SCOPING REVIEW

REVISTA ENFERMAGEM ATUAL IN DERME

PARAMETERS USED FOR WOUND ASSESSMENT IN ADULTS CARED FOR BY NURSES: A SCOPING REVIEW

PARÁMETROS UTILIZADOS PARA LA EVALUACIÓN DE HERIDAS EN ADULTOS ATENDIDOS POR ENFERMEROS: REVISIÓN DE ALCANCE

PARÂMETROS UTILIZADOS PARA AVALIAÇÃO DE FERIDAS EM ADULTOS ATENDIDOS POR ENFERMEIROS: REVISÃO DE ESCOPO

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ABSTRACT
Objective: To map the parameters used for wound assessment in adult patients receiving nursing care. **Method:** A scoping review was conducted between May and July 2024, following a five-stage methodological framework. The data sources included the Medical Literature Analysis and Retrieval System Online (MEDLINE), Latin American and Caribbean Health Sciences Literature (LILACS), Nursing Database (BDENF), and the Scientific Electronic Library Online (SciELO). Gray literature was retrieved from the Digital Library of Theses and Dissertations and official government websites. **Results:** The final sample comprised 29 documents, including 24 scientific articles, 3 manuals, and 2 theses/dissertations. The identified parameters were grouped into categories: general wound/patient data, type of lesion, drainage, tissue type, periwound skin conditions, wound edge conditions, and presence of infection. **Conclusion:** This study mapped a comprehensive set of parameters that can guide the assessment of different wound types, promoting standardized evaluations, enhancing clinical observation, and informing decision-making in patient care. The findings also support the development of structured wound assessment tools for integration into nursing practice.
Keywords: Wounds and Injuries; Nurses; Nursing Records.

RESUMEN
Objetivo: Mapear los parámetros utilizados para la evaluación de heridas en personas adultas atendidas por profesionales de enfermería. **Método**: Revisión de alcance realizada entre mayo y julio de 2024, siguiendo cinco etapas. Las fuentes utilizadas para la selección incluyeron el Medical Literature Analysis and Retrieval System Online, la Base de Datos de Literatura Latinoamericana y del Caribe en Ciencias de la Salud y Enfermería y la Scientific Electronic Library Online. Para la literatura gris, se recopilaron datos del Banco Digital de Tesis y Disertaciones y de sitios oficiales de organismos gubernamentales y profesionales. **Resultados:** La muestra estuvo compuesta por 29 publicaciones: 24 artículos, 3 manuales y 2 tesis/disertaciones. Los parámetros identificados se categorizaron en: datos generales de la herida/paciente, tipo de lesión, drenaje, tipo de tejido, condiciones de la piel perilesional, características de los bordes de la herida y signos de infección. **Conclusión:** Este estudio mapeó una variedad de parámetros que pueden ser utilizados en la evaluación de distintos tipos de heridas, favoreciendo la estandarización del proceso evaluativo y permitiendo una observación más detallada, además de respaldar la toma de decisiones en el cuidado. Los hallazgos también contribuyen a la elaboración de instrumentos de evaluación de heridas para su aplicación en la práctica clínica.
Palabras clave: Heridas y Lesiones; Enfermeros; Registros de Enfermería.

RESUMO
Objetivo: mapear os parâmetros utilizados para avaliação de feridas em adultos atendidos por enfermeiros. **Método:** revisão de escopo, realizada entre maio e julho de 2024 e em cinco etapas. As fontes para seleção foram a Medical Literature Analysis and Retrieval System Online, Literatura Latino-americana e do Caribe em Ciências da Saúde e Base de Dados em Enfermagem e a Biblioteca Scientific Electronic Library Online. Para a literatura cinzenta se coletou dados no Banco Digital de Teses e Dissertações e nos órgãos oficiais. **Resultados:** a amostra foi composta por 29 publicações, sendo 24 artigos, 3 manuais, 2 teses/dissertações. Os parâmetros sugeridos foram categorizados em dados gerais da lesão/paciente, tipo de lesão, drenagem, composição do tecido, condições da pele ao redor da ferida, aspecto das bordas e presença de infecção. **Conclusão:** este estudo mapeou uma diversidade de parâmetros, os quais podem ser utilizados para qualquer tipo de feridas, propiciando a padronização da avaliação e um olhar mais minucioso, além de nortear a tomada de decisão sobre os cuidados. Também contribuirão para a construção de instrumentos de avaliação de feridas a serem implementados na assistência.
Palavras-chave: Ferimentos e Lesões; Enfermeiro; Registros de Enfermagem.

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INTRODUCTION

Wounds have emerged as a significant global health issue and represent a major public health concern. They constitute an underrecognized epidemic, affecting millions of individuals worldwide. Complex or hard-to-heal wounds continue to pose a considerable challenge due to their detrimental effects on patients and caregivers, as well as the substantial costs associated with their management [1,2].

The prevalence of chronic and complex wounds is estimated to range from 8% to 11.8% among patients receiving care in primary healthcare settings. In surgical inpatient units, the prevalence reaches approximately 45.4%; in orthopedic units, 15.5%; in intensive care units, 11.6%; and in neurological units, 10.8% [3,4].

Complex wounds are defined as those that fail to progress appropriately through the normal stages of healing, remaining active for more than three months or exhibiting at least one of the following complicating factors: vascular impairment or necrotic tissue, persistent infection, systemic conditions or comorbidities that hinder the healing process, and/or an unfavorable local wound environment. These wounds can result in significant economic, psychological, and functional burdens, often persisting for months or even years and adversely impacting the quality of life of both patients and their families. Consequently, individuals affected by complex wounds require multidisciplinary care, including continuous monitoring and periodic evaluations [2,5].

