

# Nursing Actions Focused on Self-Care of Diabetic Patients Post-Amputation: Scope Review Protocol

Ações de Enfermagem Voltadas para o Autocuidado do Paciente Diabético Pós Amputação: Protocolo de Revisão de Escopo  
Acciones de Enfermería Enfocadas al Autocuidado del Paciente Diabético Postamputación: Protocolo de Revisión del Alcance

## RESUMO

**Objetivo:** Mapear as ações de enfermagem para o autocuidado pós amputação da pessoa com doença do pé relacionada ao diabetes. **Método:** Protocolo guiado pela Joanna Briggs Institute, com questão de pesquisa elaborada a partir do mnemônico PCC: População (Pessoa com doença do pé relacionada ao diabetes); Conceito (Ações de enfermagem para o autocuidado pós-amputação); e Contexto (Hospital), gerando: "Quais as ações de enfermagem para o autocuidado de pessoas amputadas relacionadas ao diabetes?". A busca será realizada na LILACS, BDNF, Medline via Pubmed, Scielo, Web of Science, Scopus, Cinahl. E literatura cinzenta através de sites institucionais guidelines nacionais e internacionais, e Biblioteca Digital Brasileira de Teses e Dissertações (BDTD). Os critérios de elegibilidade serão aplicados em duas etapas de triagem, utilizando o software Rayyan, com resolução de divergências por meio de discussão ou arbitragem por um terceiro revisor. Os dados serão extraídos de forma independente e sintetizados utilizando estatística descritiva, com apresentação por meio de tabelas, gráficos e fluxogramas conforme apropriado. A discussão será narrativa. Espera-se que este estudo forneça informações sobre as ações de enfermagem no autocuidado de pessoas com doença do pé relacionada ao diabetes no processo de pós amputação para o aprimoramento da assistência.

**DESCRIPTORES:** Diabetes Mellitus; Cuidados de Enfermagem; Amputação; Pé Diabético.

## ABSTRACT

**Objective:** To map nursing actions for post-amputation self-care of people with diabetes-related foot disease. **Method:** Protocol guided by the Joanna Briggs Institute, with a research question developed based on the PCC mnemonic: Population (People with diabetes-related foot disease); Concept (Nursing actions for post-amputation self-care); and Context (Hospital), generating: "What are the nursing actions for the self-care of people with diabetes-related amputations?". The search will be conducted in LILACS, BDNF, Medline via Pubmed, Scielo, Web of Science, Scopus, Cinahl. And gray literature through institutional websites, national and international guidelines, and the Brazilian Digital Library of Theses and Dissertations (BDTD). Eligibility criteria will be applied in two screening stages, using Rayyan software, with resolution of discrepancies through discussion or arbitration by a third reviewer. Data will be extracted independently and synthesized using descriptive statistics, with presentation through tables, graphs, and flowcharts as appropriate. The discussion will be narrative. This study is expected to provide information on nursing actions in the self-care of people with diabetes-related foot disease in the post-amputation process to improve care.

**DESCRIPTORS:** Diabetes Mellitus; Nursing Care; Amputation; Diabetic Foot.

## RESUMEN

**Objetivo:** Mapear las acciones de enfermería para el autocuidado postamputación de personas con enfermedad del pie relacionada con la diabetes. **Método:** Protocolo guiado por el Joanna Briggs Institute, con una pregunta de investigación elaborada a partir del mnemotécnico PCC: Población (personas con enfermedad del pie relacionada con la diabetes); Concepto (Acciones de enfermería para el autocuidado tras la amputación); y Contexto (Hospital), generando: «¿Cuáles son las acciones de enfermería para el autocuidado de personas amputadas relacionadas con la diabetes?». La búsqueda se realizará en LILACS, BDNF, Medline a través de Pubmed, Scielo, Web of Science, Scopus, Cinahl. Y literatura gris a través de sitios institucionales, directrices nacionales e internacionales, y la Biblioteca Digital Brasileña de Tesis y Disertaciones (BDTD). Los criterios de elegibilidad se aplicarán en dos etapas de selección, utilizando el software Rayyan, con resolución de divergencias mediante discusión o arbitraje por un tercer revisor. Los datos se extraerán de forma independiente y se sintetizarán utilizando estadística descriptiva, con presentación mediante tablas, gráficos y diagramas de flujo, según corresponda. La discusión será narrativa. Se espera que este estudio proporcione información sobre las acciones de enfermería en el autocuidado de personas con enfermedades del pie relacionadas con la diabetes en el proceso posterior a la amputación para mejorar la atención.

