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# Exploring skin disorders in palliative care: a systematic review

## Abstract

**Introduction:** Skin disorders present significant challenges in palliative care settings, often complicating symptom management and diminishing the quality of life for patients facing life-limiting illnesses. Despite their prevalence and impact, there remains a dearth of comprehensive research synthesizing the landscape of skin disorders within palliative care.

**Methods:** This systematic review aims to elucidate the spectrum of skin disorders manifested in individuals receiving palliative care, providing a comprehensive understanding essential for effective clinical management and improved patient outcomes. A thorough literature search was conducted across b-on, PubMed, Web of Science, and Scopus, focusing on studies involving human participants aged 18 years or over in palliative care settings. Inclusion criteria encompassed randomized controlled trials, observational studies, and quantitative studies published in peer-reviewed journals, specifically addressing skin disorders as a primary focus or significant aspect of palliative care.

**Results:** From an initial 347 articles, 17 studies met the inclusion criteria. The most common skin disorders identified include pruritus, pressure ulcers, and dermatitis, significantly impacting patients' physical comfort, emotional well-being, and social interactions. The findings highlight the intricate nature of managing skin disorders in palliative care, necessitating interdisciplinary collaboration and tailored interventions to address the multifaceted needs of this population.

**Conclusions:** This review underscores the importance of recognizing, assessing, and managing skin disorders to enhance the quality of life of palliative care patients. Future research should focus on developing and implementing targeted strategies to alleviate the burden of skin disorders in this vulnerable group, ultimately improving patient care and outcomes.

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**Keywords:** skin disorders, palliative care, quality of life, pruritus, systematic review

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## Introduction

Skin disorders pose significant challenges in palliative care settings, often complicating the management of symptoms and diminishing the quality of life for patients facing life-limiting illnesses. Despite their prevalence and impact, there remains a dearth of comprehensive research synthesizing the landscape of skin disorders within the context of palliative care. In response to this gap, this systematic review aims to elucidate the spectrum of skin disorders manifested in individuals receiving palliative care, providing a comprehensive understanding essential for effective clinical management and improved patient outcomes [1].

Determining the research question was paramount in guiding the scope and focus of this study. Grounded in recognizing the pressing need to address the challenges posed by skin disorders in palliative care, the research question was formulated to provide clarity and direction. Specifically, the following research question was established: What are the most common skin disorders in individuals receiving palliative care?

This theme is the cornerstone for the present investigation, guiding the systematic exploration of prevalent skin disorders and their manifestations within the unique context of palliative care. By identifying this population's most common dermatological conditions, the aim is to raise awareness and share specific and tailored interventions to meet the complex needs of patients approaching the end of life.

As the authors embark on this systematic review, it is imperative to underscore the significance of palliative care in alleviating suffering and enhancing the quality of life for individuals with advanced illnesses. Palliative care, as defined by the World Health Organization, is an approach that focuses on improving the quality of life of patients and their families facing the problems associated with life-threatening illnesses through the prevention and relief of suffering by employing early identification, impeccable assessment, and treatment of pain and other physical, psychosocial, and spiritual problems [2]. Central to the ethos of palliative care is the holistic management of symptoms, emphasizing addressing patients' multifaceted needs within their individual preferences and values. Within this framework, skin disorders emerge as a significant area of concern, exerting profound effects on patients' physical comfort, emotional well-being, and overall quality of life. The presence of skin disorders not only exacerbates physical discomfort but also contributes to psychological distress and social isolation, thereby compounding the existing burden of illness and diminishing patients' ability to engage fully in meaningful activities and interactions [3].

Moreover, the management of skin disorders in palliative care settings is often intricate, necessitating a nuanced approach that balances the relief of symptoms with the preservation of dignity and autonomy. Given the inherent complexities associated with end-of-life care, effective management of skin disorders requires interdisciplinary collaboration, drawing upon the expertise of healthcare professionals across various specialties, including dermatology, palliative care, nursing, and particularly wound care.

Against this backdrop, this systematic review seeks to consolidate existing knowledge and evidence about skin disorders in palliative care, offering insights that can inform clinical practice, policy development, and future research endeavors. By synthesizing the available literature and identifying gaps in current understanding, the aim is to catalyze efforts to improve skin disorders' recognition, assessment, and management in palliative care, ultimately enhancing the quality of life for patients facing life-limiting illnesses.

