Elaboration and validation of an ICNP® terminology subset for patients with acute myocardial infarction*

Elaboração e validação de subconjunto terminológico CIPE® para a pessoa com infarto agudo do miocárdio

Elaboración y validación de subconjunto terminológico CIPE® para la persona con infarto agudo del miocardio

Renata Soares Passinho¹

Cândida Caniçali Primo¹

Mirian Fioresi¹

Maria Miriam Lima da Nóbrega²

Marcos Antônio Gomes Brandão³

Walckiria Garcia Romero¹

* Extracted from the dissertation: "Subconjunto terminológico CIPE® para a pessoa acometida pelo infarto agudo do miocárdio", Programa de Pós-Graduação em Enfermagem, Universidade Federal do Espírito Santo, 2017.

¹ Universidade Federal do Espírito Santo, Vitória, ES, Brazil.

² Universidade Federal da Paraíba, João Pessoa, PB, Brazil.

³ Universidade Federal do Rio de Janeiro, Escola de Enfermagem Anna Nery, Rio de Janeiro, RJ, Brazil.

ABSTRACT

Objective: To elaborate a terminological subset for the International Classification for Nursing Practice (ICNP®) for patients with acute myocardial infarction using the Activities of Living Model. **Method:** A methodological study which followed the guidelines of the International Nursing Council and was based on theoretical framework of the Activities of Living Model for its elaboration. Content validation was performed by 22 nursing specialists. **Results:** Twenty-two (22) diagnoses and 22 nursing outcomes were elaborated. Of these, 17 nursing diagnosis statements and 17 nursing outcome statements presented Content Validity Index (CVI) ≥ 0.80. Of the 113 elaborated nursing interventions, 42 reached a CVI ≥ 0.80, and 51 interventions made up the terminological subset after the expert suggestions. **Conclusion:** The ICNP® was suitable for use with the Activities of Living Model, having compatible terms with those used in clinical nursing practice, and valid for construction of the terminological subset for patients with acute myocardial infarction and most likely to facilitate clinical nursing judgment.

DESCRIPTORS

Myocardial Infarction; Nursing Care; Nursing Diagnosis; Classification.

Corresponding author:
Renata Soares Passinho
Universidade Federal do Sul da Bahia, Setor Saúde, Assistência Social e Sustentabilidade
Campus Sosígenes Costa, BR 367, Km 31
CEP 45810-000 – Porto Seguro, BA, Brazil
renatapassinho@gmail.com

INTRODUCTION

Cardiovascular disease has been the leading cause of mortality in Brazil and the world since the 1960s, accounting for a substantial percentage of all hospitalizations[1]. According to the *DATASUS* (*Departamento de Informática do Sistema Único de Saúde* – Informartion Department of the Unified Health System), there were 107,409 hospitalizations and 12,215 deaths recorded for acute myocardial infarction (AMI) in Brazil in 2016[2]. The monitoring and early detection of complications by nurses is essential to avoid complications and the recurrence of infarction, as they need up-to-date knowledge on technological advances and scientific evidence regarding care for these patients[3], as well as instrumental knowledge for identifying diagnoses and establishing outcomes, and for determining appropriate nursing interventions.

One of the instruments that can support nurses in the best use of nursing diagnoses, results and interventions are the terminological subsets of the International Classification for Nursing Practice (ICNP®). These subsets include diagnoses, outcomes, and nursing interventions targeted at a specific group of clients, and use the terms and structure of the ICNP®. This is a standardized language representative of worldwide nursing practice and promotes the appropriate use of the nursing process, expressing itself in competent collection, storage and analysis of nursing data, resulting in recognition of the profession[4-5].

As expected, considering the benefits brought by it, the construction and diffusion of terminological subsets is increasing in the world scenario. However, up to the present moment only seven terminological subsets have been developed and published by the International Council of Nurses (ICN). There is still no subset dedicated to the care of patients with AMI, despite the social impact that changes in the lives of infarcted patients and their families have. Thus, the present study explores this knowledge gap in this area and proposes a terminological subset that contributes to the quality of comprehensive care and to reduce morbidity sequelae. This terminological subset for patients affected by AMI used a theoretical nursing model[6] as its framework. The model proposes 12 activities of living, which are: maintaining a safe environment; communication; breathing; eating and drinking; elimination; personal hygiene and dressing; controlling body temperature; mobilisation; working and playing; expressing sexuality; sleeping; and dying[6].

In view of the above, the purpose of this study is to elaborate the terminological subset of the ICNP® for patients with AMI using the Activities of Living Model.

