

## Conceptual definitions of indicators for the nursing outcome “Knowledge: Fall Prevention”

*Definições conceituais dos indicadores do resultado de enfermagem “Conhecimento: Prevenção de quedas”*  
*Definiciones conceptuales de los indicadores del resultado de enfermería ‘Conocimiento: Prevención de caídas’*

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### ABSTRACT

**Objective:** to construct conceptual definitions for indicators of nursing outcome Knowledge: Fall Prevention, selected for evaluation of hospitalized patients with the nursing diagnosis Risk for falls. **Method:** integrative literature review performed in the LILACS, MEDLINE and Web of Science databases, comprising articles published in English, Spanish and Portuguese languages from 2005 to 2015. **Results:** the final sample of the study was composed of 17 articles. The conceptualizations were constructed for 14 indicators of nursing outcome Knowledge: Fall Prevention focused on hospitalized patients. **Conclusion:** the theoretical support of the Nursing Outcomes Classification (NOC), through the process of constructing the conceptual definitions of the indicators of its results, allows nurses to accurately implement this classification in clinical practice and to evaluate the effectiveness of their interventions through the change of the patients’ status over time.

**Descriptors:** Accidental Falls; Nursing; Nursing Process; Nursing Assessment; Outcome Assessment.

### RESUMO

**Objetivo:** construir definições conceituais de indicadores do Resultado de Enfermagem (RE) Conhecimento: Prevenção de Quedas, selecionadas para avaliação de pacientes hospitalizados com o Diagnóstico de Enfermagem Risco de Quedas. **Método:** revisão integrativa da literatura realizada nas bases de dados LILACS, MEDLINE e Web of Science, compreendendo artigos publicados nos idiomas inglês, espanhol e português, no período de 2005 a 2015. **Resultados:** dezessete artigos compuseram a amostra final do estudo. Foram construídas as conceituações para 14 indicadores do RE Conhecimento: Prevenção de Quedas com foco em pacientes hospitalizados. **Conclusão:** a sustentação teórica da NOC, por meio do processo de construção das definições conceituais dos indicadores de seus resultados, possibilita que o enfermeiro implemente essa classificação na prática clínica de forma precisa, e possa avaliar a efetividade das suas intervenções através da mudança do estado dos pacientes ao longo do tempo.

**Descritores:** Acidentes por Quedas; Enfermagem; Processos de Enfermagem; Avaliação em Enfermagem; Avaliação de Resultados.

### RESUMEN

**Objetivo:** construir definiciones conceptuales de indicadores del Resultado de Enfermería (RE) Conocimiento: Prevención de Caídas, seleccionadas para evaluación de pacientes hospitalizados con el Diagnóstico de Enfermería Riesgo de Caídas. **Método:** revisión integrativa de la literatura realizada en las bases de datos LILACS, MEDLINE y Web of Science incluyendo artículos publicados en los idiomas inglés, español y portugués en el período de 2005 a 2015. **Resultados:** diecisiete artículos compusieron la muestra final del estudio. Se construyeron las conceptualizaciones para 14 indicadores del RE Conocimiento: Prevención de Caídas con foco en pacientes hospitalizados. **Conclusión:** la sustentación teórica de la NOC a través del proceso de construcción de las definiciones conceptuales de los indicadores de sus resultados posibilita que los enfermeros implementen esa clasificación en la práctica clínica de forma precisa, y puedan evaluar la efectividad de sus intervenciones a través del cambio del estado de los pacientes a lo largo del tiempo.

**Descriptorios:** Accidentes por Caídas; Enfermería; Procesos de Enfermería; Evaluación en Enfermería; Evaluación de Resultados.

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## INTRODUCTION

Falls are adverse events of great impact in hospital institutions, responsible for two out of five events related to patient care, ranging from 1.4 to 13 falls per thousand patients/day and with damages occurring in 30% to 50% of cases<sup>(1-4)</sup>.

The injuries resulting from falls include excoriations, hematomas, bruises, femoral, hip fractures, and skull trauma. Therefore, worsening of the patient's clinical condition, chronic pain, limitations and physical incapacities, increase in length of stay, hospital costs, and ethical and legal implications for the institution may occur<sup>(1,5-6)</sup>.

