

TOPICAL PHYTOTHERAPEUTICS IN THE TREATMENT OF WOUNDS AND LESIONS: SYSTEMATIC REVIEW PROTOCOL

FITOTERÁPICOS TÓPICOS NO TRATAMENTO DE FERIDAS E LESÕES: PROTOCOLO DE REVISÃO SISTEMÁTICA

FITOTERAPÉUTICOS TÓPICOS EN EL TRATAMIENTO DE HERIDAS Y LESIONES: PROTOCOLO DE REVISIÓN SISTEMÁTICA

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ABSTRACT

Introduction: Wounds and skin lesions represent a significant challenge for public health, as they may lead to complications such as infection, pain, and delayed healing. Phytotherapeutics emerge as a promising alternative due to their anti-inflammatory, antimicrobial, antioxidant, and healing properties, contributing to accelerated tissue regeneration and reduced complications. **Objective:** To identify scientific evidence regarding the effectiveness of topical phytotherapeutics in the wound and lesion healing process in adult patients. **Method:** This is a systematic review protocol developed according to the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P). The research question was structured using the PICO framework: P = patients with wounds and lesions (acute or chronic); I = use of topical phytotherapeutics; C = conventional treatments (antibiotic ointments or standard healing treatments); O = wound healing. The search was conducted in the databases PubMed, Scopus, Web of Science, Embase, and CINAHL, considering publications in Portuguese, English, Spanish, and French from the last five years. Methodological quality will be assessed using the ACROBAT-NRSI tool and the strength of evidence using the GRADE system. The analysis will be conducted narratively and descriptively, complemented by comparative tables and qualitative synthesis. **Expected Results:** The findings of this review are expected to contribute to evidence-based clinical practice, improving the use of phytotherapeutics in nursing care, supporting the development of standardized clinical protocols, and identifying knowledge gaps that may guide future research.

Keywords: Phytotherapy; Wounds; Healing; Lesions; Nursing.

RESUMO

Introdução: As feridas e lesões cutâneas representam um desafio significativo para a saúde pública, podendo gerar complicações como infecção, dor e atraso na cicatrização. Os fitoterápicos surgem como uma alternativa promissora, devido às suas propriedades anti-inflamatórias, antimicrobianas, antioxidantes e cicatrizantes, contribuindo para acelerar a regeneração tecidual e reduzir complicações. **Objetivo:** Identificar as evidências científicas sobre a eficácia do uso de fitoterápicos tópicos no processo de cicatrização de feridas e lesões em pacientes adultos. **Método:** Trata-se de uma revisão sistemática, elaborada segundo as diretrizes do Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P). A questão de pesquisa foi estruturada pelo acrônimo PICO: P = pacientes com feridas e lesões (agudas ou crônicas); I = uso de fitoterápicos tópicos; C = tratamentos convencionais (pomadas antibióticas ou cicatrizantes padrão); O = cicatrização das feridas. A busca foi realizada nas bases PubMed, Scopus, Web of Science, Embase e CINAHL, considerando publicações em português, inglês, espanhol e francês, dos últimos cinco anos. A qualidade metodológica será avaliada segundo a ferramenta ACROBAT-NRSI e a força da evidência pelo sistema GRADE. A análise será conduzida de forma narrativa e descritiva, complementada por tabelas comparativas e síntese qualitativa. **Resultados esperados:** Espera-se que os achados desta revisão contribuam para embasar a prática clínica baseada em evidências, qualificando o uso de fitoterápicos na assistência de enfermagem, subsidiando a criação de protocolos clínicos padronizados e identificando lacunas de conhecimento que orientem futuras pesquisas.