METHOD

Study type

A methodological study carried out from August 2015 to March 2017, divided into six stages: 1) An integrative literature review identifying the terms related to signs, symptoms and complications of AMI; 2) Mapping the terms identified in the review with the terms of the ICNP®

Focus axis; 3) Preparation of the nursing diagnosis statements/nursing outcomes and construction of the operational definitions; 4) Elaboration of nursing intervention statements; 5) Validation of nursing diagnoses/outcomes and interventions; and 6) Organization and structuring of the ICNP® terminology subset for patients affected by AMI according to the Roper-Logan-Tierney theoretical model[6].

Stage 1 - Integrative Literature Review

The integrative literature review was carried out through the scientific articles extracted from the Latin American and Caribbean Health Sciences Literature (LILACS), the Medical Literature Analysis and Retrieval System Online (MEDLINE) and the Cumulative Index to Nursing & Allied Health Literature (CINAHL) databases using the descriptors: "Nursing care", "nursing diagnosis", "classification" and "acute myocardial infarction", in Portuguese, English and Spanish, published in the period from 2010 to 2014. The inclusion criteria of the articles were: original articles, presenting signs, symptoms or complications of AMI in their results with abstracts available in the databases. Exclusion criteria were: works presented at congresses, dissertations, monographs, theses, letters to the editor and reflection studies. The selection of studies was carried out based on the analysis of the titles, abstracts and full texts of the publications. The articles initially unavailable in the databases were obtained in-full from the Coordination of Improvement of Higher Education Personnel Portal (CAPES – *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*).

We found 51 articles in the LILACS database, 951 in MEDLINE and 185 in CINAHL. Of the total of 1,187 articles, 68 were excluded because the abstract was not available, therefore 1,119 papers were selected for reading the abstracts. Of these, 33 were excluded due to being repeated and 964 for not meeting the inclusion criteria, leaving 122 articles (10 with qualitative design and 112 with quantitative) in the integrative review.

Stage 2 – Mapping of the terms identified in the review with the terms of the ICNP® Focus axis

In the second stage, terms related to signs, symptoms and complications of AMI were manually selected and entered into a Microsoft Office Excel® program spreadsheet. In the item "Results", 95 terms of the focus axis were manually identified related to signs, symptoms and complications of AMI. Cross-mapping was then performed using two tables: one with the 95 terms of the review and another with the terms of the ICNP® 2015 focus axis, and then 24 ICNP® focus axis terms remained after deletions of synonyms and repetitions which were related to the terms of the integrative review.

Stage 3 – Preparation of the nursing diagnosis/ outcome statements and construction of the operational definitions

In the third stage, the nursing diagnosis/outcome statements were elaborated, taking into account the recommendations of

the ICN and the ISO 18.104:2014 standard[7]. Three stages were covered for elaborating the operational definitions of the constructed statements: literature review; mapping the concept meaning; and affirmation of the operational definition[5].

STAGE 4 – ELABORATION OF NURSING INTERVENTION STATEMENTS

In the fourth stage, the nursing intervention statements were elaborated using a term from the Action axis and a Target term, also considering the ISO 18.104:2014 standard[7].

STAGE 5 – VALIDATION OF DIAGNOSES/OUTCOMES AND NURSING INTERVENTIONS

In the fifth stage, the content validation of diagnoses, outcomes and nursing interventions was carried out by specialists. In order to select these, the following inclusion criteria were considered: nurses with clinical experience of at least 3 years in the emergency/ cardiology and/or intensive care areas with a master's or doctorate degree.

SAMPLE DEFINITION

The following formula was used to calculate the number of specialists: $n = Z^2_{1-\alpha/2} \cdot p.(1-p)/n^2$, in which "$Z^2_{1-\alpha/2}$" = adopted confidence level; "p" = expected proportion of specialists; and "e" = acceptable proportion difference in relation to what would be expected[8]. The 95% level of confidence was used ($Z^2_{1-\alpha/2} = 1.96$), with an expected proportion of 85% of specialists and a sampling error of 15%[9], corresponding to an ideal sample of 22 specialists (n = 1.96. 0.85. 0.15 / 0.15^2 = 22).

DATA COLLECTION

Fifty-four (54) Brazilian experts were invited to participate through e-mail, with 22 accepting the invitation, and who were then sent the Free and Informed Consent Form. After this stage, the link to the electronic forms was sent for them to fill out, which contained the following information: nurses' characterization, list of diagnostic statements, outcomes and nursing interventions for AMI.

In the instrument aimed at validating diagnoses, outcomes and nursing interventions, the specialists marked their agreement with the statements with an "x" on a psychometric Likert-type scale containing "1) Not relevant; 2) A little relevant; 3) Very relevant; 4) Extremely relevant". In addition, in cases of disagreement the specialist filled out suggestions for the heading of the diagnosis/outcome and nursing intervention regarding its use in clinical practice.