Given this scenario, the role of nursing in the prevention of these events is fundamental to prevent or reduce damages through effective interventions, and the nursing process (NP) is a way of guiding clinical practice. In the application of NP, the nurse counts on the standardized nursing language (SNL), which name, organize, and classify the practice elements, i.e., diagnoses, interventions and nursing outcomes. SNLs improve the quality of care, information and records; increase the visibility of nursing actions and contribute to patient safety<sup>(7)</sup>.

Among the SNL, it is worth highlighting the diagnostic classification of NANDA International (NANDA-I)<sup>(8)</sup>, the Nursing Interventions Classification (NIC)<sup>(9)</sup> and Nursing Outcomes Classification (NOC)<sup>(10)</sup>.

The NOC is complementary to the classifications of NANDA-I and NIC, providing standardized language for identifying results referring to the NP planning and assessment stages, with indicators and scales able to assess the patient's condition at set intervals according to the clinical judgment of the nurse, along a continuum.

The NOC's nursing outcomes (NO) establish standardized measures and definitions and allow assessing the effectiveness of nursing care, making visible the impact of their actions. This measurement demonstrates whether patients are responding adequately to nursing interventions, helping to determine if changes in care are needed<sup>(10-11)</sup>.

In the context of falls prevention, NOC presents several results that can be used by the nurse to evaluate patients at risk for falls. Among them, the NO (1828) Knowledge: Fall Prevention was selected as an study object, since it has a link with educational interventions that have been increasingly emphasized to promote patient awareness of their risk and the need to prevent falls, stimulating change in habits and behaviors in order to avoid the event<sup>(12-13)</sup>.

Thus, the NO (1828) Knowledge: Prevention of falls, defined as an "extent of understanding conveyed about prevention of falls", may support the nurse in the assessment of patient knowledge and educational interventions implemented in the hospital setting. This NO shows 21 indicators to be selected according to the clinical situation and a five-point Likert scale where the lowest score defines the worst situation (no knowledge) and the highest, the best (vast knowledge).

However, NOC indicators do not have conceptual definitions that favor the establishment of the score to be attributed with greater precision and the lowest possible subjectivity.

Therefore, 14 indicators of this NO among the 21 available, based on the literature<sup>(2-4)</sup> and clinical experience, were selected as being the most relevant for the patient assessment in a hospital setting with the nursing diagnosis (ND) Risk for Falls.

Thus, the present study aimed to construct conceptual definitions for NO (1828) Knowledge: Fall Prevention selected for evaluation of hospitalized patients with the ND Risk for falls.

The relevance of this study is in the contribution to the understanding of indicators used in NO (1828) Knowledge: Prevention of falls with the conceptual refinement of its indicators, besides favoring the NOC application in clinical practice by evaluating the effectiveness of the preventive measures to falls.

## METHOD

An integrative literature review was conducted in order to find evidence that would help to define indicators of NO (1828) Knowledge: Fall Prevention. This type of study consists on the construction of an extensive literature analysis based on the synthesis of multiple studies, allowing a thorough understanding of a specific phenomenon<sup>(14-15)</sup>. For its elaboration, the following steps were followed: problem formulation, data collection, data evaluation, data analysis, data interpretation, and presentation of results<sup>(15)</sup>.

The problem formulation approached the following guiding question: What are the measures to prevent falls in hospitalized patients? Data collection was performed through online search of scientific productions in Literature in the Health Sciences in Latin America and the Caribbean (LILACS), MEDLINE and Web of Science databases, published in Portuguese, Spanish and English in the period between 2005 and 2015, with the following descriptors: accidental falls, prevention, risk factors, education, and hospitalization. The search in databases occurred from January to March 2016.

Articles were initially selected by title and abstract and later read in full, being included in the study those who answered the guiding question and contained relevant concepts to achieve the aim of the study. Articles repeated in more than one database were analyzed only once.