The nurse is the qualified professional responsible for managing complex wounds, equipped with the scientific knowledge essential for providing this type of care, and whose role is regulated by the Federal Nursing Council. To improve the quality of care and promote standardized patient assessment across the nursing team, nurses may utilize wound assessment tools in conjunction with the nursing process [6].

The aforementioned regulation also affirms that nurses have the autonomy to establish Wound Prevention and Care Clinics/Offices and are responsible for participating in the assessment, development of protocols, and the selection and recommendation of new technologies for the prevention and treatment of individuals with wounds. For the assessment and monitoring of lesions, professionals working in these clinics and offices must be guided by the Nursing Process and may utilize specific parameters to document wound conditions within their clinical practice settings [6].

The literature identifies a variety of tools for wound assessment; however, some are limited to specific types of lesions, for example, the Skin Tear Advisory Panel Classification System, which is applicable exclusively to friction-related injuries [7,8]. A notable heterogeneity also exists among the validated parameters, which hinders the selection of the most appropriate tool for clinical use—an issue that underscores the significance of this study. In

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practice, wound assessment and documentation are not always conducted in a thorough manner, compromising the continuity of care. Conversely, tools such as the Pressure Ulcer Scale assess only a limited set of parameters, including wound area, exudate volume, and wound appearance [9]. Mapping the range of parameters used in wound assessment will consolidate key information into a single reference, promoting standardization and enabling a more detailed and comprehensive evaluation of the lesion.

Mapping the parameters identified in the literature may enhance the assessment of complex wounds and support the development and validation of instruments that standardize terminology related to this field. Accordingly, the aim of this study is to map the parameters used for wound assessment in adult patients receiving care from nurses.

METHODS

This scoping review was conducted between May and July 2024, following the five-stage framework proposed by the Joanna Briggs Institute (JBI): identification of the research question; identification of relevant studies; selection of studies for inclusion; data mapping; and collection, synthesis, and reporting of results [10]. The manuscript was prepared with guidance from the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist [11].

An initial search for studies similar to this review was conducted in March 2024 across the main health sciences databases. No publications were identified that shared the same or a similar objective. Consequently, the review protocol was developed and registered with the Open Science Framework under the DOI: 10.17605/OSF.IO/V2GXR [12].

The publications included in this review comprised research studies or reviews, manuals issued by official agencies and guidelines, theses, and dissertations. There were no restrictions regarding language, publication date, or filters, provided that the full text was available electronically and the content addressed the research topic. Editorials, research protocols, conference abstracts, and studies that did not address the research topic or target population, or that failed to answer the research question, were excluded. Duplicate publications were counted only once.

The identification of relevant material was conducted online on May 20, 2024, through searches in the following databases: Medical Literature Analysis and Retrieval System Online (MEDLINE), Latin American and Caribbean Health Sciences Literature (LILACS), Nursing Database (BDENF), and the Scientific Electronic Library Online (SciELO).

For gray literature, publications were retrieved from the Digital Library of Theses and Dissertations (BDTD) and from official organizations, including the Brazilian Society of Wounds and Aesthetics (Sobenfee), the Brazilian Association of Stomatherapy (Sobest), the

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Brazilian Society of Dermatological Nursing (Sobende), the European Wound Management Association (EWMA), and the National Pressure Injury Advisory Panel (NPIAP).

To formulate the guiding research question, the PCC framework was applied (10), in which P (Population) refers to adults, C (Concept) to wound assessment, and C (Context) to nurses. Based on this framework, the following guiding question was established: "What are the parameters used for wound assessment in adults cared for by nurses?"

To broaden the identification of studies on the topic, the keywords "Assessment" and "*Avaliação*" were used, along with descriptors and alternative terms such as "Wounds and Injuries," "Injuries," "Injuries and Wounds," "Injury," "Injury and Wounds," "Trauma," "Traumas," "Wound," "Wounds," "Wounds and Injury," *"Ferimentos e Lesões," "Feridas," "Ferida," "Ferimentos," "Ferimento," "Lesão," "Lesões," "Trauma," "Traumas,"* "Pressure Ulcer," "Pressure Ulcers," "Bedsore," "Bedsores," "Pressure Injury," "Bed Sores," "Decubitus Ulcer," *"lesão por pressão," "escara de decúbito," "Escara de Pressão," "Úlcera por pressão," "úlcera de pressão," "Úlceras de Pressão,"* "Leg Ulcer," "Foot Ulcer," "Plantar Ulcer," "Plantar Ulcers," "Diabetic Foot," "Diabetic Feet," *"Úlcera do pé," "Úlcera Plantar," "Úlcera da Perna,"* "Varicose Ulcer," "Varicose Ulcers," "Venous Stasis Ulcers," "Varicose Ulcers, Adult," "Adults," *"Adulto," "Adultos,"* "Nurses," "Nurse," "Nursing Personnel," "Registered Nurse," *"Enfermeiro," "Enfermeiros," "Enfermeira," "Enfermeiras," "Enfermeira e Enfermeiro," and "Enfermeiras e Enfermeiros*," according to the Medical Subject Headings (MeSH) and Health Sciences Descriptors (DeCS), using the Boolean operators AND and/or OR.

Given the specificities of each data source, the search strategy was adapted accordingly, and the organization of descriptors and search terms was carried out with the support of a librarian. Searches within official organizations were performed directly on their respective websites. The search expressions are presented in Table 1.