DATA ANALYSIS AND PROCESSING

The Content Validity Index (CVI) was determined by the sum of the agreements for items "3" and "4", and was used to assess the degree of agreement among the experts. The CVI is defined by the formula: CVI = Σ answers "3" and "4"/ Σ answers. In the validation result, CVI ≥ 0.80 cut-off point was taken into account for consensus of diagnostic/outcomes and nursing intervention statements.

Finally, the sixth stage was to organize and structure the ICNP® terminology subset for patients affected by AMI according to the Roper-Logan-Tierney theoretical model[6].

In order to elaborate the diagnoses, outcomes and nursing interventions, the terms of the Seven Axes Model that make up the ICNP® were used, which corresponded to: 33 terms of the "Action" axis, 01 term of the "Client" axis, 28 terms of the "Focus" axis (including the 24 terms of the focus axis related to the signs, symptoms and complications of AMI found in the integrative review of the literature), 05 terms of the "Judgment" axis, 05 terms of the "Means" axis, 04 terms of the "Location" axis, 02 terms of the "Time" axis, and 12 additional terms not included in the ICNP® were applied. From these terms, 22 diagnosis statements and 22 nursing outcome statements were elaborated, and then operational definitions were constructed for all the statements, with 113 nursing interventions being constructed.

ETHICAL ASPECTS

The present study was carried out in accordance with the norms of Resolution No. 466 of December 12, 2012, of the National Health Council and was approved by the Ethics and Research Committee on March 30th, 2016, under opinion number 1.471.367.

RESULTS

After the content validation process that considered the statements that obtained a CVI ≥ 0.80 as validated, the recommendations and suggestions received from the specialists resulted in 17 diagnosis statements, 17 nursing outcomes and 51 single nursing intervention statements (there is redundancy in 15 occurrences).

The incorporation of the statements in the ICNP® terminological subset was distributed per activities of living according to the adopted theoretical model[6], and organized in alphabetical order according to ICN recommendations for presenting ICNP® terminological subsets (Chart 1).

Chart 1 – Distribution of ICNP® diagnostic/outcome statements and nursing interventions organized according to the activities of living proposed by the Roper-Logan-Tierney Theory[6] – Vitória, ES, Brazil, 2017.

NURSING DIAGNOSIS	NURSING OUTCOMES	NURSING INTERVENTIONS
1) Activity of living: maintaining a safe environment		
Faint	No fainting	1. Accompanying during bedside mobilisation and/or deambulation
		2. Advising not to stay in orthostatic position without the assistance of nursing professionals and/or companions
		3. Advising the companion to report any sensory changes
		4. Maintaining safe in the bed by raising the protective rails
		5. Ensuring airway permeability during the occurrence of fainting
2) Activity of living: communication		
Confusion	No confusion	6. Evaluating the risk of falls
		7. Evaluating the level of consciousness
		8. Maintaining safe in the bed by raising the protective rails
3) Activity of living: breathing		
Arrhythmia	No Arrhythmia	9. Auscultating for heart sounds
		10. Evaluating blood pressure, rhythm, heart rate, pulse rate, and frequency and depth of breaths
		11. Evaluating the level of consciousness
		12. Evaluating the heart rate shown on the multi-parameter monitor
		13. Maintaining airway clearance
		14. Monitoring the occurrence of arrhythmias and hemodynamic instability
		15. Monitoring signs and symptoms of low cardiac output (change in consciousness, hypotension or shock, pulmonary congestion, and anginal chest pain)
		16. Puncturing intravenous access
		17. Performing bedside 12-lead electrocardiogram
Impaired cardiac output	Appropriate cardiac output	18. Analysing color and temperature of body extremities
		19. Analysing blood pressure, rhythm, heart rate, pulse rate, and frequency and depth of breaths
		20. Assessing the level of awareness
		21. Surveying the presence of chest pain
		22. Maintaining bed head elevated between 30° and 45°
		23. Performing fluid balance
Dyspnea	No dyspnea	24. Auscultating to breathing sounds
		25. Analysing color and temperature of extremities
		26. Evaluating blood pressure, pulse rate and frequency, and frequency and depth of breaths
		27. Installing oxygen therapy as needed
		28. Maintaining bed head elevated between 30° and 45°
		29. Maintaining airway clearance
Radiating pain	No radiating pain	30. Evaluating the intensity, location and duration of pain
		31. Evaluating blood pressure, rhythm, heart rate, pulse rate frequency, and frequency and depth of breaths
		32. Surveying satisfaction with medicated pain management
Chest pain	No chest pain	33. Evaluating pain response (pain scale) after analgesic use
		34. Surveying satisfaction with medicated pain management
		35. Surveying attitude toward pain
		36. Maintaining bed head elevated between 30° and 45°
		37. Maintaining the environment calm and peaceful
		38. Performing bedside 12-lead electrocardiogram
Cardiorespiratory arrest	No cardiorespiratory arrest	39. Initiating early cardiopulmonary resuscitation

