANE, non-controlled descriptors were used.

The following inclusion criteria were set: full articles electronically available; papers available in Portuguese, English or Spanish; full research articles on nursing care, in the hospital environment, to stroke patients over 18 years of age, which answered the guiding research question (Table 1).

For the analysis and further synthesis of those papers that complied with the inclusion criteria, an adapted form was used⁽¹¹⁾, which was completed for each paper in the final study sample. Through the form, information could be obtained about identification, methodological characteristics, proposed interventions, results and analysis, as well as evidence levels of the articles.

The nursing interventions were grouped in four categories: care, management, education and research⁽¹²⁾. Those interventions mentioned in at least three papers were presented in tables, analyzed for contents and discussed descriptively.

RESULTS AND DISCUSSION

Concerning the characteristics of the 12 papers selected, 11 were published after the years 2000, six in North American and five in European countries. The studies were classified according to evidence levels⁽¹³⁾: Level I: evidence originates in systematic review or meta-analysis of all relevant controlled randomized clinical trials or clinical guidelines based on systematic reviews of randomized controlled clinical trials; Level II: evidence deriving from at least one well-designed randomized controlled clinical trial; Level III: evidence obtained from well-designed clinical trials without randomization; Level IV: evidence originating in well-designed cohort and case-control studies; Level V: evidence from systematic reviews of descriptive and qualitative studies; Level VI: evidence from a single descriptive or qualitative study; Level VII: evidence from expert opinions and/or expert committee reports.

Thus, the selected studies were classified as follows in terms of evidence level: four were classified as level VI⁽¹⁴⁻¹⁷⁾, three as level III⁽¹⁸⁻²⁰⁾, three as level VII⁽²¹⁻²³⁾, one as level IV⁽²⁴⁾ and one as level II⁽²⁵⁾.

A larger number of care interventions was identified, followed by educational and management interventions. It is highlighted that only one research intervention was found, described as the development and improvement of care practice for stroke patients through clinical evidence⁽¹⁷⁾.

Table 2 presents nursing interventions in the care category.

Table 2 – Nursing care interventions for stroke patients – Fortalezza – 2009

Nursing care interventions
1. Motor and functional rehabilitation ^(14-15,17,20-22)
2. Medication administration ^(14,16,20-21,23)
3. Monitoring of physiological functions ^(14,16,21,23)
4. Planning for patient discharge ⁽¹⁹⁻²¹⁾
5. Emotional care ^(14,16,22)
6. Care to prevent complications and traumas ^(17,21-22)
7. Assessment for use of thrombolytic therapy ^(21,23)
8. Emergency screening ^(21,23)
9. Skin care ^(16,21)
10. Assessment of clinical and neurological elements ^(17,21)
11. Care related to self-care activities ^(16,24)
12. Urinary catheter ⁽²⁴⁾
13. Nasal oxygen administration ⁽²³⁾
14. Oral care ⁽¹⁸⁾
15. Correct positioning of the patient in the bed ⁽²¹⁾
16. Aspiration prevention care ⁽²¹⁾
17. Back massage ⁽²⁴⁾
18. Write down patient weight ⁽²³⁾
19. Register start time of the symptoms ⁽²³⁾

Motor and functional rehabilitation is a technical strategy the hospital nursing team uses for patient recovery. Early mobilization after the start of bed confinement is considered extremely relevant to prevent joint contractures and atrophies^(14,21). Besides motor rehabilitation, one study appoints that functional rehabilitation helps patients to integrate newly-learned activities of daily living and technical skills to perform these activities, helping patients to find new ways to perform them and guarantee their safety⁽²²⁾.

Drug administration was the nursing intervention nurses most frequently reminded with regard to stroke patients⁽¹⁶⁾, and it was mentioned as an important source of support in active disease treatment because it enhances wellbeing⁽¹⁴⁾. Among the administered drugs, the thrombolytic drug recombinant tissue plasminogen activator (r-TPA) stands out, which should be administered within 60 minutes after the patient's hospital admission^(21,23). The nurse is responsible for patient screening for thrombolytic therapy use, medication administration, continuous monitoring for complication prevention and forwarding to the medical service if necessary⁽²¹⁾.

The American Heart Association, Council on Cardiovascular Nursing and Stroke Council recommend the following for thrombolytic treatment: neurological assessment and vital signs, except for temperature, every 15 minutes during r-TPA infusion, every 30 minutes during the next six hours and every 60 minutes during the subsequent 16 hours; temperature measurement every four hours; forwarding to the medical service in case of alterations in vital signs; offering oxygen through nasal cannula, two to three liters per minute if oxygen saturation levels decrease below 92%; monitoring for hemorrhagic complications; cardiac monitoring for 72 hours and bed rest⁽²¹⁾.