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Table 1 - Search Strategies Used for the Identification of Publications. Porto Alegre, RS, Brazil, 2025

Database	Strategy
MEDLINE	(((Assessment[Text Word]) AND (("Wounds and Injuries"[MeSH Terms]) OR (Injuries[Text Word] OR "Injuries and Wounds"[Text Word] OR Injuries, Research-Related[Text Word] OR Injuries, Wounds[Text Word] OR Injury[Text Word] OR "Injury and Wounds"[Text Word] OR Injury, Research-Related[Text Word] OR Research Related Injuries[Text Word] OR Research-Related Injuries[Text Word] OR Research-Related Injury[Text Word] OR Trauma[Text Word] OR Traumas[Text Word] OR Wound[Text Word] OR Wounds[Text Word] OR "Wounds and Injury"[Text Word] OR Wounds, Injury[Text Word]))) AND (((“Adult Health”[Text Word]) OR (Adult[MeSH Terms])) OR (Adults[Text Word]))) AND ((Nurses[MeSH Terms]) OR (Nurse[Text Word] OR Nurse, Registered[Text Word] OR Nurses, Registered[Text Word] OR Nursing Personnel[Text Word] OR Personnel, Nursing[Text Word] OR Registered Nurse[Text Word] OR Registered Nurses[Text Word])) (((Assessment[Text Word]) AND (("Foot Ulcer"[MeSH Terms]) OR ("Plantar Ulcer" [Text Word] OR "Plantar Ulcers "[Text Word] OR "Diabetic Foot"[Text Word] OR "Varicose Ulcer"[MeSH Terms] OR "Varicose Ulcers"[Text Word]))) AND (((Adult Health[Text Word]) OR (Adult[MeSH Terms])) OR (Adults[Text Word]))) AND ((Nurses[MeSH Terms]) OR (Nurse[Text Word] OR Nurse, Registered[Text Word] OR Nurses, Registered[Text Word] OR Nursing Personnel[Text Word] OR Personnel, Nursing[Text Word] OR Registered Nurse[Text Word] OR Registered Nurses[Text Word])) (((Assessment[Text Word]) AND (("Pressure Ulcer"[MeSH Terms]) OR ("Pressure Ulcers" [Text Word] OR " Bedsore"[Text Word] OR " Bedsores"[Text Word] OR " Pressure Injury"[Text Word] OR " Pressure Injury"[Text Word] OR "Decubitus Ulcer"[Text Word]))) AND (((Adult Health[MeSH Terms]) OR (Adult[MeSH Terms])) OR (Adults[Text Word]))) AND ((Nurses[MeSH Terms]) OR (Nurse[Text Word] OR Nurse, Registered[Text Word] OR Nurses, Registered[Text Word] OR Nursing Personnel[Text Word] OR Personnel, Nursing[Text Word] OR Registered Nurse[Text Word] OR Registered Nurses[Text Word]))
SCIELO	((*Avaliação* OR Assessment) AND ("*Ferimentos e Lesões*" OR *Feridas* OR *Ferida* OR *Ferimentos* OR *Ferimento* OR *Lesão* OR *Lesões* OR *Trauma* OR *Traumas* OR "Wounds and Injuries" OR Injuries OR Wounds OR Injury OR Trauma) AND (*Adulto* OR *Adultos* OR Adults) AND (*Enfermeiro* OR *enfermeiros* OR *enfermeira* OR *enfermeiras* OR “*Enfermeira e Enfermeiro*” OR “*enfermeiras e Enfermeiros*” OR Nurses OR Nurse)) ((*Avaliação* OR Assessment) AND ("*Úlcera do pé*" OR “*Úlcera Plantar*” OR “Foot Ulcer” OR “*Ùlcera da Perna* OR “Leg Ulcer” OR “*Úlcera varicosa*” OR “*Úlcera venosa*” OR "Varicose Ulcer" OR "Varicose Ulcers" OR "Diabetic Foot" OR “*Pé diabético*” OR “*úlcera do pé diabético*”) AND (*Enfermeiro* OR *enfermeiros* OR *enfermeira* OR *enfermeiras* OR “*Enfermeira e Enfermeiro*” OR “*enfermeiras e Enfermeiros*” OR Nurses