For the data analysis, a synoptic table was elaborated containing important variables for the subject: title of the article, authors, year of publication, place of study, journal, database, objective, method, nursing outcomes classification and conceptual definition.

The article selection process, according to the grouping of descriptors used in the respective databases, search results and the number of articles included in the study are outlined in Figure 1.

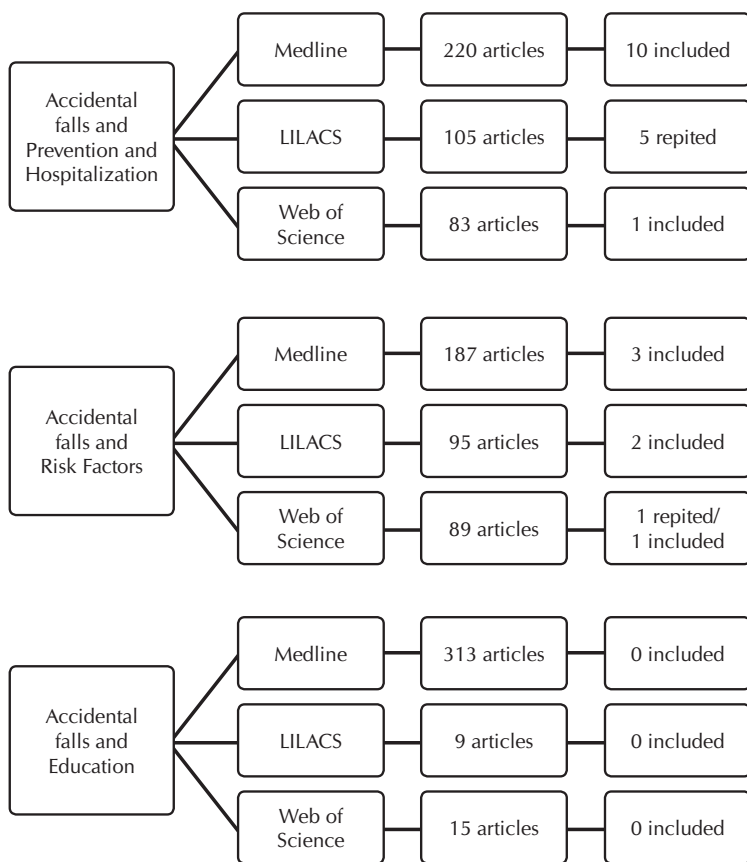


Figure 1 – Selection of articles according to descriptors in databases, 2016

RESULTS

The search results indicated a final sample of 17 articles, which supported the construction of the conceptual definitions for indicators of NO (1828) Knowledge: Fall Prevention.

The characterization of the publications with respect to authorship, year of publication/country, database, design and indicator

on which the conceptual definition was based is presented in Chart 1.

The origin countries of the studies were: Brazil, three (17.6%), United States, Canada and Australia, two (11.7%) each, Spain, England, Jamaica, Japan, Portugal, Singapore, Switzerland, and Turkey presented one (5.9%) study each. The publications were distributed between the years 2006 and 2014, and nine studies were published between 2012 and 2014.

Regarding the design, the literature reviews (29.4%) and cross-sectional studies (17.6%) stood out.

The analysis and interpretation of the data contained in the studies, based on the content similarity, allowed the construction of the concepts related to the 14 indicators of NO (1828) Knowledge: Fall Prevention, namely:

Indicator (182801) Correct use of assistive devices

The assistive devices pointed out in the literature include crutches, walking sticks and walker<sup>(16,19,21,24)</sup>. Care with the use of these devices is related to the correct height adjustment, the hand support, its maintenance and the maintenance of the hand in places of easy reach<sup>(16,21)</sup>.

Conceptual definition: the patient describes his or her knowledge on the correct use of the assistance devices, such as the crutch, walking stick and walker to move around safely.

Indicator (182803) Appropriate footwear

Two studies have pointed to the importance of using adequate footwear in order to prevent falls. The presence of non-slip soles was cited as a factor that can minimize the risk for falls<sup>(16,21)</sup>.

Conceptual definition: the patient describes his or her knowledge about the use of safe and appropriate footwear for the prevention of falls.