## Methods

The review protocol is registered on PROSPERO (CRD42024513934). The systematic review approach followed Cochrane guidelines on evaluating evidence from randomized controlled trials on effectiveness. It provides a structured and transparent approach for rating confidence in effect estimates.

## Research framework

The research endeavors to comprehensively explore the prevalence and impact of skin disorders within the palliative care context. This quantitative study employs a systematic literature review methodology, enabling a meticulous identification, evaluation, and interpretation of existing research on skin disorders prevalent in palliative care settings. The focal point of this investigation is to assess the prevalence of skin disorders encountered by individuals receiving palliative care, emphasizing their potential implications for overall well-being and quality of life. By examining experiences, perceptions, and quantitative data, the study aims to uncover the multifaceted aspects of skin disorders in this specialized care setting. The thematic focus is on understanding the types and manifestations of skin disorders in palliative care, shedding light on the psychosocial dimensions and the interplay between symptomatology and patients' overall quality of life. This research framework is positioned to contribute valuable insights into addressing the challenges posed by skin disorders in palliative care, paving the way for enhanced symptom management and holistic patient care.

## Research question

The determination of the research question was used to define the scope and develop a clear focus for the study. This research question was developed in response to the needs of the chosen topic, namely: What are the most common skin disorders in individuals receiving palliative care?

## Literature search

To address the research objectives of this study, a comprehensive literature search was conducted to identify relevant articles related to the scientific evidence that supports the most common skin disorders in patients in palliative care. The search was performed in the following databases: b-on, PubMed, Web of Science, and Scopus. These databases were selected based on their coverage of relevant fields, including medicine, nursing, and dermatology. The search strategy involved a combination of Medical Subject Headings (MeSH) terms, keywords, and Boolean operators, including but not limited to "palliative care", "hospice care", "skin diseases", "quality of life", "symptom assessment", "dermatitis", and "pruritus". These search terms were chosen to encompass the core elements of the present research.

Additionally, synonyms and related terms were included to maximize the retrieval of pertinent studies. This approach is intended to yield a comprehensive selection of peer-reviewed articles that meet the present inclusion criteria and contribute to a thorough evaluation of the evidence on the most common skin disorders in palliative care. No limitation of a year range or language for selecting articles was used. The research query used was as follows: ("palliative care" OR "end-of-life care" OR "hospice care"

OR "terminal care") AND ("skin disorders" OR "dermatological issues" OR "skin diseases" OR "skin conditions" OR "dermatitis" OR "pruritus") AND ("quality of life" OR "symptom assessment" OR "well-being").

## Inclusion criteria

Studies included were: (1) Randomized controlled trials (RCTs), observational studies, and quantitative studies published in peer-reviewed journals; (2) Studies involving human participants aged 18 years or over, of any gender and ethnicity in a palliative care setting or described by the authors as having an advanced disease such as metastatic cancer or terminal organ disease; (3) Studies addressing skin disorders as a primary focus or a significant aspect of palliative care.

## Exclusion criteria

Studies excluded were: (1) Grey literature, conference abstracts, unpublished studies, review articles, books, book chapters, and non-empirical studies. (2) Studies conducted on animals or in vitro studies that do not involve human participants. (3) Studies that do not involve patients in a palliative care setting. (4) Studies focusing solely on healthy individuals or those with non-life-limiting conditions. (5) Studies that do not focus on skin disorders or do not provide sufficient information on the prevalence of skin disorders in the context of palliative care. (6) Studies where skin problems result from interventions or medication side effects rather than being inherent to the palliative care condition. (7) Duplicate publications or redundant data from the same study population and intervention (in which case the most comprehensive or recent publication will be included). The search summary is summarized in Table 1.

**Table 1. The search strategy summary**

Items	Specification
Date of search	18.03.2024
Database and other sources searched	B-on, PubMed, Web of Science and Scopus
Search terms used	Palliative care, skin diseases, quality of life, symptom assessment, dermatitis and pruritus
Timeframe	No limitation
Inclusion criteria	All included studies were available in any language. RCTs, observational studies, and quantitative studies published in peer-reviewed journals
Exclusion criteria	Studies only contained abstracts, papers published in conferences, books, or book chapters, and animal studies
Selection process	The first and second authors selected all sources. The screening was undertaken in duplicate independently

### Types of outcomes measured

The primary outcomes of interest were studies reporting on the prevalence and types of skin disorders in palliative care.