**DESCRIPTORES:** Diabetes mellitus; Cuidados de enfermería; Amputación; Pie diabético.

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## INTRODUCTION

Chronic noncommunicable diseases are the leading cause of death and health complications worldwide, accounting for approximately 41 million deaths annually, corresponding to about 71% of all recorded fatalities<sup>(1)</sup>. In this context, Diabetes Mellitus (DM) stands out, with its incidence and prevalence constantly growing, demanding attention due to its significant impacts on public health<sup>(2)</sup>.

DM is a chronic health condition that consists of a varied combination of metabolic disorders that share the characteristic of hyperglycemia, caused by changes in insulin function or production<sup>(3)</sup>. The clinical manifestation of DM is directly linked to strict control of blood glucose levels. This requires consistent adherence to drug treatment and the adoption of healthy habits<sup>(4)</sup>.

When DM is not kept under control in the long term, it can trigger a series of complications, such as kidney failure, vision loss, the need for amputations, increased risk of heart attack, cerebrovascular problems, and peripheral vascular disorders, including diabetic foot, which can considerably impair the well-being and quality of life of those affected<sup>(2)</sup>.

Diabetes-related foot disease (DRFD) is one of the most common

chronic complications<sup>(5)</sup>. This condition is characterized by the appearance of lesions on the feet, resulting from specific changes in peripheral vascular and/or neurological structures due to DM<sup>(6)</sup>. When not identified early, DFD can progress to serious conditions, including gangrene and even the need for amputation of the affected limb<sup>(7)</sup>. DPRD and amputations remain frequent and serious complications of type 1 and type 2 diabetes, and are linked to a significant mortality rate<sup>(8)</sup>. In fact, DPRD precedes 80% of lower limb amputations among people diagnosed with DM<sup>(9)</sup>.

DM and its complications cause terrible and painful human suffering during its progression, and lower limb amputation results in reduced mobility and inability to walk. The care process begins voluntarily and deliberately on the part of individuals, so self-care is a dynamic process that requires people to have the ability to use reason to understand their own health condition and their knowledge to make decisions that guide the choice of appropriate actions:

For self-care to be effective, it is important for the person to be involved and motivated, which are essential elements for their responsibility<sup>(8)</sup>. For Portela et al.<sup>(12)</sup>, self-care by diabetic amputee patients is seen as crucial in their treatment. This approach helps patients develop a deep-

er understanding of their condition, improving their knowledge and skills to perform appropriate self-monitoring practices. This, in turn, leads to positive behavioral change, which ultimately contributes to reducing the risk of complications<sup>(13)</sup>.

In this regard, nursing professionals play a key role. Acting as facilitators, nurses provide education and guidance on self-care practices that are fundamental to the prevention and control of DM. Through nursing actions, nurses work to enable patients to take an active role in their own health, empowering them to make informed decisions and promoting autonomy and well-being<sup>(7)</sup>. Thus, understanding and highlighting nursing actions focused on self-care can not only improve health outcomes for individuals with DM, but also optimize resources and promote preventive interventions, aligning with the growing needs of patient-centered health care. Therefore, this review aims to map nursing actions for people with diabetes-related foot disease.

## METHOD

This study is a Scope Review conducted in accordance with the Joanna Briggs Institute (JBI) guidelines<sup>(14)</sup> for Scope Reviews and described using the *Preferred Reporting Items for Sys-*

tematic reviews and Meta-Analyses (PRISMA) checklist for Scope Reviews<sup>(15)</sup>.

It is a method of evidence synthesis proposed in 2005 by Arkey and O'Marley<sup>(16)</sup>, which is methodologically structured in six stages, defined by the identification of the research question; search for relevant studies; selection of these studies; data mapping; comparison-summary-report of results; and consultation with stakeholders to inform or validate the results. Despite its systematic nature, following a predetermined methodology, it is a review carried out in various predefined databases, based on a previously established guiding question and the use of specific search terms.

Its purpose is to examine the extent, scope, and nature of a particular activity or area of research, determine the need for a complete systematic review, summarize and disseminate research results, or identify gaps in the existing literature. Scope reviews map key concepts that underpin an area of research, clarify these concepts, and report on the types of evidence they address and inform practice<sup>(14)</sup>. This protocol was developed and prospectively registered in the *Open Science Framework (OSF)* on July 25, 2024 (DOI: <https://10.17605/OSF.IO/BA5NV>).