Palavras-chave: Fitoterapia; Feridas; Cicatrização; Lesões; Enfermagem;

RESUMEN

Introducción: Las heridas y lesiones cutáneas representan un desafío significativo para la salud pública, ya que pueden generar complicaciones como infección, dolor y retraso en la cicatrización. Los fitoterápicos surgen como una alternativa prometedora debido a sus propiedades antiinflamatorias, antimicrobianas, antioxidantes y cicatrizantes, contribuyendo a acelerar la regeneración tisular y a reducir complicaciones. **Objetivo:** Identificar la evidencia científica sobre la eficacia del uso de fitoterápicos tópicos en el proceso de cicatrización de heridas y lesiones en pacientes adultos. **Método:** Se trata de un protocolo de revisión sistemática elaborado de acuerdo con las directrices del Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P). La pregunta de investigación fue estructurada mediante el acrónimo PICO framework: P = pacientes con heridas y lesiones (agudas o crónicas); I = uso de fitoterápicos tópicos; C = tratamientos convencionales (pomadas antibióticas o tratamientos cicatrizantes estándar); O = cicatrización de las heridas. La búsqueda se realizó en las bases de datos PubMed, Scopus, Web of Science, Embase y CINAHL, considerando publicaciones en portugués, inglés, español y francés de los últimos cinco años. La calidad metodológica será evaluada mediante la herramienta ACROBAT-NRSI y la fuerza de la evidencia mediante el GRADE system. El análisis se realizará de forma narrativa y descriptiva, complementado con tablas comparativas y síntesis cualitativa. **Resultados esperados:** Se espera que los hallazgos de esta revisión contribuyan a fortalecer la práctica clínica basada en evidencia, optimizando el uso de fitoterápicos en la atención de enfermería, apoyando la creación de protocolos clínicos estandarizados e identificando vacíos de conocimiento que orienten futuras investigaciones.

Palabras clave: Fitoterapia; Heridas; Cicatrización; Lesiones; Enfermería.

INTRODUCTION

Phytotherapeutic agents offer a range of benefits in the treatment of wounds and lesions, owing to their anti-inflammatory, antimicrobial, antioxidant, and wound-healing properties, which may contribute to accelerated tissue repair, pain reduction, and infection prevention⁽¹⁾. Additionally, many of these agents have been traditionally employed due to their demonstrated efficacy and favorable safety profile, particularly in developing countries, where there is a growing emphasis on the exploration of natural alternatives in healthcare⁽²⁾.

Wounds and lesions represent significant health challenges, requiring effective therapeutic approaches to promote adequate healing and prevent complications⁽³⁾. In recent years, phytotherapeutics have emerged as a promising alternative for the management of these conditions, offering a natural and often effective approach⁽⁴⁾. Evidence suggests that approximately 80% of populations in developing countries utilize some form of traditional healthcare practices, with 85% relying on phytotherapy as a primary healthcare resource, including for the treatment of wounds and skin lesions^(5,6,7,8).

Phytotherapeutic agents can support wound and lesion healing through multiple mechanisms of action. Certain phytochemical compounds are capable of modulating the inflammatory response, thereby reducing excessive inflammation that may delay the

healing process, while others exhibit antimicrobial activity, contributing to the control of bacterial or fungal infections that can compromise tissue repair⁽⁹⁾. Furthermore, many phytotherapeutics promote angiogenesis and the formation of granulation tissue, thereby accelerating tissue regeneration⁽¹⁰⁾.

The topical application of phytotherapeutic agents represents a promising and natural approach to the management of wounds and lesions, offering a range of therapeutic benefits that may support effective healing and help prevent complications. However, their use should be undertaken with caution and under appropriate professional guidance to ensure safe and effective outcomes⁽¹¹⁾.

Systematic review protocols constitute essential tools for the rigorous planning and comprehensive documentation of the methods to be employed throughout the review process, with the primary aim of minimizing arbitrary decisions and ensuring methodological rigor. Furthermore, they enable readers to identify potential biases arising from selective reporting in completed reviews. When made publicly available, such protocols may also help prevent unnecessary duplication of research on topics that have already been investigated. Additionally, by clearly outlining all stages of the review, the protocols contribute to enhancing the reliability and reproducibility of findings⁽¹²⁾.

Given the growing interest in the use of phytotherapeutics as a therapeutic alternative for the treatment of wounds and lesions, it is

essential to map and critically analyze the existing scientific literature to identify the available evidence, as well as the knowledge gaps that persist. Therefore, this study aims to synthesize scientific evidence on the use of topical phytotherapeutics in the wound and lesion healing process in patients.