### Study selection

The screening was undertaken in duplicate independently. One author (SG) screened all citations (records of title with, if available, abstract), and another author (MM) screened in duplicate. When a citation appeared relevant or did not have sufficient information to decide, the full-text paper was retrieved. Should any discrepancies in eligibility at screening and full-text have been found, the authors planned for these to be discussed for resolution by the wider review team.

### Risk of bias

One author (SG) assessed the risk of bias for each study using the criteria recommended by the Cochrane Collaboration [4].

## Results

### Selection of publications included

Files (.ris format) containing the exported search results were saved and imported into the Rayyan web tool [5]. The search included selected databases, retrieving an initial total of 347 articles. Removal

of duplicates resulted in a preliminary range of 232 unique articles. A thorough review of titles and abstracts was conducted to identify potentially relevant studies, leading to the exclusion of articles that did not align with the research topic. This refinement produced a set of 88 articles. Full-text access to these articles was obtained through institutional subscriptions. The entire search process is visually summarized in Figure 1, employing the Preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines [6]. This Figure illustrates the number of articles identified, screened, and included at each stage. Following rigorous application of inclusion and exclusion criteria, 17 articles were considered suitable. Results highlighting the main findings and overall limitations of the studies are detailed in Table 2 [7–23].

In this systematic review, in the word cloud representation, three prominent terms emerge: “palliative care”, “humans”, and “quality of life” (Figure 2). The prominence of “palliative care” underscores the central focus of the research on addressing the complex needs of individuals facing severe illnesses, emphasizing the importance of comprehensive care that attends to physical, psychosocial, and spiritual dimensions. The prominence of “humans” highlights the fundamental aspect of human-centered care within palliative contexts, emphasizing

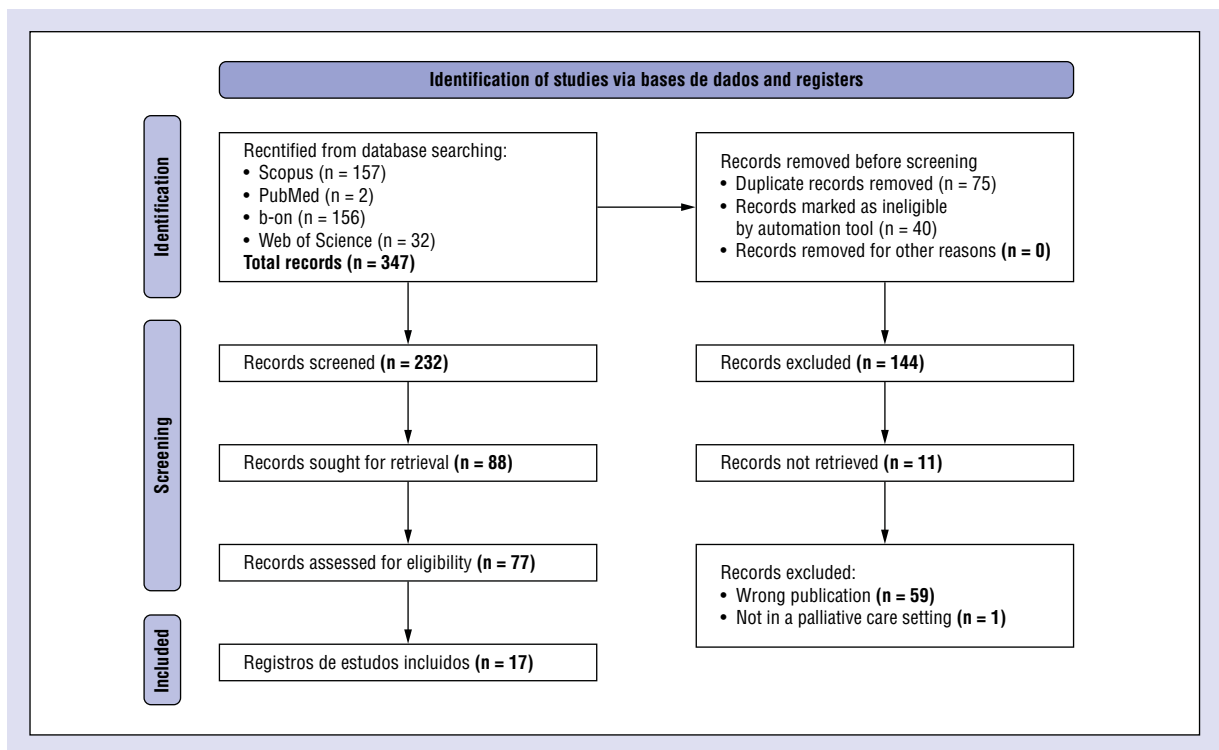
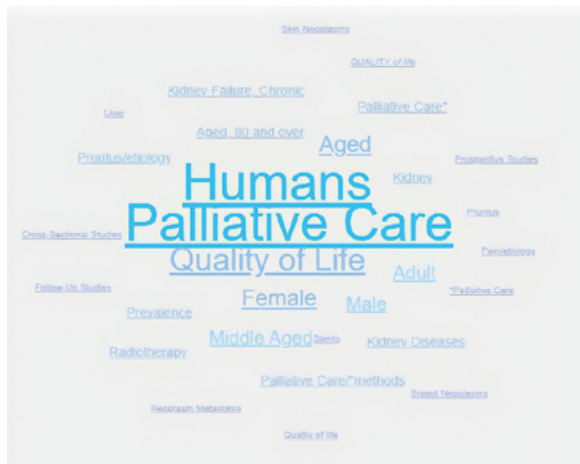