### Review question

The PCC mnemonic combination was used to construct the research question, objective, and descriptors. In which P (*Population*) will be people with diabetes-related foot disease; C (*Concept*) nursing actions for post-amputation self-care; and C (*Context*) hospital. From this, the guiding question was obtained: "What are the nursing actions for the self-care of people with diabetes-related amputations?"

### Inclusion criteria

#### Participants

This review will include studies that address nursing actions related to self-care for patients with diabetes-related foot disease, regardless of gender, ethnicity, age group, or sociodemographic and sociocultural profile.

#### Concept

This review will consider studies that discuss any nursing actions related to self-care for patients with amputation due to DBRD, which may be immediate actions, actions to prevent complications, actions that promote physical and psychosocial rehabilitation, and actions related to educating and training patients for self-care.

#### Context

The context will consider studies that describe nursing actions related to the theme in the context of a hospital environment.

#### Type of sources

Virtual literature sources will be consulted: databases, virtual libraries, and repositories. All types of studies will be included, whether quantitative, qualitative, or mixed, with no language restrictions and no time frame. Studies with descriptive methods will also be considered, as well as literature reviews, narratives, and other gray literature products.

### Exclusion criteria

Studies that are not fully available in the databases searched, studies that present nursing actions related to self-care of patients who do not have DPRD, as well as duplicate studies and/or those that do not address the theme or answer the research question will be excluded.

### Search strategy

It will be subdivided into two

parts previously recommended by the JBI<sup>(9)</sup>: first, descriptors were selected from other published studies and made available on two data platforms: *SCOPUS (Elsevier)* and *National Library of Medicine (PubMed)*. To enable this process, Health Sciences Descriptors and *Medical Subject Headings (DECS/MESH)* were used and cross-referenced using the Boolean operators *AND* and *OR*. After the initial search, the descriptors used for further research by the studies that will compose the scoping review sample were defined.

Thus, the findings will be searched through databases in the context of health sciences and technological sciences, namely: Latin American and Caribbean Health Sciences Literature (LILACS), Nursing Database (BDNF), Medical Literature Analysis and Retrieval System Online (Medline) via Pubmed, Scielo- Scientific Electronic Library Online, Web of Science (WOS), Scopus, Cumulative Index to Nursing and Allied Health Literature (Cinahl). Gray literature will be searched through institutional websites, national and international guidelines, and the Brazilian Digital Library of Theses and Dissertations (BDTD). The search strategies used are described in Figure 1.