Chart 1 – Characterization of publications that composed the sample

Authorship	Year of publication/ Country	Database	Design	NO indicator
Schwendimann R, Bühler H, Geest SD, Milisen K <sup>(16)</sup>	2006 Switzerland	Medline	Observational (before and after type)	-Correct use of assistive devices -Suitable footwear -Correct use of ambient lighting
James K, Eldemire SD, Gouldbourne J, Morris C <sup>(17)</sup>	2007 Jamaica	Medline	Literature review	-Diseases that increase the risk for falls
Akyol AD <sup>(18)</sup>	2007 Turkey	Web of science	Literature review	-Correct use of grab bars
Machado TR, Oliveira CJ, Costa FBC, Araujo TL <sup>(19)</sup>	2009 Brazil	Lilacs	Descriptive-exploratory	-Correct use of assistive devices -Use of safe transfer procedures
Shuto H, Imakyure O, Matsumoto J, Egawa T, Jiang Y, Hirakawa M, et al <sup>(20)</sup>	2010 Japan	Medline	Crossover	-Prescribed drugs that increase the risk for falls

To be continued

Chart 1 (concluded)

Authorship	Year of publication/ Country	Database	Design	NO indicator
Oliver D, Healey F, Haines TP <sup>(21)</sup>	2010 England	Medline	Literature review	-Correct use of assistive devices -Correct use of assistive devices -Correct use of ambient lighting -Changes in blood pressure that increase the risk for falls -Importance of maintaining clear walkway
Johnson M, George A, Tran DT <sup>(22)</sup>	2011 USA	Medline	Mixed	-Strategies for safe walking
Ang E, Mordiffi SZ, Wong HB <sup>(23)</sup>	2011 Singapore	Medline	Randomized controlled trial	-Use of safe transfer procedures -Changes in blood pressure that increase the risk for falls
Cruz DT, Ribeiro LC, Vieira MT, Teixeira MTB, Bastos RR, Leite ICG <sup>(24)</sup>	2012 Brazil	Lilacs	Cross-sectional	-Correct use of assistive devices -Diseases that increase the risk for falls
Belita L, Ford P, Kirkpatrick H <sup>(25)</sup>	2012 Canada	Medline	Literature review	-Prescribed drugs that increase the risk for falls -Diseases that increase the risk for falls -Changes in blood pressure that increase the risk for falls -Importance of maintaining clear walkway
Haines TP, Angel DL, O'Connell B, McDermott F, Hoffmann T <sup>(26)</sup>	2012 Australia	Medline	Qualitative	-When to request personal assistance
Lee EA, Gibbs NE, Fahey L, Whiffen T <sup>(27)</sup>	2013 WUE	Medline	Case study	-Prescribed drugs that increase the risk for falls
Lee DCA, McDermott F, Hoffmann T, Haines TP <sup>(12)</sup>	2013 Australia	Medline	Qualitative	-When to request personal assistance -Use of safe transfer procedures -Reasons for restraints -Strategies for safe walking
Aranda-Gallardo M, Morales-Asencio JM, Canca-Sanchez JC, Toribio-Montero JC <sup>(28)</sup>	2014 Spain	Medline	Cross-sectional	-Prescribed drugs that increase the risk for falls
Costa-Dias MJ, Oliveira AS, Martins T, Araújo F, Santos AF, Moreira CN, José H <sup>(29)</sup>	2014 Portugal	Medline	Cross-sectional	-Prescribed drugs that increase the risk for falls
Shaw BH, Claydon VE <sup>(30)</sup>	2014 Canada	Medline	Literature review	-Changes in blood pressure that increase the risk for falls
Severo IM, Almeida MA, Kuchenbecker R, Vieira DFVB, Weschenfelder ME, Pinto LRC, et al <sup>(31)</sup>	2014 Brazil	Web of science	Literature review	-Prescribed drugs that increase the risk for falls

#### Indicator (182804) Correct use of grab bars

Regarding this indicator, the literature indicates that the presence of grab bars is a measure related to the environmental risk for falls and should be positioned in the bathrooms, near the toilet and in the shower<sup>(18)</sup>.