Figure 1. Diagram of article selection and inclusion process on the PRISMA methodology [6]



**Figure 2.** Word cloud representation of key themes in palliative care and skin disorders

the significance of tailoring interventions to individual needs, preferences, and values. Lastly, the emphasis on “quality of life” underscores the overarching goal of palliative care: to optimize the well-being and overall quality of life for patients and their families facing life-limiting illnesses. This word cloud serves as a visual representation of the key themes and priorities within the field of palliative care research, emphasizing the humanistic approach and the paramount importance of enhancing the quality of life for individuals navigating severe illness trajectories.

### Study characteristics

Of the 17 studies included, two were a prospective cohort study [7, 15], two were cross-sectional surveys [8, 9], two were prospective observational studies [14, 21], one was an Observational clinical audit [13], one was a semi-structured interview [18], one was a longitudinal cohort study conducted within a double-blind, randomized, placebo-controlled trial [19], one was a longitudinal, prospective, and observational study [20], and one was a cross-sectional observational study [23], three were cross-sectional studies [10–12], one was a cross-sectional analysis within a longitudinal study [16], one was a prospective observational study [21], and one was a longitudinal prospective and observational study [22].

Sample sizes range from  $n = 19$  [18] to  $n = 246$  [22]. All studies were in a palliative care setting: one study was in hospitals [7], one in a nongovernmental organization [8], seven were in renal or dialysis units [9, 10, 13, 16, 20, 22, 23], one in palliative care service [11], one in a residential care facilities [12], one in a medical center [14], one in a local HIV care and treatment organization [15], one in a home care program [17], one a CTCL clinic [18], one in tertiary care

center [21], and one didn't mention the setting [19]. Across the studies, the mean age of the participants ranged between 32 [8, 15] and 82 years [13].

The study encompassed a diverse range of participants, with chronic kidney disease (CKD) and HIV infection emerging as the most prevalent conditions within the cohort. CKD was observed across multiple participant groups, including those with stage 4–5 CKD, end-stage renal disease (ESRD), and maintenance hemodialysis patients [9, 10, 13, 14, 16, 20, 21, 23]. Additionally, HIV infection, either confirmed through laboratory testing or characterized by a CD4 count below 200 cells/uL, was notably present among the participants [8, 15, 19].

The assessment methodology employed in the study encompassed a variety of approaches tailored to capture the multifaceted aspects of participants' health conditions. Standardized questionnaires were utilized to inquire about specific symptoms, such as itching, with severity ratings recorded on a scale of 0 to 10 [10, 18, 23]. Qualitative interviews with patients offered insights into their subjective experiences, complementing quantitative assessments such as the Memorial Symptom Assessment Scale (MSAS) [15, 16, 19] and the Edmonton Symptoms Assessment System (ESAS) [21, 22].

The most prevalent skin disorder observed among the participants was pruritus, or itching, with a notable proportion of individuals experiencing this condition across multiple studies. Prevalence rates ranged from 3.2% [17] to 84.2% [18], indicating a widespread occurrence and significant impact on affected individuals. Other commonly reported skin issues included impaired skin integrity [12], changes in the skin [8, 15, 16, 19], and dry skin [23], although with varying prevalence rates. Pruritus consistently emerged as a primary concern, emphasizing its significance in dermatological manifestations and patient experiences.