METHOD:

Study design:

This protocol follows the recommended steps for conducting a systematic review, in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P) guidelines⁽¹³⁾. Systematic literature reviews are conducted using well-defined protocols that enable their replication by other researchers. Such protocols provide detailed descriptions of the databases consulted, the search strategies applied in each database, the processes used for screening scientific articles, the inclusion and exclusion criteria, and the methods employed for data analysis. They also address limitations related both to the included studies and to the review process itself. This methodological approach is widely recognized as a reliable source of scientific evidence and serves as essential support for decision-making across diverse fields of practice⁽¹⁴⁾.

The development of a systematic review comprises nine fundamental steps: (i) formulation of a guiding research question; (ii) development and registration of a detailed protocol; (iii) establishment of clear inclusion

and exclusion criteria; (iv) design of a structured search strategy; (v) identification and selection of relevant studies; (vi) critical appraisal of the methodological quality of the included studies; (vii) extraction and organization of the data; (viii) integration and analysis of the data, including assessment of the robustness of the scientific evidence; and (ix) dissemination of the findings through publication in academic outlets⁽¹⁵⁾.

Search strategy:

The formulation of the research question was guided by the PICO framework (P = Patient/Problem, I = Intervention, C = Comparison, O = Outcome), structured as follows: P = patients with wounds and lesions (acute or chronic); I = use of topical phytotherapeutics; C = comparison with conventional treatments (such as antibiotic ointments or standard wound care agents); O = wound and lesion healing.⁽¹⁶⁾ Based on this framework, the research question was defined as follows: “Does the use of topical phytotherapeutics contribute to the healing process of wounds and lesions?” This question underpins the development of the systematic review protocol, guiding all stages of the research and ensuring clarity and methodological rigor.

The systematic search will be conducted across the following databases: Scopus, MEDLINE/PubMed (Medical Literature Analysis and Retrieval System Online), Web of Science, Embase (Excerpta Medica Database),

and CINAHL (Cumulative Index to Nursing and Allied Health Literature). After testing different combinations of terms using keywords and Boolean operators, the following search strategy was established: (“Wounds” OR “Injuries”) AND (“Phytotherapy”) AND (“Healing”). Controlled descriptors will be prioritized, based on the Medical Subject Headings (MeSH) vocabulary. Additionally, complementary searches may be undertaken through manual

screening of the reference lists of all included studies.

Eligibility criteria:

The inclusion criteria will comprise cross-sectional studies, reviews, and clinical trials published in English, Portuguese, Spanish, and French within the past five years that address the research question. The exclusion criteria will include: (i) studies conducted in animals; and (ii) letters and editorials.

Chart 1 - Study selection

Database	Expressão de busca	Search expression	Expresión de búsqueda	Expression de recherche	Filters	Total number of articles
Pubmed	((“Feridas” OR “Lesões”)) AND (“Fitoterapia”) AND (“Cicatrização”) OR (“Aloe”) OR (“Curcuma”) OR (“Calêndula”))	((“Wounds” OR “Injuries”)) AND (“Phytotherapy”) AND (“Healing”) OR (“Aloe”) OR (“Turmeric”) OR (“Calendula”))	((“Heridas” OR “Lesiones”)) AND (“Fitoterapia”) AND (“Cicatización”) OR (“Aloe”) OR (“Cúrcuma”) OR (“Caléndula”))	((“Blessures” OR “Blessures”) AND (“Phyothérapie”) AND (“Cicatrisation”) OR (“Aloès”) OR (“Curcuma”) OR (“Calendula”))	Last 10 years, Portuguese, English, Spanish, French. Clinical trials, reviews.	6,683
CINAHL	((“Feridas” OR “Lesões”)) AND (“Fitoterapia”) AND (“Cicatrização”) OR (“Aloe”) OR (“Curcuma”) OR (“Calêndula”))	((“Wounds” OR “Injuries”)) AND (“Phytotherapy”) AND (“Healing”) OR (“Aloe”) OR (“Turmeric”) OR (“Calendula”))	((“Heridas” OR “Lesiones”)) AND (“Fitoterapia”) AND (“Cicatización”) OR (“Aloe”) OR (“Cúrcuma”) OR (“Caléndula”))	((“Blessures” OR “Blessures”) AND (“Phyothérapie”) AND (“Cicatrisation”) OR (“Aloès”) OR (“Curcuma”) OR (“Calendula”))	Last 10 years, Portuguese, English, Spanish, French. Clinical trials, reviews	250
Web of Science	((“Feridas” OR “Lesões”)) AND (“Fitoterapia”) AND (“Cicatrização”) OR (“Aloe”) OR (“Curcuma”) OR (“Calêndula”))	((“Wounds” OR “Injuries”)) AND (“Phytotherapy”) AND (“Healing”) OR (“Aloe”) OR (“Turmeric”) OR (“Calendula”))	((“Heridas” OR “Lesiones”)) AND (“Fitoterapia”) AND (“Cicatización”) OR (“Aloe”) OR (“Cúrcuma”) OR (“Caléndula”))	((“Blessures” OR “Blessures”) AND (“Phyothérapie”) AND (“Cicatrisation”) OR (“Aloès”) OR (“Curcuma”) OR (“Calendula”))	Last 10 years, Portuguese, English, Spanish, French. Clinical trials, reviews	28
Embase	((“Feridas” OR “Lesões”))	((“Wounds” OR “Injuries”)) AND	((“Heridas” OR “Lesiones”)) AND	((“Blessures” OR “Blessures”) AND	Last 10 years, Portuguese,	98