*Conceptual definition:* the patient describes his or her knowledge about using grab bars in the bathroom to use the toilet and shower in order to reduce the environmental risk for falls.

#### Indicator (182807) Correct use of environmental lighting

Studies reinforce the importance of adequate ambient light, with emphasis on bedside and bathroom lighting in a consistent and safe manner. Poor environmental illumination is related to a higher risk for falls in patients<sup>(16,21)</sup>.

*Conceptual definition:* the patient describes his or her knowledge about the adequate environment lighting in order to guarantee his or her safe transportation.

#### Indicator (182808) When to ask for personal assistance

The situations pointed out in the literature in which patients need to request personal assistance are those activities in which, due to the reduction of their abilities, they are no longer able to perform alone, such as getting out of bed and/or going to the bathroom<sup>(12,26)</sup>.

*Conceptual definition:* the patient describes his or her knowledge about when to ask for help to perform activities that is not able to perform alone due to physical limitation.

#### Indicator (182809) Use of safe transfer procedure

Cautions cited in studies related to safe transfer procedures include: getting up slowly, sitting for a moment before moving, using the assistive device to perform the transfer if necessary, ensuring that the wheels are locked and bed is in the low position<sup>(12,18,23)</sup>.

*Conceptual definition:* the patient describes his or her knowledge of how to safely transfer between bed, chair and wheelchair.



**Indicator (182810) Reasons for restraints**

The restraints of the patient with risk for fall involve: the exit of the bed and the walking without follow-up<sup>(12)</sup>. The title of this indicator was maintained according to the meaning of its nomenclature in the NOC: 5th edition.

*Conceptual definition:* the patient describes his or her knowledge about the reasons for bed rest and walking restrictions due to the risk for falls.

**Indicator (182812) Prescribed medications that increase risk for falls**

Drugs related to the risk for falls are diverse, and the drug classes to which they are part are pointed out in several studies. Issues, such as polypharmacy ( $\geq 4$  drugs) and drug side effects are important factors that may increase the risk for falls<sup>(20,25,27-29,31)</sup>.

*Conceptual definition:* the patient describes his or her knowledge about the prescribed drugs related to the increased risk for falls, such as: antihypertensives, antiarrhythmics, diuretics, benzodiazepines, sedatives, antidepressants, anticonvulsants, opioid analgesics, muscle relaxants, antihistamines, insulin, oral hypoglycemic agents; due to the presence of side effects, such as hypotension, bradycardia, somnolence, dizziness, reflex changes, visual changes, hypoglycemia, urinary urgency, intestinal urgency.

**Indicator (182816) Non-prescription medications that increase risk for falls**

The literature does not mention the prescribed and non-prescribed drugs, but rather the drugs related to the risk for falls in general, more specifically to its drug classes (cited in the above indicator).

*Conceptual definition:* the patient describes his or her knowledge about the drugs related to the increased risk for falls, such as: antihypertensives, antiarrhythmics, diuretics, benzodiazepines, sedatives, antidepressants, anticonvulsants, opioid analgesics, muscle relaxants, antihistamines, insulin, oral hypoglycemic agents; due to the presence of side effects, such as hypotension, bradycardia, somnolence, dizziness, reflex changes, visual changes, hypoglycemia, urinary urgency, intestinal urgency.

**Indicator (182813) Chronic conditions that increase risk for falls and (182814) Acute illnesses that increase risk for falls**

Chronic conditions that increase the risk for falls include hypertension, diabetes, heart arrhythmias and osteoporosis, which are strongly related to the decline in functional capacity<sup>(17,24-25)</sup>.

With regard to acute diseases, the literature points to cardiovascular conditions, such as angina, acute coronary syndrome and stroke as those with the greatest impact on the risk for falls<sup>(25)</sup>. We suggested the grouping of these two indicators into one with a new titration.

**Indicator (182813 and 182814) Diseases that increase the risk for falls.**

*Conceptual definition:* the patient describes his or her knowledge about diseases that increase the risk for falls, such as cardiovascular diseases (hypertension, heart failure, cerebrovascular accident, acute coronary syndrome, angina), diabetes, osteoarthritis, osteoporosis and urinary/intestinal incontinence.