### Risk of bias

The risk of bias assessment across the various studies reveals a range of evaluations, highlighting areas of strength and areas for improvement. All studies included in the analysis had a moderate risk in the classification of intervention. This suggests a common area of vulnerability across the studies, indicating potential challenges in accurately defining and categorizing the interventions being studied. This consistency in moderate risk classification highlights the importance of rigorously defining and consistently applying intervention classifications in research studies to ensure clarity, reproducibility, and comparability of results. Addressing this aspect

Table 2. Systematic review articles\*

Article number	Reference	Study design	Participants characteristics	Setting	Assessment methodology	Prevalence and types of skin disorders	Associated factors
1	[7]	Prospective cohort study	<ul style="list-style-type: none"> <li>50 participants; 20 males</li> <li>Mean age was 72.6 years (SD 10.6)</li> <li>Patients with malignant biliary obstruction</li> </ul>	Hospital	F-36 Quality of Life scale	<ul style="list-style-type: none"> <li>35% of the patients had pruritus</li> <li>49% of the patients had jaundice</li> </ul>	Not mentioned
2	[8]	Cross-sectional surveys	<ul style="list-style-type: none"> <li>64 participants; 69% females</li> <li>The mean age was 32 years</li> <li>The age range was from 20 to 45 years</li> <li>HIV diagnosis</li> </ul>	Nongovernmental organization	Adaptation of an HIV symptom list and HIV symptom profile	72% of the participants had skin problems	Not mentioned
3	[9]	Cross-sectional surveys	<ul style="list-style-type: none"> <li>50 patients</li> <li>All dialysis patients</li> </ul>	Dialysis unit	Rating the severity of their symptoms on a scale of 0 to 10	24% of the participants had pruritus	Not mentioned
4	[10]	Cross-sectional study	<ul style="list-style-type: none"> <li>66 participants; 32 males</li> <li>The mean age was 82 years (SD 6.6)</li> <li>The age range was from 51 to 96 years</li> <li>Stage 5 chronic kidney disease</li> </ul>	Renal units	Standardized questionnaire: Participants were asked about the presence and severity of itching as part of the symptom assessment	74% of patients with pruritus	Not mentioned
5	[11]	Observational and descriptive, specifically a cross-sectional study	<ul style="list-style-type: none"> <li>20 participants; 50% female</li> <li>The mean age was 67 years</li> <li>The age range was from 22 to 89 years</li> <li>Various primary diagnoses, including cancer, neurologic conditions, hepatic issues, pulmonary conditions, cardiac conditions, and others</li> </ul>	Palliative care service	<ul style="list-style-type: none"> <li>The inpatient and palliative care teams documented skin abnormalities during physical examinations and in the assessment and plan sections of the medical records</li> <li>A medical student performed a one-time total body skin examination on study patients, including examining the hair, nails, genitals, and oral mucosa. Each representative skin finding was photographed twice with a digital camera. A dermatologist reviewed these photographs with the clinical data each week to make skin diagnoses</li> </ul>	<ul style="list-style-type: none"> <li>23 skin conditions were found among the 20 patients studied</li> <li>50% of patients with Ecchymosis</li> <li>25% of the patients had Intertrigo</li> <li>20% of the patients had a Pressure ulcer</li> </ul>	<ul style="list-style-type: none"> <li>Patients who were bedridden or had limited mobility were more prone to developing pressure ulcers, which are a type of skin disorder</li> <li>Some medications, such as immunosuppressive therapy, could lead to the development of skin conditions like contact dermatitis or herpes ulcers, as seen in one case where a patient previously on potent immunosuppressive therapy for a liver transplant developed a painful sacral ulcer and smaller ulcers on the buttocks and scrotum</li> </ul>