...continuation

NURSING DIAGNOSIS	NURSING OUTCOMES	NURSING INTERVENTIONS
Impaired peripheral tissue perfusion	Appropriate peripheral tissue perfusion	40. Analysing color and temperature of extremities
		41. Installing oxygen therapy as needed
		42. Monitoring oxygen saturation
		43. Monitoring capillary refill
4) Activity of living: eating and drinking		
Nausea	No nausea	44. Evaluating nausea control
		45. Assisting in the performance of oral hygiene
5) Activity of living: elimination		
Impaired Kidney Function	Effective Kidney Function	46. Evaluating genitourinary status
		47. Installing urinary catheter if necessary
		48. Performing fluid balance
6) Activity of living: washing and dressing		
Impaired ability to perform self-care	Appropriate ability to perform self-care	49. Evaluate ability to bath
		50. Assisting during the change of clothes
		51. Assisting oral and body hygiene
		52. Stimulating mobility in bed
		53. Facilitating ability to communicate needs and feelings
7) Activity of living: controlling body temperature		
8) Activity of living: mobilisation		
Fatigue	No fatigue	54. Surveying the causes of fatigue
		55. Maintaining the environment without intense luminous, sonorous or olfactory stimuli
		56. Requesting assessment from the physiotherapist service
9) Activity of living: working and playing		
Anxiety	No anxiety	57. Requesting evaluation from the psychology service
		58. Facilitating ability to communicate needs and feelings
Negative emotion	No negative emotion	59. Requesting evaluation from the psychology service
10) Activity of living: expressing sexuality		
11) Activity of living: sleeping		
Insomnia	No insomnia	60. Collecting the schedules of nursing procedures, avoiding interruption of nocturnal sleep
		61. Instructing on the importance of nighttime sleep for recovery
		62. Maintaining the environment without intense luminous, sonorous or olfactory stimuli
		63. Providing bedside comfort
12) Activity of living: dying		
Fear about death	No fear about death	64. Facilitating the family's ability to participate in the care plan
		65. Facilitating the ability to communicate needs and feelings
		66. Promoting active listening

DISCUSSION

The theoretical nursing model adopted in this study emphasizes that the patient has the need to continue living, with their individuality and particularities, while receiving nursing care[6]. Thus, even in facing an imminent risk of death situation such as acute myocardial infarction, the needs related to the life of the person affected by the disease will continue to exist, and therefore nursing should intervene in order to contemplate the concepts that characterize the complex phenomenon of living. These are: activities of living; duration of life; *continuum* dependency/independence; factors that influence activities of living; and individuality of life[6].

Activities of living are considered the description reported by most people about what "living" is. These activities are often performed in an unconscious and unintentional way, and are: maintaining a safe environment; communication; breathing, eating and drinking; elimination; personal hygiene and

dressing; controlling body temperature; mobilisation; working and playing; expressing sexuality; sleeping; and dying[6].

The ICNP® terminology subset for patients affected by AMI can be considered a nursing technology that presents validated statements for diagnoses, outcomes and nursing interventions regarding 10 of the 12 activities of living of the adopted theoretical model[6]. Participating nurses considered specialists in the critical care area (urgency/emergency, cardiology and intensive care) validated 17 of the 22 diagnoses and 17 of the 22 outcomes submitted to the evaluation, as well as 42 of the 113 proposed interventions. In addition, the experts suggested nine nursing interventions to compose the terminological subset. At the end, the ICNP® terminology subset for the patient affected by AMI was composed of 17 diagnostic statements, 17 outcome statements and 51 nursing intervention statements.

It is important to emphasize that variations among the opinions of the specialists are not rare regarding the validation of the statements' proposed nursing interventions. The challenges to achieve agreement have been expressed in the literature and are due to the difficulty of consensus on what to consider in the definition of the profile of the specialists (clinical experience, knowledge, other variables)[8]. In this study, different levels of understanding of the central construct of the model (activities of living) may have interfered in the participants' opinions on the original proposal produced by the researchers.

However, the product of this study sought to establish proximity to the clinical reality of the situations experienced by nurses who deal with AMI patients. It is understood that this aspect converges with the purpose of usability of a technology and it favors the instrumental character of the protocol aligned to the Nursing Process. The use of the ICNP® taxonomy in professional practice tends to facilitate nursing registration, making care more agile and precise, reducing the time spent between the onset of signs and symptoms until the provision of the specific nursing care for AMI patients[9-10]. Also, the systems of standardized nursing languages (SNL) contribute to knowledge construction of the discipline, to the training of nurses' reasoning and to the clinical practice of the profession. The use of SNL requires that its main purpose lies in understanding the phenomena of interest for the nursing course[11].

As an operational dimension essential to the nursing process, the proposed subset has both the clinical specificity of the standardized language, while it also encompasses the amplitude of the nursing model used as a reference for phenomena and interventions.