**Indicator (182815) Blood pressure changes that increase risk for falls**

Studies indicate that the main change in blood pressure that increases risk for falls is orthostatic hypotension, a frequent event in hospitalized patients, which occurs when there is a significant decrease in blood pressure, when assuming an upright posture<sup>(21,23,30)</sup>. However, hypertension, previously mentioned, is also associated with the risk for falls<sup>(25)</sup>.

*Conceptual definition:* the patient describes his or her knowledge about changes in blood pressure that may increase the risk for falls during hospitalization, such as orthostatic hypotension and hypertension.

**Indicator (182817) Strategies to safely ambulate**

Regarding this indicator, some recommendations were cited in studies for safe walking, such as walking slowly, observing the environment, walking without socks, using the assistance devices if indicated, and requesting help whenever necessary<sup>(12,22)</sup>.

*Conceptual definition:* the patient describes his or her knowledge about strategies for safe walking in order to reduce the risk for falls.

**Indicator (182818) Importance of maintaining clear walkway**

The literature points out the importance of observing environmental issues, such as keeping rooms and wards organized, ensuring an unobstructed path with a clean and dry surface, avoiding the risk of stumbling and slipping<sup>(21,25)</sup>. The title of this indicator was maintained according to the meaning of its nomenclature in the NOC: fifth edition.

*Conceptual definition:* the patient describes his or her knowledge about the importance of keeping the walkway free from obstacles and hazards of stumbling.

**DISCUSSION**

It was verified that the studies that addressed the prevention of falls in hospitalized patients originated in several countries, showing that the fall is the object of investigation globally, since it has direct repercussions for patient safety and quality of care. A literature review on risk factors for falls has found 18 different countries with publications on the subject, besides identifying that the number of publications has been increasing progressively<sup>(31)</sup>, portraying the concern with knowledge about the issues involving falls, such as risk factors and prevention of the event in the hospital setting. Similarly, the present study also identified an increase in studies published throughout the period from 2006 to 2014.

Regarding the research design, the literature reviews (29.4%) and cross-sectional studies (17.6%) stood out. Literature reviews allow synthesizing several published studies, being able to generate conclusions about a particular subject of interest, through the application of systematized search methods and synthesis of the selected information, according to the type of performed review (systematic, integrative)<sup>(14)</sup>.

Cross-sectional studies are relevant for describing a situation, the status of an event or its relationships at any given time. They provide information about prevalence, starting from some phenomenon of interest, exploring its dimensions

and being easily feasible, since they are usually fast and low cost. These studies present the disadvantages of inferred analysis, the impossibility of establishing cause relationships, which would be an important issue in investigations focusing on risk factors, occurrence, and prevention of falls<sup>(32)</sup>.

Considering the proposed objective, the researches selected for the present study were considered as relevant, since they enabled the construction of concepts. However, it should be emphasized that the majority showed descriptive delineations, portraying the need to improve the investigations of the area, including more robust methodologies that provide better subsidies for clinical practice.

Regarding the construction of the concepts for indicators of NO (1828) Knowledge: Falls Prevention, for certain terms, the use of different nomenclatures in the literature was verified, as well as the modification of the titles of indicators according to the most current NOC edition. Therefore, the importance of studies that contribute to the conceptual refinement of the classification, as well as its translation, and that subsidize its application in clinical practice are highlighted.

For indicator (182801) Correct use of assistive devices, the literature uses several terms to describe these mechanisms, including assistive technology, artifacts, devices, and assistive devices<sup>(16,19,21,24)</sup>.

The purpose of these devices is to promote the functional independence and activities of daily living, contributing to a safe locomotion and reducing the risk for falls<sup>(24)</sup>. Factors related to impaired mobility, such as changes in gait and balance, have been identified as predictors of falls, especially in the elderly<sup>(2)</sup>. A study carried out in a hospital from Spain found that 55.6% of patients who fell required some kind of assistance to move around (another person, a walker or a walking stick)<sup>(28)</sup>. These data reinforce the importance of patient assessment in relation to their ability to walk and need to use an assistive device, orientation on care and correct use, besides periodic supervision for safety assessment<sup>(33)</sup>.