Table 2. cont. Systematic review articles\*

Article number	Reference	Study design	Participants characteristics	Setting	Assessment methodology	Prevalence and types of skin disorders	Associated factors
6	[12]	Cross-sectional study	<ul style="list-style-type: none"> <li>• 229 participants; 46% females</li> <li>• The mean age was 79.9</li> <li>• The median was 89 years</li> <li>• The age range was from 18 to 98 years</li> <li>• 48% were activities of daily life-dependent</li> </ul>	Residential care facilities	Evidence from medical and nursing records	<ul style="list-style-type: none"> <li>• 85% of the patients had peripheral edema</li> <li>• 84% of the patients had impaired skin integrity</li> </ul>	Not mentioned
7	[13]	Observational clinical audit	<ul style="list-style-type: none"> <li>• 55 participants; 26 males</li> <li>• The mean age was 82 years</li> <li>• The age range was from 66-96 years</li> <li>• Advanced chronic kidney disease stage 4–5</li> </ul>	Renal units	Patient Outcome Scale	56% of the patients had pruritus	Not mentioned
8	[14]	Prospective cross-sectional study	<ul style="list-style-type: none"> <li>• 179 participants</li> <li>• Mean age was 61.9 years (SD = 12.3)</li> <li>• End-stage renal disease</li> </ul>	Medical center	Patient self-reporting using a numerical rating scale ranging from 0 to 10, where 0 indicated no pruritus, and 10 indicated extreme pruritus	63.7% of patients had pruritus	Not mentioned
9	[15]	Prospective cohort study	<ul style="list-style-type: none"> <li>• 212 participants</li> <li>• The median age for males was 32 years</li> <li>• The median age for females was 36 years</li> <li>• Laboratory-confirmed HIV infection</li> </ul>	Local HIV care and treatment organizations	Memorial Symptom Assessment Scale Short Form	<ul style="list-style-type: none"> <li>• 67% of the patients had itching</li> <li>• 52% of the patients had changes in skin</li> </ul>	Not mentioned
10	[16]	Cross-sectional analysis within a longitudinal study	<ul style="list-style-type: none"> <li>• 74 participants; 51.4% males</li> <li>• Mean age was 80.7 (SD 6.78)</li> <li>• Stage 5 chronic kidney disease</li> </ul>	Renal unit	Memorial Symptom Assessment Scale Short Form	<ul style="list-style-type: none"> <li>• 84% of patients had itching</li> <li>• 39% of the patients had changes in skin</li> </ul>	Not mentioned
11	[17]	Prospective observational study	<ul style="list-style-type: none"> <li>• 362 participants; 179 males</li> <li>• The mean age was 73 years (SD 13.3)</li> </ul>	Home care programs	<ul style="list-style-type: none"> <li>• Patient interviews</li> <li>• Clinical examinations</li> </ul>	3.5% of patients had pruritus	Not mentioned
12	[18]	In-depth semi-structured interview	<ul style="list-style-type: none"> <li>• 19 participants; 10 males</li> <li>• Diagnosed with primary cutaneous T-cell lymphoma (CTCL)</li> </ul>	CTCL clinic	Semi-structured interviews	84.2% of patients had pruritus	Not mentioned

Table 2. cont. Systematic review articles\*

Article number	Reference	Study design	Participants characteristics	Setting	Assessment methodology	Prevalence and types of skin disorders	Associated factors
13	[19]	Longitudinal cohort study conducted within a double-blind, randomized, placebo-controlled trial	<ul style="list-style-type: none"> <li>97 participants; 69% females</li> <li>The mean age was 36 years</li> <li>Confirmation of HIV, CD4 count &lt; 200 cells/uL</li> </ul>	Not mentioned	Memorial Symptom Assessment Scale-Short Form	<ul style="list-style-type: none"> <li>57% of patients had itching</li> <li>53% of patients had changes in skin</li> </ul>	Not mentioned
14	[20]	Single-center prospective cohort study	<ul style="list-style-type: none"> <li>127 participants; 62% males</li> <li>The median age was 73.7 years</li> <li>76% received in-center hemodialysis</li> </ul>	Renal clinic	Integrated Palliative care Outcomes Scale inventory	22% of patients had itching	Not mentioned
15	[21]	Prospective cross-sectional study	<ul style="list-style-type: none"> <li>53 participants; 58.4% females</li> <li>Mean age was 73.6 years (SD 7.09)</li> <li>End-stage renal disease</li> </ul>	Tertiary care centers	Edmonton Symptom Assessment System	A mean of 4.4 (SD 3.3) had itching	Not mentioned
16	[22]	Longitudinal, prospective, and observational study	<ul style="list-style-type: none"> <li>246 participants</li> <li>The mean age was 61.05 (SD 13.76)</li> <li>The age range was from 19 to 91 years</li> <li>Chronic kidney disease</li> </ul>	Hemodialysis units	Edmonton Symptoms Assessment System Revised	A mean of 3.13 (SD 3.27) had itching	Not mentioned
17	[23]	Cross-sectional observational study	<ul style="list-style-type: none"> <li>236 participants; 63.3% males</li> <li>The median age was 64.5 years</li> <li>The age range was from 18 to 90 years</li> <li>Maintenance hemodialysis patients</li> </ul>	Hemodialysis units	Dialysis Symptom Index	<ul style="list-style-type: none"> <li>83.1% of the patients had itching</li> <li>82.2% of the patients had dry skin</li> </ul>	Not mentioned