Regarding the first category of activity of living, "maintaining a safe environment", we emphasize that there are potential risks that compromise the safety of the environment of AMI patients, especially non-specific signs and symptoms such as syncope and postural vertigo, considering that as cardiac contraction becomes ineffective, there is reduced cardiac output, resulting in poor cerebral perfusion with an inadequate level of consciousness and consequently mental confusion. This exposes the individual to risks such

as traumas due to falls and obstruction of the airways due to tongue relaxation[6,12]. For the same reason, the second activity of living, "communication", represented in the form of verbal language (cognitive ability, speaking, listening, reading and writing) can also be compromised.

Theoretical background[6] recognizes in the third activity of living – "breathing" – the respiratory-cardiovascular connection of our body with chest pain, dyspnea, arrhythmias, cardiogenic shock, acute lung edema and cardiorespiratory arrest being associated with this activity of living. These signs and symptoms involve stimulation of the sympathetic (tachycardia, sweating and hypertension) and parasympathetic (bradycardia) Autonomic Nervous System (ANS), in addition to tissue hypoperfusion resulting from cardiogenic shock (arterial hypotension, peripheral vasoconstriction, sweating, pallor, cyanosis and mental confusion). The most common AMI symptom is chest pain, which occurs due to stimulation of nerve endings by lactic acid and carbon dioxide that accumulate in ischemic tissue[12]. We can also emphasize the irradiation of visceral ischemic heart pain (stomach, back, upper limbs, maxilla, mandible and teeth) due to stimulation of afferent nerve endings located in the myocardium and coronary vessels[13].

In AMI patients, the eating and drinking activity of living may have relations with biological factors linked to pain arising from the myocardial ischemia in the stomach and maxillary, in addition to nausea, vomiting, pyrosis, eructation and dyspepsia, meaning that digestive symptoms such as atypical presentation of the disease are usually present[14]. The adopted theoretical model states that the activities of living are related to one another and are influenced by environmental, socio-cultural, psychological, biological and political-economic factors[6]. The indication of diagnoses and outcomes only associated to the phenomenon related to the complaint of nausea may indicate the need to broaden the perspective of nurses beyond the exclusively biological factors of the eating and drinking activity in AMI patients, such as sociocultural and economic influences on eating habits and the psychological impacts of dietary restrictions on the individual.

"Elimination" corresponds to the fifth activity of living affected during AMI, in which the biological factors involved in urinary and fecal eliminations resulting from renal hypoperfusion and intestinal mucosa caused by cardiogenic shock are highlighted[15-16]. The consequences related to the social factors that this change causes are expected, highlighting the need for comprehensive thinking about the health of AMI patients.

The sixth activity of living, "personal hygiene and dressing", refers to daily skin hygiene habits[6]. AMI patients may present a decrease in their ability to perform daily activities related to self-care due to cardiorespiratory impairment resulting from the disease. Moreover, some signs and symptoms of myocardial ischemia and cardiogenic shock can cause physical discomfort related to skin moisture conditions and bathing ability resulting from irradiated ischemic pain (diaphoresis and arm pain or discomfort).

Regarding the eighth activity of living, "mobilisation", it is important to point out that all behavior associated with activities of living implies movement. These movements are related to the practice of physical activities, ergonomics, balance and health of the musculoskeletal system[6,11]. AMI is a disease that interferes in the musculoskeletal system and its associated pathways and which compromises an individual's ability to mobilize properly, especially as a result of the signs, symptoms and complications associated with this disease such as fatigue, weakness, tremor and activity intolerance. Some studies have demonstrated the manifestation of extreme fatigue, physical and mental fatigue and repercussions on the quality of life of AMI patients[17-19].

AMI also affects the "working and playing" activity of living, impacting moments of "no work" of the individual (distraction), involving activities related to leisure, relaxation, fun, exercise and vacations[6]. Non-specific and emotional signs and symptoms may manifest in the prodromes of the disease, in the acute phase or after the establishment of the myocardial lesion and affect the individual's ability to work and/or relax. Among these are: restlessness, anxiety, stress, anguish, hopelessness, maladaptation, insecurity, despair, frustration, social isolation, guilt and sadness[20-22].

"Sleeping" is another category of activity of living affected in AMI patients. The association between insomnia and cardiovascular disease is increasing[22-23], and it has been verified that sleep hygiene practices and environmental modifications during the hospitalization of those affected by myocardial ischemia had the incidence of arrhythmia after AMI reduced[24-25] when combined with other treatments.

The twelfth activity of living – "dying" – involves countless emotional reactions such as disbelief, despair, anger, denial, shame, guilt, resentment, fear, anxiety, and depression. This activity is totally related to one of the concepts of "duration of life"[6]. In the theoretical model, the duration of life is represented by a unidirectional line from birth to death[6]. Fear is reported as a "constant companion" by people who have experienced AMI[17].