In this context, the use of adequate footwear is also fundamental, contributing to the patient's safe locomotion. The orientation/supervision on the use of safe footwear by patients is one of the components often implemented in studies involving falls prevention programs in hospitals<sup>(6,16,21)</sup>. Thus, it is verified the use relevance of the indicator (182803) Appropriate footwear of NO (1828) Knowledge: Fall Prevention.

The indicators (182804) Correct use of grab bars, (182807) Correct use of environmental lighting, and (182818) Importance of maintaining clear walkway refer to environmental issues, which in the hospital become more critical because it is an environment unknown for the patient, favoring risk situations. Universal measures for fall prevention include establishing a safe care environment in hospital institutions with non-slip floors, furniture and adequate lighting, debris-free corridors, allowing the safe movement of patients<sup>(33)</sup>.

Therefore, these factors need to be considered throughout the nursing care process, from risk assessment to preventive interventions and results. Through these indicators, e.g., the nurse can measure the patient's knowledge about preventive measures related to the environment, such as the use of grab

bars and lighting, and verify if there is a need to reinforce educational interventions.

In the current edition of the NOC, the indicator (182818) Importance of maintaining clear walkway is entitled in the 5th edition of the NOC as "Importance of maintaining unobstructed access pathway". This indicator, in the original NOC book, remains as Importance of maintaining clear walkway throughout the editions. According to literature review, we believe that the previous title better portrays the indicator concept in the hospital context, to refer to the patients' rooms, wards and pathways. For this reason, we have chosen to maintain the nomenclature of the previous edition.

Another indicator that was chosen to maintain the old nomenclature was (182810) Reasons for restraints. Similar to the previous indicator, in the 5th edition of the NOC, this indicator is presented as "Reasons for use of restraint elements". However, this indicator is called Reasons for restraints, demonstrating that the old title better depicts the restrictions related to the patient with risk for falls, such as leaving the bed and walking without follow-up<sup>(12)</sup>. Situations that would not be included in the new translation of the indicator, besides the elements of physical/mechanical restraint to prevent falls, were not mentioned in the literature review.

A study that identified nursing care prescribed for hospitalized patients at risk for falls found a low prevalence of care prescriptions "implement care with mechanical restraint" (3.3%), probably because there were few patients who needed this practice that involves discussions related to the psychological impact and patient dignity<sup>(34)</sup>.

According to the Resolution of the Brazil's Federal Nursing Council, the practice of mechanical restraint can only be performed when it is the only means available to prevent immediate or imminent harm to the patient or to others, and should be performed under the direct supervision of the nurse, except in situations of urgency/emergency and preferably based on institutional protocols<sup>(35)</sup>.

It should be emphasized that patients with a risk for fall presenting pictures of mental confusion and psychomotor agitation, for example, may require physical restrictive measures to avoid a bed fall and occurrence of damages, verbal management and drug administration safely.

The construction of the concepts of indicators (182812) Prescribed medications that increase risk for falls and (182816) Non-prescription medications that increase risk for falls was based on several studies where polypharmacy ( $\geq 4$  drugs) is pointed out as one of the major risk factors for falls. The greater the number of used drugs, the greater the risk. These drugs have a number of side effects that, together with the patient comorbidities, contribute to the occurrence of the event and the worsening of lesions. A prescription review may decrease the effect of drugs, such as sudden hypotension or bradycardia, reducing the occurrence of falls<sup>(20,25,27-29,31)</sup>.

Based on the above, it is important for patients to be able to recognize which drug classes are related to the risk for falls, considering their side effects and communicating to the health team, if they occur, especially those who use polypharmacy, common in the elderly, which present several comorbidities.

A study that characterized the clinical profile of hospitalized patients with ND Risk for falls pointed to the elderly and with several comorbidities, the most frequent being cardiovascular, endocrine and neurological diseases<sup>(36)</sup>.