	OR Nurse)) ((*Avaliação* OR *Assessment*) AND ("*lesão por pressão*" OR "*escara de decúbito*" OR "*Escara de Pressão*" OR "*Ùlcera por pressão*" OR "*úlcera de pressão*" OR "*Úlceras de Pressão*" OR "Pressure Ulcer" OR Bedsore OR "Pressure Injury" OR "Decubitus Ulcer") AND (*Enfermeiro* OR *enfermeiros* OR *enfermeira* OR *enfermeiras* OR "*Enfermeira e Enfermeiro*" OR "*enfermeiras e Enfermeiros*" OR Nurses OR Nurse))
LILACS **BDENF**	((*Avaliação* OR Assessment) AND ("*Ferimentos e Lesões*" OR *Feridas* OR *Ferida* OR *Ferimentos* OR *Ferimento* OR *Lesão* OR *Lesões* OR *Trauma* OR *Traumas* OR "Wounds and Injuries" OR Injuries OR Wounds OR Injury OR Trauma) AND (*Adulto* OR *Adultos* OR *Adults*) AND (*Enfermeiro* OR *enfermeiros* OR *enfermeira* OR *enfermeiras* OR "*Enfermeira e Enfermeiro*" OR "*enfermeiras e Enfermeiros*" OR Nurses OR Nurse)) ((*Avaliação* OR Assessment) AND ("*Úlcera do pé*" OR "*Úlcera Plantar*" OR "Foot Ulcer" OR "*Ùlcera da Perna* OR "Leg Ulcer" OR "*Úlcera varicosa*" OR "*Úlcera venosa*" OR "Varicose Ulcer" OR "Varicose Ulcers" OR "Diabetic Foot" OR "*Pé diabético*" OR "*úlcera do pé diabético*") AND (*Adulto* OR *Adultos* OR Adults) AND (*Enfermeiro* OR *enfermeiros* OR *enfermeira* OR *enfermeiras* OR "*Enfermeira e Enfermeiro"* OR "*enfermeiras e Enfermeiros*" OR Nurses OR Nurse)). ((*Avaliação* OR Assessment) AND ("*lesão por pressão*" OR "*escara de decúbito*" OR "*Escara de Pressão*" OR "*Ùlcera por pressão*" OR "*úlcera de pressão*" OR "*Úlceras de Pressão*" OR "Pressure Ulcer" OR Bedsore OR "Pressure Injury" OR "Decubitus Ulcer") AND (*Adulto* OR *Adultos* OR Adults) AND (*Enfermeiro* OR *enfermeiros* OR *enfermeira* OR *enfermeiras* OR "*Enfermeira e Enfermeiro*" OR "*enfermeiras e Enfermeiros*" OR Nurses OR Nurse)
Gray Literature – Theses and Dissertations	((*Avaliação*) AND ("*Úlcera do pé*" OR "*Úlcera Plantar*" OR "*Ulcera da Perna*" OR "*Úlcera varicosa*" OR "*Úlcera venosa*" OR "*Pé diabético*" OR "*úlcera do pé diabético*") AND (*Adulto* OR *Adultos*) AND (*Enfermeiro* OR *enfermeiros* OR *enfermeira* OR *enfermeiras* OR "*Enfermeira e Enfermeiro*" OR "*enfermeiras e Enfermeiros*")) ((*Avaliação*) AND ("*Ferimentos e Lesões*" OR *Feridas* OR *Ferida* OR *Ferimentos* OR *Ferimento* OR *Lesão* OR *Lesões* OR *Trauma* OR *Traumas*) AND (*Adulto* OR *Adultos*) AND (*Enfermeiro* OR *enfermeiros* OR *enfermeira* OR *enfermeiras* OR "*Enfermeira e Enfermeiro*" OR "*enfermeiras e Enfermeiros*")) ((*Avaliação*) AND ("*lesão por pressão*" OR "*escara de decúbito*" OR "*Escara de Pressão*" OR "*Ùlcera por pressão*" OR "*úlcera de pressão*" OR "*Úlceras de Pressão*") AND (*Adulto* OR *Adultos*) AND (*Enfermeiro* OR *enfermeiros* OR *enfermeira* OR *enfermeiras* OR "*Enfermeira e Enfermeiro*" OR "*enfermeiras e Enfermeiros*"))

Source: The authors, 2024

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The literature search was conducted independently by two researchers following protocol registration, considering publications from database inception through April 31, 2024. Any discrepancies in judgment were resolved by consensus.

The studies retrieved from the data sources were first exported to EndNote® Online for duplicate detection and removal, and subsequently imported into Rayyan®, a platform developed by the Qatar Computing Research Institute (QCRI), to facilitate blinded screening. The sample was composed through an initial screening of titles and abstracts, followed by full-text review based on the established eligibility criteria. Additionally, the reference lists of the included studies were examined to identify further relevant publications that may not have been captured through the database searches.

A data extraction table was developed using Microsoft Word®, including the following information: authors' names, title, journal, year, country and language of publication, study objective and design, type of publication, and the parameters reported for wound assessment.

The extracted data were analyzed to provide an overview of the current state of knowledge on the topic, with the objective of reporting the wound assessment parameters identified in the publications. The study findings are presented descriptively, supported by tables and graphs for visual representation.

As this is a scoping review, submission to a Research Ethics Committee was not required. However, the authors affirm that all sources are properly cited, ensuring the originality of the included publications in accordance with Copyright Law No. 12.853/2013 [13].

RESULTS

A total of 2,404 records were identified, including 2,250 retrieved from databases (1,378 from MEDLINE, 506 from LILACS, 179 from BDENF, and 187 from SciELO) and 154 from gray literature sources (151 theses and dissertations from BDTD and three manuals from professional organizations). Additionally, eight additional articles were included in the sample, selected from the reference lists of studies comprising the initial sample. The selection process and results are illustrated in Figure 1.