The nurses emphasize that patients at neurocritical care units need physiological function monitoring⁽¹⁴⁾. Initial patient assessment at the emergency unit is nurses' responsibility, who should focus the assessment on airways circulation, breathing and vital signs every 30 minutes and neurological investigation. Therefore, nurses should be able to recognize the neurological symptoms suggesting a stroke and rapidly analyze the start of the symptoms. One of the neurological test methods, particularly to assess thrombolytics use, is the stroke scale by the National Institutes of Health (NHSS)⁽²¹⁾.

Besides emergency and hospitalization care, authors mention that adequate hospital discharge planning can enhance the qualitative improvement of continuous care and communication between hospital and the patient's home⁽¹⁹⁻²⁰⁾, as about 70% of stroke survivors demand family members' care at home⁽²¹⁾.

Discharge planning activities include: involving family members and caregivers in post-stroke needs assessment and treatment planning; encourage relatives and caregiv-

ers to participate in rehabilitation sessions and care delivery with a view to functional activities; post-discharge monitoring, including secondary prevention, rehabilitation, social support and home care; enhance relatives and caregivers' education with regard to the illness^(19,21).

Another intervention identified in the papers was the emotional support nurses should provide as multiprofessional team members, focusing on the establishment of a trust relation with patients and their relatives with a view to enhancing the development of coping and adaptation strategies⁽²²⁾. It is highlighted that this emotional support helps patients to overcome the fear of sequelae, complications and consequences of the stroke⁽¹⁴⁾.

As for interventions related with complication and trauma prevention, nurses should enhance the maintenance of the normal function, preventing complications and traumas, assessing patients' basic needs and guaranteeing the patient's best condition to benefit from rehabilitation⁽²²⁾. Among traumas, falls are the most common injury causes in stroke patients, more frequently causing hip fracture⁽²¹⁾.

This picture has been associated with a bad prognosis and acknowledged as a consequence of hemiplegia. In this context, nurses should put in practice a complication and trauma prevention program and educate other team members and relatives about risks and prevention measures⁽²¹⁾.

Table 3 – Educational nursing interventions for stroke patients – Fortaleza – 2009

Educative nursing interventions
1. Patients and relatives' education about treatment ^(17,19,22,24)
2. Inform about the consequences of the illness ⁽¹⁴⁾
3. Explain imaging tests to patients ⁽²¹⁾
4. Education to prevent recurrent strokes ⁽²¹⁾
5. Orientation about bed rest ⁽²¹⁾
6. Team education and training for stroke patient care ⁽¹⁷⁾

Many papers discuss nurses' importance in patient and family education about the treatment and related complications.

Nurses play an important role in enhancing stroke patients and their families' understanding about the course of the disease, possibilities for improvement and recovery, limitations, besides providing information about the disease, treatment, rehabilitation and expectations for the future⁽²²⁾.

In the organizational context of nursing care at stroke units, authors emphasize the value of family-centered educational nursing interventions, particularly knowledge about the system and family relations with a view to an effective rehabilitation plan⁽¹⁷⁾.

Table 4 – Management nursing interventions for stroke patients – Fortaleza – 2009

Management nursing interventions
1. Care coordination ^(16-17,21)
2. Organization, assessment and coordination of treatment needed at home ⁽¹⁹⁾
3. Patient transfer to other hospital sectors ⁽²¹⁾

As nursing team leaders, nurses develop management activities. Besides coordinating the nursing team, in the multidisciplinary team, their function is to assess patient and family members' needs, provide the resources needed to put in practice patient care and facilitate care transitions, seeking results that evidence high-quality care^(17,21).

A research at two specialized stroke units in Canada raised important management aspects for high-quality nursing care delivery, including: support in the organization of a model neurology service; work team organization, contributing with multidisciplinary care; patient defense; clinical leadership to maintain and develop a general workplace culture that supports high-quality nursing work; clinical supervision and development analysis⁽¹⁷⁾.

CONCLUSION

In the selected articles, a larger number of clinical nursing interventions were selected, followed by educational, management and research interventions. Care interventions are more related with patients' biological aspects, such as physiological function assessment, drug administration and motor and functional rehabilitation. As for evidence level, the majority was classified as level VI, followed by levels III and VII.

Concerning educative nursing interventions for stroke patients, the papers appoint nurses' fundamental role to develop these interventions, as well as the educative focus for relatives and caregivers.

The main management nursing intervention was care coordination for stroke patients, which includes clinical leadership, patient defense and care service organization with a view to reaching a satisfactory quality level.

These study results can support the elaboration of clinical protocols by nurses who are directly or indirectly involved in care delivery for stroke patients in the hospitalization phase. They can also serve as a guide for undergraduate, graduate and clinical nursing training.

In view of the lack of Brazilian studies on this theme, nursing research on nursing care for stroke patients is needed to support evidence-based nursing practice.

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