Two of the 12 activities of living (controlling body temperature and expressing sexuality) were not included in the ICNP® terminology subset because the values reached in the CVI were less than 0.80. Thus, the diagnoses of "impaired thermoregulation" and "impaired sexual process" were not validated.

The seventh activity of living, "controlling body temperature", is related to both thermal control and thermal perceptions. Feeling hot is a symptom with a high probability of occurrence, although atypical, in AMI patients, also being a non-painful equivalent of ischemia[7,26]. On the other hand, cold skin is characteristic of cardiogenic shock[12]. Increases in body temperature up to 102°F (38.9°C) of non-infectious origin have also been related to some morbid conditions, with AMI among them[26].

The tenth activity of living, "expressing sexuality", plays a central role in human relationships, but the consequences of a myocardial infarction can compromise sexual activities by generating sexual dysfunction associated with the emotional and social reactions from the disease and drug treatment[27]. Few patients return normally to their sexual activity with the same frequency or intensity after a cardiac event, while others do not even resume sexual activity at all[17]. Thus, it is important to emphasize that the non-validation of phenomena linked to this activity of living can be explained by the valorization of the care of the human needs related to the biological dimension to the detriment of those of an emotional and/or psychosocial character. This aspect converges towards the evidence that discussing with patients about sexual function, their difficulties, fears and anxiety is rarely noticed in practice[17]. Added to this are the lack of appreciation of the manifestation of the "feeling hot" symptom and sexual dysfunction as a complication after myocardial ischemia[17,27].

The non-validation of diagnoses, outcomes and nursing interventions by specialists should be interpreted in the light of the "wisdom of crowds effect"[28]. The virtue of the effect of collective wisdom is to recognize that group opinion is better than individual opinion, since this may be too biased for an initial estimate, inclined toward more available or emotionally interesting information or other biases. Therefore, the CVI consideration becomes a relevant measure for estimating this effect and taking advantage of the expertise of experts. On the other hand, when the question is put in terms of evidence, expert opinion is at the lowest level of evidence[29]. This points to the relevance of the integrative review of the literature produced in the third stage of the study.

As a limitation of this study, we can point out the focus of specialists in the biological dimension during the care of the infarcted patient, characteristic of the profile of professionals working in the emergency services, and to the detriment of the other human dimensions. This fact compromises the provision of comprehensive nursing care to this clientele. The second limitation refers to the lack of knowledge of Brazilian nurses regarding the theoretical model chosen in the study, which compromised the non-validation of diagnoses, outcomes and nursing interventions relevant to the care AMI patients.

CONCLUSION

The elaborated ICNP® terminological subset presented terms that were validated by specialist nurses, and based on this they were compatible with those used in the clinical nursing practice. Therefore, these terms can aid in critical thinking and decision making which will in turn contribute to quality nursing care and to the application of specialized language terminologies aimed at caring for AMI patients.

ICNP® has been found to be suitable for use with the Activities of Living Model because it has terms compatible with those used in nursing clinical practice, and is valid for constructing the terminological subset for AMI patients and probably for facilitating clinical nursing judgment.

RESUMO

Objetivo: Elaborar o subconjunto terminológico da Classificação Internacional para a Prática de Enfermagem (CIPE®) para a pessoa com infarto agudo do miocárdio, utilizando o Modelo de Atividades de Vida. **Método:** Estudo metodológico, que seguiu as orientações do Conselho Internacional de Enfermeiros e teve como base teórica o Modelo de Atividades de Vida para a sua elaboração. A validação de conteúdo foi realizada por 22 enfermeiros especialistas. **Resultados:** Foram elaborados 22 diagnósticos e 22 resultados de enfermagem. Destes, apresentaram Índice de Validade de Conteúdo (IVC) ≥ 0,80 17 enunciados de diagnósticos e 17 resultados de enfermagem. Das 113 intervenções de enfermagem elaboradas, 42 alcançaram IVC ≥ 0,80, e, após sugestões dos especialistas, 51 intervenções compuseram o subconjunto terminológico. **Conclusão:** A CIPE® mostrou-se adequada para uso com o Modelo de Atividades de Vida possuindo termos compatíveis com os utilizados na prática clínica do enfermeiro, sendo válida para a construção do subconjunto terminológico para a pessoa com infarto agudo do miocárdio e provavelmente para a facilitação do julgamento clínico de enfermagem.

DESCRITORES

Infarto do Miocárdio; Cuidados de Enfermagem; Diagnóstico de Enfermagem; Classificação.

