

## ORIGINAL ARTICLE

## Content validation study of nursing interventions intended to prevent cardiovascular events in diabetic patients

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**Aims and objectives.** To validate nursing interventions from the Nursing Interventions Classification for preventing cardiovascular events in outpatients with diabetes.

**Background.** Cardiovascular disease is the main cause of death among diabetic patients. Although nurses play an important role in preventing cardiovascular events in this population, their specific contribution is difficult to measure. Documenting nursing interventions using a standardised nursing system may provide nursing visibility. However, there are no studies that analysed which nursing interventions would be the most relevant, based on expert opinion, aimed at preventing cardiovascular events in diabetic patients.

**Design.** This is a content validation study, which was designed as a descriptive one.

**Methods.** For this content validation study, we used the Fehring model. Nursing interventions were selected from the Nursing Intervention Classification. Experts were asked to analyse the degree of relevance of 225 nursing interventions regarding the prevention of cardiovascular events in diabetic patients, considering its title and definition. We considered nursing interventions which obtained weighted arithmetic averages  $>0.80$  to be valid.

**Results.** Among 50 invited experts, 14 (71.4% female;  $36.5 \pm 9.7$  years) responded and agreed to participate in this study. They analysed 225 preselected nursing interventions, and validated 29.

**Conclusion.** The validated nursing interventions included documentation as well as biological, social and spiritual issues.

**Relevance to clinical practice.** The validated nursing interventions encompass a wide range of nursing knowledge, and these results provide empirical evidence for further studies.

What does this paper contribute to the wider global clinical community?

- Twenty-nine percent of nursing interventions analysed were content validated.
- The nursing interventions considered valid go beyond biological care, and include documentation and social and spiritual issues of the patients.

**Key words:** cardiology, cardiovascular diseases, cardiovascular nursing, diabetes mellitus, diabetes mellitus, type 2, validation studies as topic

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## Aims

To validate nursing interventions (NI) from the Nursing Interventions Classification (NIC) for preventing cardiovascular events in outpatients with diabetes.

## Background

Cardiovascular disease is more frequent, premature and severe in diabetic patients. The participation of nurses in prevention programs has a benefit for reducing cardiovascular events in this population (Perk *et al.* 2012). However, the effectiveness of NI is difficult to measure. This may be attributed, in part, to inadequate dosing or inconsistencies in the NI components (Perk *et al.* 2012), in addition to the lack of documentation of NI using any standardised nursing language (SNL).

Researchers have been concerned in improving their clinical practice using SNL as qualifying tools for nursing care. For example, authors validated NI for diabetic patients with three specific nursing diagnoses (Teixeira *et al.* 2011), based on expert opinion.

Regarding the prevention of cardiovascular events in diabetic patients, there are no studies that mapped what NI from NIC are the most relevant ones. Knowing them is important because nurses will be able to define and to test standards of practice, besides compare patient outcomes across different institutions and regions.

## Design

This was a content validation study, which is part of a larger study. Data were collected between February–April 2014.

## Methods

Experts were identified through the Lattes Platform (<http://lattes.cnpq.br/>) and were invited to participate if they achieved a score of five points using the criteria modified from Fehring (1987): master's degree (four points); thesis about cardiovascular diseases or diabetes (one point); published paper in indexed journal about SNL (two points); PhD and dissertation about cardiovascular diseases or diabetes (two points); a minimum of two years of clinical practice with patients with cardiovascular disease or diabetes (one point); and being a clinical nurse specialist in cardiology or diabetes (two points).

For this study, we used the Portuguese version of the fifth edition of the NIC (Bulechek *et al.* 2008). First of all, researchers independently analysed the labels and definitions of all NI in order to identify those which clearly did not have

**Table 1** Validated nursing interventions (NI). São Paulo, Brazil, 2014

NI	Weighted arithmetic means
Discharge planning (7370)	0.80
Journaling (4740)	0.80
Documentation (7920)	0.80
Anxiety reduction (5820)	0.80
Smoking cessation assistance (4490)	0.80
Health literacy enhancement (5515)	0.80
Family presence facilitation (7170)	0.80
Spiritual support (5420)	0.80
Support group (5430)	0.80
Exercise promotion: stretching (0202)	0.80
Exercise therapy: balance (0222)	0.80
Medication administration (2300)	0.80
Self-care assistance (1800)	0.80
Family involvement promotion (7110)	0.82
Home maintenance assistance (7180)	0.82
Specimen management (7820)	0.84
Support system enhancement (5440)	0.84
Family mobilisation (7120)	0.84
Emotional support (5270)	0.84
Body image enhancement (5220)	0.84
Medication management (2380)	0.84
Hope inspiration (5310)	0.86
Role enhancement (5370)	0.86
Sleep enhancement (1850)	0.86
Family support (7140)	0.88
Family therapy (7150)	0.89
Self-care assistance: IADL (1805)	0.89
Patient rights protection (7460)	0.89
Active listening (4920)	0.91

any relationship with the scope of this study. By consensus between the researchers, 225 NI were identified as being of interest and were submitted to content validation.

Validation methods based on expert opinion have been used to refine SNL systems and also to define standards of practice (Lunney *et al.* 2010). In this study, the content validation model proposed by Fehring (1987) was used. Experts were asked to analyse the degree of relevance of each NI regarding the prevention of cardiovascular events in diabetic patients, considering its title and definition. Experts used a five-type Likert scale varying from great relevance to no relevance. The NI which achieved weighted arithmetic means  $\geq 0.80$  were considered relevant and, therefore, validated.

This study was approved by the Ethics Committee (protocol 489.969).

## Results

Fifty experts were identified, met the inclusion criteria and were invited to participate in this study. Fourteen agreed to

participate (71.4% female;  $36.5 \pm 9.7$  years). They reported much experience with both SNL (72%) and caring for patients with cardiopathology (78.4%) and diabetes (71.4%). Of the 225 NI reviewed, 29 were validated (Table 1).

## Conclusion

Experts validated 29 NI regarding documentation as well as biological, social and spiritual issues. The validated NI seemed to cover the entire nursing role when nurses care for diabetic patients and were aimed at the prevention of cardiovascular events.

## Relevance to clinical practice

Nursing classifications, such as the NIC, have been shown to improve both the quality of documentation and practice. When nurses communicate what they do using a SNL, they increase their visibility and their specific contribution to healthcare. Mapping the most relevant NI for the prevention of cardiovascular events in diabetic patients is important, because these events are the main cause of death in this population. Although other studies

are needed to confirm our results, it is interesting that the validated NI encompass a wide range of nursing knowledge, which includes aspects from biological to spiritual care needs. Our results provide empirical evidence for further studies.

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## Contributions

Study design: RCGS; Data collection and analysis: RCGS, NCF; Manuscript preparation: RCGS, NCF.

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## Conflict of interest

There are no conflicts of interests.

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