Chronic diseases, such as systemic arterial hypertension, diabetes, heart arrhythmias and osteoporosis are the most frequently mentioned in the literature, associated with the risk for falls due to their relationship with functional capacity decline, old age and the need for drugs that in turn also increase this risk<sup>(17,24-25)</sup>.

The NOC shows two indicators to assess the patient's knowledge about diseases that increase the risk for falls: (182813) Chronic conditions that increase risk for falls and (182814) Acute illnesses that increase risk for falls. We understand that the patient's knowledge about the diseases related to the risk for falls is important, however, regardless of their duration, i.e., whether they are acute or chronic. Thus, the aforementioned indicators were grouped into one: (182813 and 182814) Diseases that increase risk for falls, with the aim of facilitating their use in clinical practice.

In the conceptualization of the indicator (182815) Blood pressure changes that increase risk for falls, besides the hypertension, already indicated as a disease related to the risk for fall, orthostatic hypotension was the main predictive condition of fall referenced in the studies, a common event in postoperative hospitalized patients due to hemodynamic changes<sup>(2,23,30)</sup>.

Strategies to reduce this occurrence include: getting up slowly from a sitting or lying position, raising the headboard to 30°, sitting on the bed with feet on the floor before leaving the bed<sup>(21,23,30)</sup>. It is critical that patients are aware of these measures to reduce episodes of orthostatic hypotension during their hospitalization. Therefore, an indicator able to measure the patient's knowledge about this condition and the prevention strategies is relevant in order to subsidize changes in the care plan that improve the patient's results.

Once the strategies to exit the bed have been achieved, avoiding orthostatic hypotension, the patient continues his or her mobilization, i.e., walking. Patient locomotion in the hospital setting is a fundamental issue that demands several care from the nursing staff, including orientation and supervision in an attempt to ensure their safety avoiding the fall. Studies have shown that the majority of falls in hospitalized patients occur from the same height, during walking, on the way to and from the bathroom<sup>(4,28,37)</sup>.

These data reinforce the importance of guiding the patient about the care needed for safe walking. When analyzing the literature, in order to construct the concept of the indicator (182817) Strategies to safely ambulate, there were highlighted the care related to environmental issues, the use of assistive

devices and request for assistance, considerations already listed in the indicators "Correct use of assistive devices", "Importance of maintaining clear walkway" and "When to ask for personal assistance"<sup>(12,22)</sup>.

It is known that fall prevention measures include factors related to the patient, environment and health team. Therefore, it is important that nurses consider these issues when selecting the indicators to evaluate the patient's knowledge.

### Limitations of the study

The limitations of the study include the inclusion of articles available only in English, Portuguese and Spanish, and the difficulty of accessing some international publications because they are not available in full for free, which may have led to the non-inclusion of some studies on the subject.

### Contributions to nursing

The theoretical support of the nursing outcomes classification (NOC), through the process of constructing the conceptual and operational definitions of the indicators of its results, allows nurses to accurately implement this classification in clinical practice and to evaluate the effectiveness of their interventions through the change of the patients' status over time.

### CONCLUSION

From this integrative review, it was possible to construct the conceptual definitions of 14 indicators of NO (1828) Knowledge: Fall Prevention for evaluation of hospitalized patients with the ND Risk for falls.

The analysis of the selected literature, as well as the contrasting of the original versions of the NOC with its translations, made it possible to identify some inadequacies in the indicators. Therefore, the grouping of the indicators "Chronic conditions that increase risk for falls" and "Acute illnesses that increase risk for falls" were proposed in a single one, with a new title "Diseases that increase risk for falls", and maintenance of the titles of NOC edition of the "Reasons for restraints" and "Importance of maintaining clear walkway" indicators.

Through the use of NO (1828) Knowledge: Fall Prevention and their indicators, the nurse can evaluate the extent of the patient's understanding of preventive measures, identifying if educational guidelines were understood, which ones need to be reinforced, and verifying the effectiveness of nursing interventions.

It is necessary to perform studies that verify the applicability of this result in the evaluation of patients with ND Risk for falls in an actual clinical environment and the clinical validation of their indicators.

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