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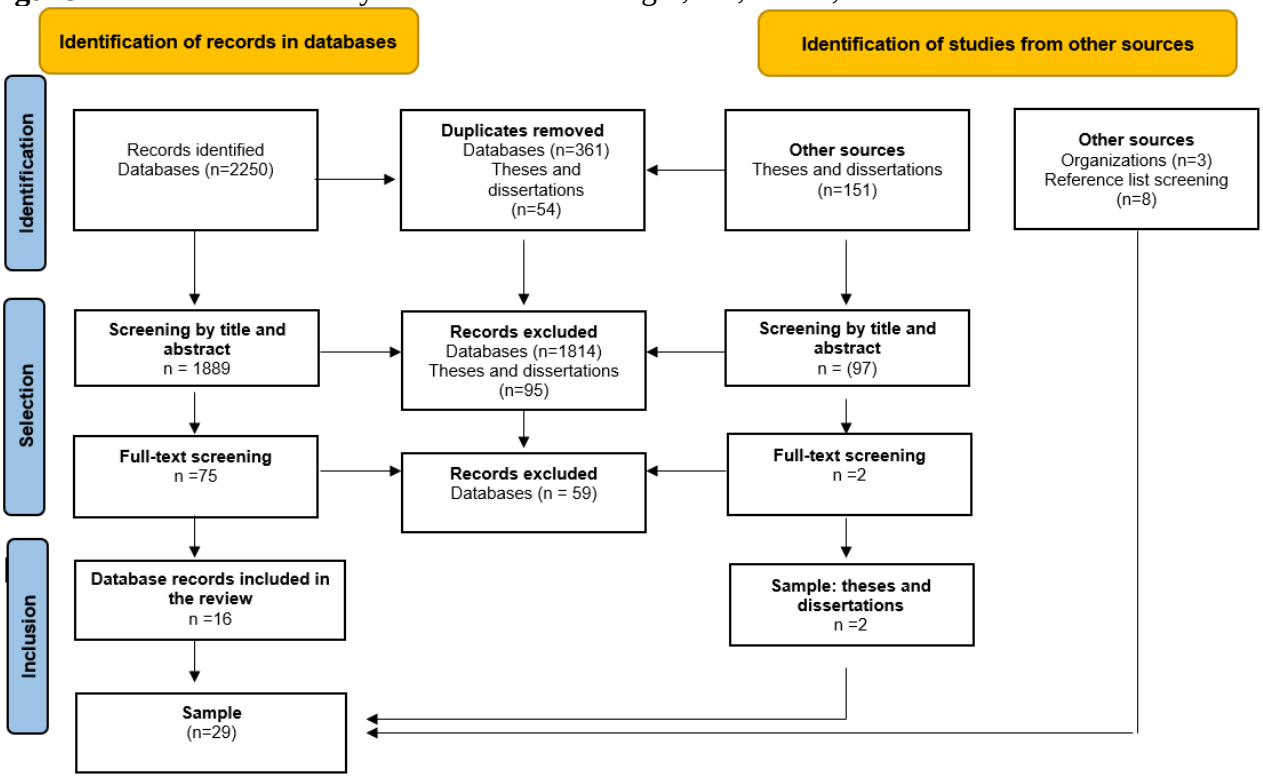
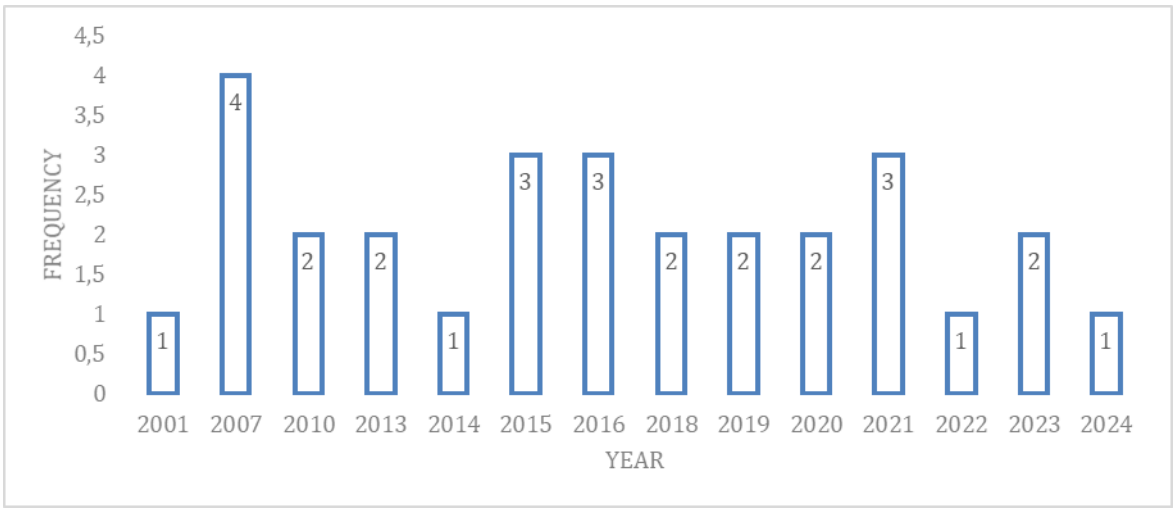
Figure 1 - Flowchart of Study Selection. Porto Alegre, RS, Brazil, 2025



Source: Research data (2024).

The final sample consisted of 29 publications, comprising 24 articles, three manuals, and two theses/dissertations. The main characteristics of these studies are presented in Table 2. The publication years ranged from 2001 to 2024, with the highest number of publications occurring in 2007 (Figure 2).

Figure 2 - Number of Publications by Year. Porto Alegre, RS, Brazil, 2025



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Source: Research data (2024).

Regarding language, most publications were made in three languages: Portuguese/English (n=11), followed by English (n=8) and Portuguese (n=6). In terms of study design, the sample included eight cohort studies, six cross-sectional studies, six methodological studies, four reviews, two case studies, one consensus document, one technical report, and one guideline (Table 2). With respect to the place of publication, 16 records were from national sources.

Table 2 - Characteristics of the Studies Included in the Scoping Review. Porto Alegre, RS, Brazil, 2025