\*n = 17; CD4 — cluster of differentiation 4; CTCL — cutaneous T-cell lymphoma; HIV — human immunodeficiency virus; SD — standard deviation; SF — short form



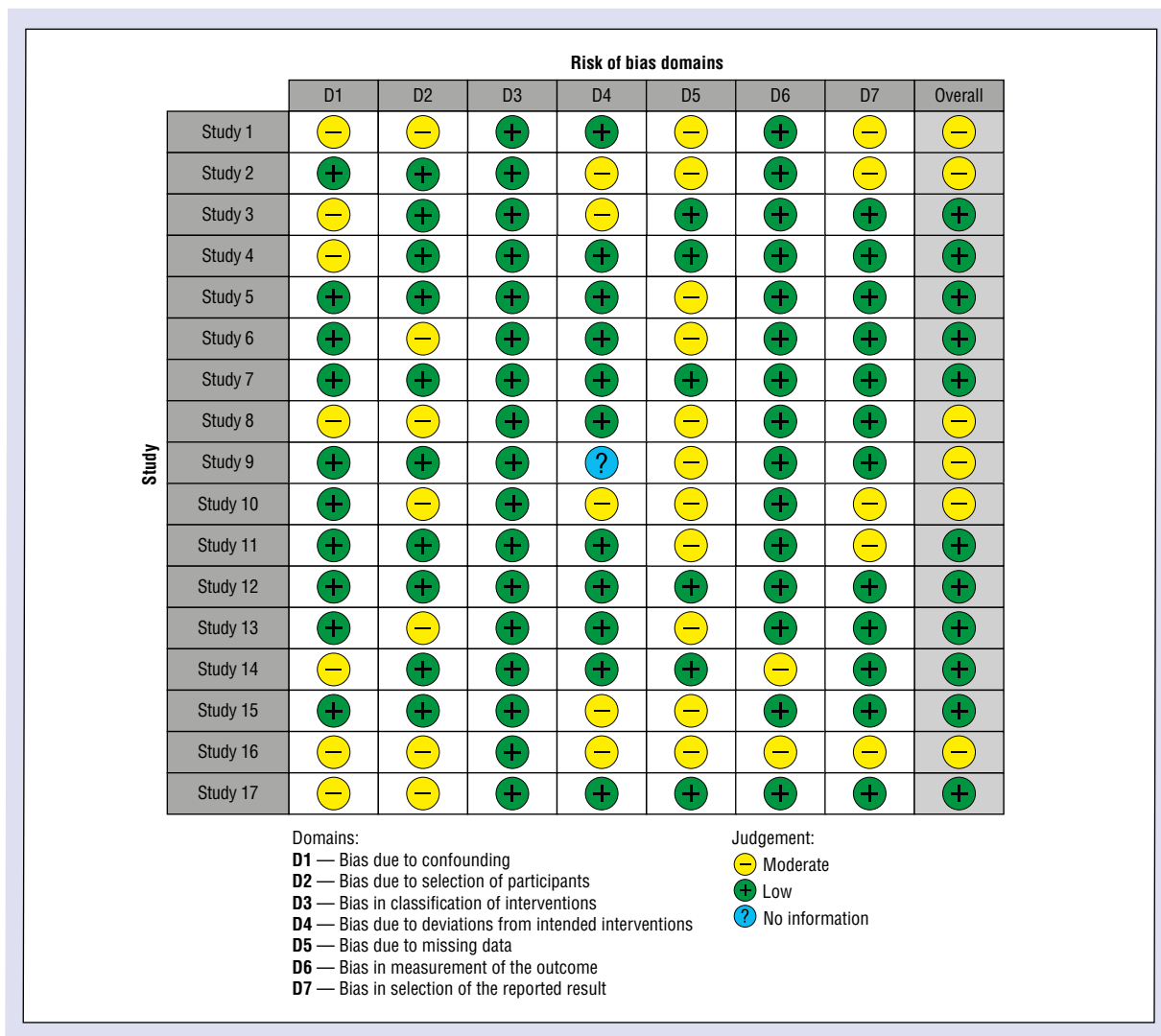


Figure 3. Risk of bias

could enhance the quality and reliability of findings across studies and strengthen the evidence base in the respective research fields. Only two studies out of the analyzed set demonstrate a low risk of bias in the measurement of outcomes [20, 22]. This indicates that most of the studies may have potential limitations or uncertainties in assessing and quantifying the outcomes of interest.