RESUMEN

Objetivo: Elaborar el subconjunto terminológico de la Clasificación Internacional para la Práctica de Enfermería (CIPE®) para la persona con infarto agudo del miocardio, utilizando el Modelo de Actividades de Vida. **Método:** Estudio metodológico, que siguió las orientaciones del Consejo Internacional de Enfermeros y tuvo como base teórica el Modelo de Actividades de Vida para su elaboración. La validación de contenido fue realizada por 22 enfermeros expertos. **Resultados:** Fueron elaborados 22 diagnósticos y 22 resultados de enfermería. De esos, 17 enunciados de diagnósticos y 17 resultados de enfermería presentaron Índice de Validez de Contenido (IVC) ≥ 0,80. De las 113 intervenciones enfermeras diseñadas, 42 alcanzaron IVC ≥ 0,80 y, después de sugerencias de los expertos, 51 intervenciones compusieron el subconjunto terminológico. **Conclusión:** La CIPE® se mostró adecuada para empleo con el Modelo de Actividades de Vida, contando con términos compatibles con los utilizados en la práctica clínica enfermera, siendo válido para la construcción del subconjunto terminológico para la persona con infarto agudo del miocardio y probablemente para la facilitación del juicio clínico enfermero.

DESCRIPTORES

Infarto del Miocardio; Atención de Enfermería; Diagnóstico de Enfermería; Clasificación.

REFERENCES

1. Ribeiro AL, Duncan BB, Brant LC, Lotufo PA, Mill JG, Barreto SM. Cardiovascular health in Brazil: trends and perspectives. Circulation. 2016;133(4):422-33. DOI: 10.1161/CIRCULATIONAHA.114.008727

2. Brasil. Ministério da Saúde. DATASUS. Informações de saúde: morbidade hospitalar do SUS - por local de internação [Internet]. Brasília; 2016 [citado 2017 maio 5]. Disponível em: http://tabnet.datasus.gov.br/cgi/tabcgi.exe?sih/cnv/niuf.def

3. Serrano-Martínez M, San Julián-Aranguren B, Ezpeleta-Iturralde I, Madoz-Zubilaga E, Urbina-Goñj MJ, Irala-Estevez J. Primary care nursing of coronary patients and reduction of re-infarction risk: a nested case–control study. Public Health. 2005;119(2):112-7.

4. Garcia TR, Nobrega MML. The International Classification for Nursing Practice: participation of Brazilian nurses in the project of the International Council of Nurses. Acta Paul Enferm [Internet]. 2009 [cited 2017 May 5];22(n.spe):875-9. Available from: http://www.scielo.br/pdf/ape/v22nspe/en_06.pdf

5. Garcia TR, Bartz CC, Coenen AM. CIPE®: uma linguagem padronizada para a prática profissional. In: Garcia TR. Classificação Internacional para a Prática de Enfermagem: CIPE® aplicado à realidade brasileira. Porto Alegre: Artmed; 2016. p. 24-39.

6. Roper N, Logan WW, Tierney AJ. O modelo de enfermagem Roper-Logan-Tierney: baseado nas atividades de vida diária. Lisboa: CLIMEPSI; 2001.

7. International Organization for Standardization. ISO 18104: health informatics: categorial structures for representation of nursing diagnoses and nursing actions in terminological systems [Internet]. Geneva: ISO; 2014 [cited 2015 Nov 20]. Available from: http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=59431

8. Lopes MV, Silva VM, Araujo TL. Methods for establishing the accuracy of clinical indicators in predicting nursing diagnoses. Int J Nurs Knowl. 2012;23(3):134-9. DOI: 10.1111/j.2047-3095.2012.01213.x

9. Veríssimo RCSS, Marin HF. Documentation system prototype for postpartum nursing. Acta Paul Enferm. 2013;26(2):108-15. DOI: http://dx.doi.org/10.1590/S0103-21002013000200002

10. Piegas LS, Timerman A, Feitosa GS, Nicolau JC, Mattos LAP, Andrade MD, et al. V Diretriz da Sociedade Brasileira de Cardiologia sobre Tratamento do Infarto Agudo do Miocárdio com Supradesnível do Segmento ST. Arq Bras Cardio [Internet]. 2015 [citado 2017 maio 5];105(2 Suppl 1):1-121. Disponível em: http://publicacoes.cardiol.br/2014/diretrizes/2015/02_TRATAMENTO%20DO%20IAM%20COM%20SUPRADESNIVEL%20DO%20SEGMENTO%20ST.pdf

11. Carvalho EC, Cruz DALM, Herdman TH. Contribuição das linguagens padronizadas para a produção do conhecimento, raciocínio clínico e prática clínica da Enfermagem. Rev Bras Enferm. 2013;66(n.spe):134-41. DOI: http://dx.doi.org/10.1590/S0034-71672013000700017

12. Aehlert B. ACLS, Advanced Cardiac Life Support. Emergências em Cardiologia: suporte avançado de vida em cardiologia. Um guia para estudo. 4th ed. Rio de Janeiro: Elsevier; 2013.