N	Author and Year	Journal and Language	Title	Study Design
E1	Almeida *et al.*, 2024[14]	Revista de Pesquisa Cuidado é Fundamental (Portuguese/English)	*Fatores associados à prevalência de cicatrização de feridas crônicas em uma unidade de saúde da família*	Cross-sectional
E2	Fulbrook; Lovegrove, 2023 [15]	Journal of Clinical Nursing (English)	Reporting accuracy of pressure injury categorization in an acute tertiary hospital: A four-year analysis.	Retrospective cross-sectional
E3	Menegon *et al.*, 2023[16]	Revista Brasileira de Enfermagem (Portuguese/English)	RESVECH 2.0: cross-cultural adaptation for Brazil, reliability and validity for the evaluation of venous ulcers	Methodological
E4	Ferreira, 2022 [17]	Tese de dissertação Mestrado UFPR (Portuguese)	*Protocolo para assistência à pessoa com lesão venosa na atenção primária do município de Cacoal/RO*	Methodological
E5	Macedo *et al.*, 2021[18]	Saúde Coletiva Barueri (Portuguese/English)	*Lesões por pressão em adultos portadores de germes multirresistentes: um estudo de coorte.*	Cohort
E6	García-Fernández *et al.*, 2021 [19]	Grupo Nacional Para el Estudio y Asesoramiento en Úlceras por Presión y Heridas Crónicas (Spanish)	*Clasificación-categorización de las lesiones relacionadas con la dependencia.*	Technical document
E7	Cardinelli *et al.*, 2021 [20]	Research, Society and Development (Portuguese)	*Instrumentos para avaliação de feridas: scoping review*	Scoping review
E8	Macedo *et al.*, 2020 [21]	Enfermería Global (Portuguese/English/ Spanish)	*Caracterização das lesões por pressão em adultos portadores de germes multirresistentes*	Cross-sectional
E9	Pinheiro *et al.*, 2020 [22]	Research, Society and Development; (Portuguese)	*Instrumentos de avaliação para cicatrização de lesões por pressão: revisão integrativa*	Integrative review
E 10	EPUAP *et al.*, 2019 [23]	National Pressure Injury Advisory Panel (English)	*Prevenção e tratamento de Úlceras/ Lesões por Pressão*	Guideline

E11	Atkin *et al.*, 2019 [24]	Journal of Wound Care (English)	Implementing TIMERS: the race against hard-to-heal wounds	Expert consensus
E12	Samaniego-Ruiz *et al.*, 2018 [25]	Revista da Escola de Enfermagem da USP (Spanish/English)	*Valoración de las heridas crónicas en el adulto: una revisión integrativa*	Integrative review
E13	Garbuio *et al.*, 2018 [26]	Revista Eletrônica de Enfermagem (Portuguese/English)	*Instrumentos para avaliação da cicatrização de lesões de pele: revisão integrativa*	Integrative review
E14	Campbell *et al.*, 2016 [27]	Wound Management e Prevention (English)	The Wound Trend Scale: A Retrospective Review of Utility and Predictive Value in the Assessment and Documentation of Lower Leg Ulcers	Cohort
E15	Choi *et al.*, 2016 [28]	Journal of Advanced Nursing (English)	Evaluation of the internal and external responsiveness of the Pressure Ulcer Scale for Healing (PUSH) tool for assessing acute and chronic wounds	Cohort
E16	Borghardt *et al.*, 2016 [29]	Revista Brasileira de Enfermagem (Portuguese/English)	*Úlcera por pressão em pacientes críticos: incidência e fatores associados*	Cohort
E17	Palagi *et al.*, 2015 [30]	Revista da Escola de Enfermagem da USP (Portuguese/English)	Laser therapy in pressure ulcers: evaluation by the Pressure Ulcer Scale for Healing and Nursing Outcomes Classification.	Case study
E18	Ay A, 2015[31]	Wound Management e Prevention (Portuguese/English)	Assessing the Validity and Reliability of the Peristomal Skin Lesion Assessment Instrument Adapted for Use in Turkey.	Cross-sectional
E19	Alves *et al.*, 2015 [32]	Texto & Contexto-Enfermagem (Portuguese/English)	*Tradução e adaptação do Bates-Jensen Wound Assessment Tool para cultura brasileira*	Methodological
E20	Espírito Santo *et al.*, 2013 [33]	Revista Brasileira de Cirurgia Plástica (Portuguese/English)	*Uso da ferramenta Pressure Ulcer Scale for Healing para avaliar a cicatrização de úlcera crônica de perna*	Cohort
E21	Jesada *et al.*, 2013 [34]	Journal of Wound, Ostomy and Continence Nursing (English)	Staging and defining characteristics of pressure ulcers using photographs by staff nurses in acute care settings.	Cross-sectional
E22	Araújo *et al.*, 2012[35]	Revista da Escola de Enfermagem da USP (Portuguese/English)	*O uso da escala de Braden e fotografias na avaliação do risco para úlceras por pressão*	Cohort
E23	Salomé *et al.*, 2010 [36]	Nursing (Portuguese)	*Uso do Pressure Ulcer Scale for Healing (PUSH) no acompanhamento da cicatrização em*	Case study

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			paciente diabético com úlcera no pé	
E 24	Pulido, 2010[37]	Tese de Doutorado (USP) (Portuguese)	*Adaptação cultural e validação do instrumento Star Skin Tear Classification System, para a língua portuguesa no Brasil*	Methodological
E 25	Santos *et al.*, 2007[38]	Revista Latino-Americana de Enfermagem (Portuguese/English/ Spanish)	*Confiabilidade interobservadores do Pressure Ulcer Scale for Healing (PUSH), em pacientes com úlceras crônicas de perna*	Methodological
E 26	Gardner *et al.*, 2007[39]	Wound Management e Prevention (English)	The inter-rater reliability of the Clinical Signs and Symptoms Checklist in diabetic foot ulcer	Cross-sectional
E 27	Rocha; Barros, 2007 [40]	ACTA Paulista de Enfermagem (Portuguese)	*Avaliação de risco de úlcera por pressão: propriedades de medida da versão em português da escala de Waterlow*	Cohort
E 28	Louro M, 2007[41]	Revista Brasileira de Terapia Intensiva (Portuguese/English)	*Avaliação de Protocolo de Prevenção e Tratamento de Úlceras de Pressão*	Cohort
E 29	Gardner *et al.*, 2001[42]	Ostomy Wound Management (English)	A tool to assess clinical signs and symptoms of localized infection in chronic wounds: development and reliability.	Methodological

Source: Research data (2024).