A low risk of bias in outcome measurement is crucial for ensuring the validity and reliability of study findings. It suggests that the methods used to measure and assess outcomes are robust, consistent, and free from systematic errors or biases. Addressing bias in outcome measurement is essential for generating high-quality evidence informing clinical practice, policy decisions, and further research directions. Therefore, efforts to improve the rigor and accuracy of outcome measurement methodologies should be prioritized in

future research endeavors to enhance the credibility and impact of study findings. The assessment of the risk of bias across the included studies demonstrates overall favorable methodological adherence, portraying a considerable level of rigor in most studies (Figure 3).

### Discussion

This systematic review investigated the most common skin disorders in individuals receiving palliative care. By analyzing 17 studies with diverse methodologies and settings, the authors identified pruritus, or itching, as the predominant skin disorder among participants, with a prevalence ranging from 3.2% to 84.2%. Pruritus emerged consistently across various palliative care settings, indicating its significant impact on patients’ dermatological manifestations and overall well-being.

The prevalence of pruritus observed in the present review underscores its clinical relevance and highlights the importance of addressing this symptom in palliative care practice. Itching can profoundly affect patients' quality of life, leading to discomfort, sleep disturbances, and psychological distress [24, 25]. The wide variation in prevalence rates may reflect differences in patient populations, assessment methods, and definitions of pruritus across studies. Nevertheless, consistently recognizing pruritus as a primary concern reaffirms its significance in the palliative care context. In addition to pruritus, other common skin issues identified in this review included impaired skin integrity, changes in the skin, and dry skin. While these disorders were reported with varying prevalence rates, their collective impact on patients' dermatological well-being underscores the multidimensional nature of skin-related symptoms in palliative care.

The MSAS and the ESAS are widely used tools in palliative care research and clinical practice for assessing patient symptom burden and severity [26, 27]. The MSAS and ESAS are comprehensive tools designed to capture many symptoms commonly experienced by patients in palliative care settings. The MSAS assesses the prevalence, severity, and distress associated with 32 symptoms commonly experienced by individuals with advanced illness, encompassing physical, psychological, and psychosocial domains. Similarly, the ESAS evaluates the severity of nine common symptoms, including pain, fatigue, nausea, and depression, providing a holistic assessment of patients' symptom experiences. The MSAS and ESAS provide clinically relevant information that can guide symptom management and care planning for patients in palliative care. By identifying the most prevalent and distressing symptoms, healthcare providers can prioritize interventions and tailor treatment plans to address patients' individual needs effectively.

The present findings highlight the need for comprehensive assessment and management of skin disorders in palliative care settings. Given the diverse range of skin issues encountered by patients, a holistic approach that addresses both symptom relief and skin care is essential. Interventions may include topical treatments for symptom relief, skincare regimens to maintain skin integrity, and psychosocial support to address the emotional impact of dermatological symptoms.

However, it's important to note several limitations of this review. Firstly, the heterogeneity in study methodologies and settings may have influenced the consistency and comparability of findings. Variations

in participant populations, assessment tools, and outcome measures may have contributed to the differences in prevalence rates across studies. Additionally, the risk of bias assessment revealed potential limitations in intervention classification and outcome measurement in several studies, highlighting areas for methodological improvement in future research.

Despite these limitations, this systematic review provides valuable insights into the landscape of skin disorders in palliative care. By synthesizing evidence from diverse studies, the authors contribute to a better understanding of the prevalence and impact of dermatological symptoms in this patient population. Moving forward, efforts to standardize assessment methods, improve intervention classification, and enhance outcome measurement will be crucial for advancing research in this area and optimizing care for individuals receiving palliative care.

## Conclusions

This systematic review contributes to a better understanding of skin disorders in palliative care and underscores the importance of proactive assessment and management to improve patient outcomes in this vulnerable population. Further research is warranted to explore the efficacy of interventions and strategies aimed at addressing skin-related symptoms and enhancing the overall quality of care for individuals receiving palliative care.

## Article information and declarations

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None.

### Author contributions

Writing: review and editing and methodology — SG, MM, AC, BM, and RSM; investigation — SG, RSM, and AC; writing original draft, visualization, conceptualization, and formal analysis — SG; validation — MM; curation and resources — MM and SG.

### Conflict of interest

The authors declare no conflict of interest.

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### Supplementary material

None.

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