13. Pereira JMV, Cavalcanti ACD, Santana RF, Cassiano KM, Queluci GC, Guimarães TCF. Diagnósticos de enfermagem de pacientes hospitalizados com doenças cardiovasculares. Esc Anna Nery. 2011;15(4):737-45. DOI: http://dx.doi.org/10.1590/S1414-81452011000400012.

14. Grosmaitre P, Le Vavasseur O, Yachouh E, Courtial Y, Jacob X, Meyran S, et al. Significance of atypical symptoms for the diagnosis and management of myocardial infarction in elderly patients admitted to emergency departments. Arch Cardiovasc Dis. 2013;106(11):586-92. DOI: 10.1016/j.acvd.2013.04.010

15. Bernoche C, Kopel L, Geisler LN, Lopes D, Frota M, Macatrão-Costa, Lage S. Atualização do manejo clínico do choque cardiogênico. Rev Soc Cardiol Estado São Paulo. 2016;26(1):14-20.

16. Nozari Y, Geraiely B. Correlation between the serum levels of uric acid and HS-CRP with the occurrence of early systolic failure of left ventricle following acute myocardial infarction. Acta Med Iran [Internet]. 2011 [cited 2017 Aug 21];49(8):531-5. Available from: http://acta.tums.ac.ir/index.php/acta/article/view/3790

17. DeVon HA, Ryan CJ, Rankin SH, Cooper BA. Classifying subgroups of patients with symptoms of acute coronary syndromes: a cluster analysis. Res Nurs Health. 2010;33(5):386-97. DOI: 10.1002/nur.20395

18. Andersson EK, Borglin G, Wilman A. The experience of younger adults following myocardial infarction. Qual Health Res. 2013;23(6):762-72. DOI: 10.1177/1049732313482049

19. Dodson JA, Arnold SV, Reid KJ, Gill TM, Rich MW, Masoudi FA, et al. Physical function and independence 1 year after myocardial infarction: observations from the Translational Research Investigating Underlying disparities in recovery from acute myocardial infarction: patients' health status registry. Am Heart J. 2012;163(5):790-6. DOI: 10.1016/j.ahj.2012.02.024

20. Levine DA, Davydow DS, Hough CL, Langa KM, Rogers MA, Iwashyna TJ, et al. Functional disability and cognitive impairment after hospitalization for myocardial infarction and stroke. Circ Cardiovasc Qual Outcomes. 2014;7(6):863-71. DOI: 10.1161/HCQ.0000000000000008

21. Lemos C, Gottschall CAM, Pellanda LC, Muller M. Associação entre depressão, ansiedade e qualidade de vida após infarto do miocárdio. Psic Teor Pesq. 2008;24(4)471-6. DOI: http://dx.doi.org/10.1590/S0102-37722008000400010

22. Iles-Smith H, Deaton C, Campbell M, Mercer C, McGowan L. The experiences of myocardial infarction patients readmitted within six months of primary percutaneous coronary intervention. J Clin Nurs. 2017;26(21-22):3511-8. DOI: 10.1111/jocn.13715

23. Jonge P, Zuidersma M, Bültmann U. The presence of a depressive episode predicts lower return to work rate after myocardial infarction. Gen Hosp Psychiatry. 2014;36(4):363-7. DOI: 10.1016/j.genhosppsych.2014.03.006

24. Laks J, Teles LL. Insônia e doença cardiovascular: marcadores inflamatórios e risco aumentado de cardiopatias. J Bras Med [Internet]. 2014 [citado 2017 ago. 25];102(2):15-9. Disponível em: http://files.bvs.br/upload/S/0047-2077/2014/v102n2/a4190.pdf

25. Andrechuk CR, Ceolim MF. Sleep quality and adverse outcomes for patients with acute myocardial infarction. J Clin Nurs. 2016;25(1-2):223-30. DOI: 10.1111/jocn.13051

26. Cunha B. Clinical approach to fever in the neurosurgical intensive care unit: focus on drug fever. Surg Neurol Int. 2013;4(Suppl 5):S318-22. DOI: http://dx.doi.org/10.4103/2152-7806.111432

27. Andre FS, Maria VLR. Sexuality of postinfarction patients: diagnosis, results and nursing interventions. J Clin Nurs. 2014; 23(15-16):2101-09. DOI: 10.1111/jocn.12345

28. Budescu DV, Chen E. Identifying expertise to extract the wisdom of crowds. Manage Sci. 2015;61(2):267-80. DOI: http://dx.doi.org/10.1287/mnsc.2014.1909

29. Marshall J. Linking research to practice: the rise of evidence-based health sciences librarianship. J Med Libr Assoc. 2014;102(1):14-21. DOI: http://dx.doi.org/10.3163/1536-5050.102.1.005