The publications identified 53 parameters that may be used in wound assessment. These parameters were categorized into the following groups: general data, type of lesion, drainage, tissue type, periwound skin conditions, wound edge conditions, and presence of infection (Table 3).

Table 3 - Extracted Parameters from the Studies. Porto Alegre, RS, Brazil, 2025

Categories	Parameters	Studies
General data	Size/area	E1, E3, E4, E5, E7, E8, E9, E10, E11, E12, E13, E14, E15, E17, E19, E21, E23, E25
	Pain	E1, E4, E10, E13, E14, E26, E28, E29
	Location	E1, E2, E4, E12, E18, E19, E20
	Wound duration	E12
	Number of lesions	E16
	Dressing change frequency	E4
	Shape	E19
	Depth	E1, E3, E5, E7, E8, E9, E10, E12, E13, E16, E19, E21, E22
	Nutritional status	E27

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	Wound bed appearance	E10
	Wound appearance	E20
	Delayed healing	E10, E26, E28, E29
	Undermining at the wound base	E26, E28, E29
	Describe the odor	E13
	Impaired tissue integrity	E17
	Signs of inflammation	E9, E10, E11, E13
	Tunneling in the wound bed	E10
Type of lesion	Describe type of lesion: pressure injury, ecchymosis, blister, vesicle, suture dehiscence, hyperemia, secondary intention healing, erythema, eczema, skin tear, friction injury, ulcer	E1, E6, E9, E10, E13, E17, E18, E24, E26
Drainage	Amount of exudate	E1, E3, E4, E5, E7, E8, E9, E15, E17, E19, E20, E21, E23, E24, E25
	Type of exudate	E1, E3, E4, E5, E7, E8, E10, E11, E13, E14, E19, E21
	Purulent exudate	E17, E26, E28, E29
	Serous exudate	E10, E17, E26, E28, E29
	Bloody drainage	E17, E26
	Serosanguineous drainage	E17
	Presence of moisture	E11
Tissue type	Type of tissue present	E3, E4, E5, E7, E9, E11, E12, E13, E14, E15, E16, E17, E22, E23, E25
	Granulation tissue	E1, E5, E7, E8, E9, E10, E17, E19, E21, E24
	Epithelialization	E1, E5, E7, E8, E11, E19, E21, E24
	Slough	E6, E10, E24
	Type of necrosis	E1, E5, E6, E7, E8, E9, E10, E19, E21, E24
	Amount of necrosis	E1, E5, E7, E8, E9, E19, E21
	Color of granulation tissue	E26, E28, E29
	Friable granulation tissue	E26, E28, E29
	Scar formation	E17
	Wound stage	E2, E4, E16, E22, E26, E28, E29
	Tissue loss	E24
Periwound skin conditions	Coloration	E1, E5, E7, E8, E9, E19, E21, E24
	Presence of edema	E1, E5, E7, E8, E9, E10, E17, E19, E21, E24, E26, E29
	Degree of edema	E6, E7, E11, E13
	Skin induration	E1, E5, E7, E8, E9, E19, E21
	Describe skin condition	E4, E13, E14

	Skin with erythema	E17, E28, E29
	Blistered skin	E17
	Macerated skin	E10, E17
	Skin temperature	E10, E26, E28
	Mild erythema	E10
Wound edge conditions	Wound edge appearance	E1, E5, E7, E8, E9, E11, E13, E19, E21
	Epibole	E10
	Edge detachment	E1, E5, E7, E8, E10, E19, E21
Infection	Signs of infection	E7, E9, E11, E13, E14, E27
	Fetid odor/Bad odor	E10, E17, E26, E28, E29

Source: Research data (2024).

DISCUSSION

The scoping review revealed a heterogeneous body of information applicable to wound assessment, identifying a total of 53 parameters. The use of such parameters contributes to improved quality of care by promoting standardization in both assessment and clinical decision-making. It is equally essential that nurses are knowledgeable about and capable of recognizing wound characteristics to ensure a more targeted evaluation and the appropriate prescription of treatment. More detailed information supports more accurate and assertive clinical decisions throughout patient follow-up [43,44].

The mapping underscores the strong representation of national studies on the topic, reflecting the concern of nursing researchers and professionals with this issue—likely due to the high prevalence of wounds still observed in healthcare settings. For instance, in intensive care units in one Brazilian state, a prevalence of 65.3% was reported [45].

In the category of general wound data, the most frequently cited parameters were size [6,11,13–15,17–24,26,28,30,32,34], depth [6,11,13,15,17–19,21,22,25,28,30,31], pain [11,14,19,22,23,35,37,38], and location [11,12,14,21,27,28,29]. Assessing wound size provides valuable information about the healing process, as a reduction in size indicates clinical improvement, while deeper wounds typically exhibit slower healing rates [46]. These findings are consistent with research indicating that identifying wound size and depth is essential for selecting the most appropriate treatment—particularly considering the availability of advanced technologies that promote healing, such as negative pressure wound therapy [47].

Wound-related pain can be intense and persistent, arising from the lesion itself and/or from procedures such as cleansing, debridement, and dressing changes. As such, it is recommended that analgesia be administered at least 20–30 minutes prior to these interventions [48,49]. Pain, as a parameter for wound assessment, was identified in eight studies (E1, E4, E10, E13, E14, E26, E28, E29). The literature underscores the importance of this parameter, noting that pain is frequently underestimated, despite being a recognized sign

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of inflammation and a potential indicator of infection [50].