**Figure 1 - Presentation of terms corresponding to the PCC and search strategy. João Pessoa, Paraíba, Brazil, 2024.**

Search Strategy	
MEDLINE/PUBMED	(((((("diabetes mellitus"[MeSH Terms]) OR ("diabetes mellitus")) OR ("diabetic foot")) OR ("diabetic foot"[MeSH Terms]) OR ("diabetic feet")) AND (((("nursing care") OR ("nursing care"[MeSH Terms])) OR ("nursing care management")) OR (nursing) OR (nursing[MeSH Terms])) AND ((((((("Surgical amputation") OR ("Amputation, Surgical")) OR ("Amputation, Surgical"[MeSH Terms])) OR (amputation)) OR (Amputations)) OR ("people with amputation")) OR (amputees))
CINAHL	("diabetes mellitus" OR "diabetic foot" OR "diabetic feet") AND ("nursing care" OR "nursing care management" OR nursing) AND ("Surgical amputation" OR "Amputation, Surgical" OR amputation OR Amputations OR "people with amputation" OR amputees)
Scopus	(TITLE-ABS-KEY ( "diabetes mellitus" OR "diabetic foot" OR "diabetic feet" ) AND TITLE-ABS-KEY ( "nursing care" OR "nursing care management" OR nursing ) AND TITLE-ABS-KEY ( "Surgical amputation" OR "Amputation, Surgical" OR amputation OR amputations OR "people with amputation" OR amputees )
LILACS	(Diabetes OR "diabetes mellitus" OR "pé diabético" OR "ulcera diabética do pé" OR "diabetes mellitus" OR "diabetic foot" OR "diabetic feet") AND ("Cuidados de enfermagem" OR "cuidado de enfermagem" OR "assistência de enfermagem" OR "intervenção de enfermagem" OR "intervenções de enfermagem" OR enfermagem OR "nursing care" OR "nursing care management" OR nursing) AND ("Amputação cirúrgica" OR amputado OR amputados OR "pessoas com amputação" OR "sujeito com amputação" OR amputação OR "Surgical amputation" OR "Amputation, Surgical" OR amputation OR Amputations OR "people with amputation" OR amputees)
Scielo	(Diabetes OR "diabetes mellitus" OR "pé diabético" OR "ulcera diabética do pé" OR "diabetes mellitus" OR "diabetic foot" OR "diabetic feet") AND ("Cuidados de enfermagem" OR "cuidado de enfermagem" OR "assistência de enfermagem" OR "intervenção de enfermagem" OR "intervenções de enfermagem" OR enfermagem OR "nursing care" OR "nursing care management" OR nursing) AND ("Amputação cirúrgica" OR amputado OR amputados OR "pessoas com amputação" OR "sujeito com amputação" OR amputação OR "Surgical amputation" OR "Amputation, Surgical" OR amputation OR Amputations OR "people with amputation" OR amputees)
BDEFN	(Diabetes OR "diabetes mellitus" OR "pé diabético" OR "ulcera diabética do pé" OR "diabetes mellitus" OR "diabetic foot" OR "diabetic feet") AND ("Cuidados de enfermagem" OR "cuidado de enfermagem" OR "assistência de enfermagem" OR "intervenção de enfermagem" OR "intervenções de enfermagem" OR enfermagem OR "nursing care" OR "nursing care management" OR nursing) AND ("Amputação cirúrgica" OR amputado OR amputados OR "pessoas com amputação" OR "sujeito com amputação" OR amputação OR "Surgical amputation" OR "Amputation, Surgical" OR amputation OR Amputations OR "people with amputation" OR amputees)
Web of Science	("diabetes mellitus" OR "diabetic foot" OR "diabetic feet") AND ("nursing care" OR "nursing care management" OR nursing) AND ("Surgical amputation" OR "Amputation, Surgical" OR amputation OR Amputations OR "people with amputation" OR amputees)
EMBASE	('diabetes mellitus':ab,ti OR 'diabetic foot':ab,ti OR 'diabetic feet':ab,ti) AND ('nursing care':ab,ti OR 'nursing care management':ab,ti OR nursing:ab,ti) AND ('surgical amputation':ab,ti OR 'amputation, surgical':ab,ti OR amputation:ab,ti OR amputations:ab,ti OR 'people with amputation':ab,ti OR amputees:ab,ti)
Biblioteca Digital Brasileira de Teses e Dissertações	(Diabetes OR "diabetes mellitus" OR "pé diabético" OR "ulcera diabética do pé") AND ("Cuidados de enfermagem" OR "cuidado de enfermagem" OR "assistência de enfermagem" OR "intervenção de enfermagem" OR "intervenções de enfermagem" OR enfermagem) AND ("Amputação cirúrgica" OR amputado OR amputados OR "pessoas com amputação" OR "sujeito com amputação" OR amputação)

Source: Research data, 2025.

### Selection and analysis of studies

The third and fourth steps recommended by the manual, which are the selection and evaluation of studies, will be detailed in a flowchart that follows the recommendations of PRISMA-ScR<sup>(15)</sup>. After searching the databases accessed through the Capes Periodicals Portal, the sample will be selected using *Rayyan software*, which will analyze duplicates so that they can be excluded.

In addition, the reference screening process will be conducted by two trained blind reviewers, also using *Rayyan resources*, so that each reviewer evaluates the content of the studies without the other having access to the decision to include or

exclude the findings. In cases of disagreement, a third experienced reviewer will be contacted. Following this process, the pre-selected studies will undergo a full evaluation in light of the inclusion and exclusion criteria designed in accordance with the JBI protocol. Finally, the bibliographic references of the included studies will be analyzed with a view to adding potential new studies.

### Data extraction

A tool developed by the authors will be used to extract relevant data, including: Study characteristics: title, authors, year and source of publication, type of study, objectives, sample size, methodology, and main findings; Nursing actions focused on self-care

for patients with DPRD; Nursing actions focused on the physical and psychosocial promotion and rehabilitation of individuals with DPRD.

### Presentation of results

Results will be presented using descriptive statistics and represented by tables, graphs, and flowcharts, as appropriate for the study. The process of searching for and selecting studies will be evidenced by a flowchart following the specific manual and applying the PRISMA tool with its extension for scoping reviews (PRISMA-ScR)<sup>(15)</sup>. A narrative summary will accompany the mapped and tabulated results, describing how the results obtained relate to the objective, answering the review question.

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