	AND (("Fitoterapia")) AND (("Cicatrização")) OR ("Aloe") OR (("Curcuma")) OR (("Calêndula"))	(("Phytotherapy")) AND (("Healing")) OR (("Aloe")) OR (("Turmeric")) OR (("Calendula"))	(("Fitoterapia")) AND (("Cicatización")) OR ("Aloe") OR (("Cúrcuma")) OR (("Caléndula"))	(("Phyothérapie")) AND (("Cicatrisation")) OR ("Aloès") OR (("Curcuma")) OR (("Calendula"))	English, Spanish, French. Clinical trials, reviews	
Scopus	(("Feridas" OR "Lesões")) AND (("Fitoterapia")) AND (("Cicatrização")) OR ("Aloe") OR (("Curcuma")) OR (("Calêndula"))	(("Wounds" OR "Injuries")) AND (("Phytotherapy")) AND (("Healing")) OR (("Aloe")) OR (("Turmeric")) OR (("Calendula"))	(("Heridas" OR "Lesiones")) AND (("Fitoterapia")) AND (("Cicatización")) OR ("Aloe") OR (("Cúrcuma")) OR (("Caléndula"))	(("Blessures" OR "Blessures")) AND (("Phyothérapie")) AND (("Cicatrisation")) OR ("Aloès") OR (("Curcuma")) OR (("Calendula"))	Last 10 years, Portuguese, English, Spanish, French. Clinical trials, reviews	1,293

Ethical considerations and dissemination:

The data to be used is publicly available. Furthermore, the systematic review will be conducted in accordance with the PRISMA 2020 statement, which outlines the essential items for reporting systematic reviews and meta-analyses.

Conflict of interest:

The authors declare no conflict of interest.

Critical appraisal of the included studies:

The risk of bias assessment will be conducted independently by two reviewers (ER and JG), in accordance with the ACROBAT-NRSI guidelines. Domains to be evaluated will include confounding, participant selection, intervention classification, follow-up, missing data, outcome measurement, and selective reporting. The quality of the evidence and the strength of recommendations will be assessed using the Grading of Recommendations Assessment, Development and Evaluation

(GRADE) approach. Data synthesis will be performed through descriptive and qualitative analyses, with additional analyses performed as appropriate based on the results obtained.

EXPECTED RESULTS

This systematic review is expected to map the available evidence on the use of topical phytotherapeutics in wound healing, identifying the compounds or medicinal plants that demonstrate the most promising results, as well as elucidating their modes of application and mechanisms of action. The findings are intended to contribute to reducing empirical practices in clinical care by providing robust support for evidence-based practice.

Furthermore, the synthesis may support the development of standardized clinical protocols focused on the use of phytotherapeutic agents in nursing care, thereby strengthening professional autonomy and promoting safer, higher-quality, and more sustainable care. Another anticipated outcome is the identification



of knowledge gaps, which may guide future research and stimulate the development of further studies on the topic. Thus, this review is expected to represent a meaningful contribution to the incorporation of phytotherapy into clinical practice protocols, expanding the scientific evidence base and contributing to the continuous improvement of healthcare quality.

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