Location was identified as a parameter in eight studies (E1, E2, E4, E12, E18, E19, E20). Supporting its relevance, two publications report that wounds and ulcers in the sacral region are associated with poorer healing outcomes, while lower limb wounds often persist for extended periods. Identifying the location of the wound is essential for guiding nursing interventions aimed at promoting healing, such as relieving pressure on the affected area and managing local moisture levels [14,51].

Several studies [11,16,18,19,22,26,27,33,35] recommend describing the type of lesion—a parameter that facilitates the prescription of treatments tailored to the specific condition. For instance, lower limb wounds are considered complex and difficult to heal, requiring treatment based on their underlying etiology [52]. In support of this finding, identifying the etiology of a wound is essential for guiding targeted and effective interventions, as each lesion type presents distinct characteristics in terms of pain, healing time, and associated risks. Wounds of vascular origin, for example, necessitate different clinical approaches than burns or traumatic injuries, both in terms of treatment and pain management [53].

Regarding drainage, the most frequently cited parameters were the amount of exudate [6,11,13–15,17,18,24,26,28,29,30,32–34] and the type of exudate [6,11,13–15,17,19,20,22,23,28,30]. The type of drainage provides important clinical information, indicating whether the wound is improving or deteriorating, depending on its characteristics. It may reflect inflammatory processes (e.g., serous, sanguineous, or serosanguineous exudate) or infectious processes (e.g., purulent exudate). The literature recommends evaluating this parameter at each wound assessment, as identifying the type of exudate helps nurses determine the need for specific interventions, such as absorbent dressings or products for infected wounds, including silver-based dressings or those containing Dialkylcarbamoyl Chloride [54,55].

The assessment of tissue type within the wound was reported in 15 studies [13–15,18,20–26,31,32,34], with the most frequently cited parameters being the presence of necrotic tissue [6,11,15,17–19,26,28,30,33] and granulation tissue [6,11,15,17–19,26,28,29,33]. Research in wound care emphasizes that the presence of necrosis is a critical concern, as it signifies cellular or tissue destruction and often necessitates additional interventions such as debridement. This underscores the importance of evaluating necrosis and implementing timely measures to prevent it from impairing the healing process. Granulation tissue, on the other hand, is characterized by a bright red appearance in the wound bed and must be maintained in a moist environment to support epithelialization [56,57].

Regarding the condition of the periwound skin, the studies emphasize the assessment of skin coloration [6,11,15,17,18,28,30,33] and the presence and degree of edema [6,11,15–20,22,26,28,30,33,35,38]. Alterations in the skin and tissues surrounding the wound may indicate damage that extends beyond the lesion itself and can result from

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various factors, including excessive moisture, friction, pressure (often the same that caused the wound), inflammatory or infectious processes, or the underlying disease. Skin discoloration may be indicative of a deep tissue injury without visible skin rupture and may signal a risk for new lesion development. Supporting this finding, a review article highlighted that maintaining the integrity of the periwound skin is essential for the healing process, as it contributes to wound closure. In contrast, compromised periwound skin increases the risk of infection, delays healing, raises treatment costs, and contributes to patient dissatisfaction [23,58].

The description of wound edge appearance was reported in nine studies [6,11,15,17,18,20,22,28,30], while edge detachment was mentioned in seven [6,11,15,17,19,28,30]. Edge detachment refers to the separation or undermining of tissue beneath the wound margins and serves as an important indicator of healing progression. A recently published article underscores the evaluation of wound characteristics—particularly wound edges—as a key factor in selecting appropriate dressings. It emphasizes that well-adhered, clean, and non-indurated wound edges are indicative of significant healing progress, as regenerative changes typically begin at the wound margins [59].

The publications demonstrated concern regarding wound infection [6,18,20,22,23,36], as well as fetid odor [19,26,35,37,38], which is commonly associated with infectious processes. The literature emphasizes the importance of healthcare teams remaining vigilant for signs and symptoms of wound infection, as this condition can significantly delay the healing process. Depending on its severity, an infected wound may lead to serious complications such as osteomyelitis or sepsis, requiring prolonged hospitalization and posing a life-threatening risk to the patient [60].

The need to standardize the monitoring of pressure injury (PI) healing based on scientific evidence has led to the development of specific tools to support nurses in this task. These tools help establish a common language and promote consistency in the assessment process. To be effective, such instruments must be clinically applicable, efficient, reliable, and valid, enabling professionals to use the results to develop individualized care plans for each patient [28].

This study is limited by the heterogeneity of the parameters identified for wound assessment, as well as by the specificities reported in some of the included studies. Nevertheless, it contributes to the field of nursing by fostering discussion on the importance of detailed wound assessment, thereby supporting the implementation of strategies that may accelerate the healing process. Moreover, by mapping the various parameters currently in use, the study offers a solid foundation for the development of validated tools that can be broadly applied in clinical practice.

FINAL CONSIDERATIONS

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This review mapped relevant parameters for wound assessment in adult patients. The findings revealed a heterogeneous set of data, reflecting the wide range of options available to nurses while also highlighting the complexity of the wound treatment process. These results underscore the importance of a systematic, multidimensional, and individualized approach to care. Thorough evaluation of these parameters enhances understanding of the wound's condition and supports the selection of the most appropriate therapeutic interventions, thereby promoting patient-centered care.

This study underscores the importance of advancing research efforts, particularly the validation of a comprehensive tool capable of assessing all types of wounds. Additionally, the parameters mapped in this review may serve as a foundation for the development of training programs for nurses or clinical protocols, thereby contributing to professional development and qualification. Such initiatives are expected to have a direct and positive impact on the quality of care delivered.

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