revista de pesquisa ISSN 2175-5361

CUIDADO É FUNDAMENTAL

Escola de Enfermagem Alfredo Pinto – UNIRIO

INTEGRATIVE LITERATURE REVIEW *DOI:10.9789/2175-5361.rpcfo.v17.13962*

HYPODERMOCLYSIS AS A THERAPEUTIC STRATEGY IN PALLIATIVE CARE: INTEGRATIVE REVIEW

Vhipodermóclise como estratégia terapêutica em cuidados paliativos: revisão integrativa

Hipodermoclisis como estrategia terapéutica en cuidados paliativos: revisión integrativa

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RESUMO

Objetivos: sintetizar o conhecimento sobre a utilização da hipodermóclise nos diversos contextos assistenciais a pacientes em Cuidados Paliativos. **Método:** trata-se de uma Revisão Integrativa da literatura para avaliar as evidências científicas sobre a utilização da hipodermóclise com pacientes em cuidados paliativos, sendo a busca realizada nas bases de dados eletrônicas LILACS, MEDLINE via PubMed, SciELO, Web of Science, Scopus e Embase. **Resultados:** foram identificados 383 estudos nas bases de dados, dos quais 199 eram duplicados e foram excluídos. 30 estudos foram lidos na íntegra. Destes, 19 estudos foram excluídos, assim, 11 estudos compuseram a amostra final. **Conclusão:** a hipodermóclise é um procedimento simples, que pode ser utilizado em pacientes em cuidados paliativos. É uma técnica segura, fácil e com boa aceitabilidade para administração de medicamentos. Dessa forma, faz-se necessária a realização de mais estudos para embasar a prática assistencial dos profissionais de saúde, favorecendo o uso da via subcutânea.

DESCRITORES: Hipodermóclise; Terapia subcutânea; Cuidados paliativos; Enfermagem.

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Received: 2025/05/07. **Accepted:** 2025/08/14

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How to cite this article: Ferreira CM, Cavalcante JB, Marinho LM, Góis RMO, Nogueira MLN, Santos LFM. ypodermoclysis as a therapeutic strategy in palliative care: integrative review. R Pesq Cuid Fundam (Online). [Internet]. 2025 [cited year month day];17:e13962. Available from: https://doi.org/10.9789/2175-5361.rpcfo.v17.13962.

ABSTRACT

Objectives: to summarize knowledge on the use of hypodermoclysis in different care contexts for palliative care patients. **Method:** this integrative literature review evaluates the scientific evidence on the use of hypodermoclysis with palliative care patients. The search was conducted in electronic databases, including LILACS, MEDLINE via PubMed, SciELO, Web of Science, Scopus, and Embase. **Results: a** total of 383 studies were identified in the databases. Of these, 199 were duplicates and were excluded. Thirty studies were read in full. Of these, 19 were excluded; thus, 11 comprised the final sample. **Conclusion:** hypodermoclysis is a simple procedure that can be used with palliative care patients. It is a safe, easy, and widely accepted technique for administering medication. Further studies are necessary to support health professionals' care practices and encourage the use of the subcutaneous route.

DESCRIPTORS: Hypodermoclysis; Subcutaneous therapy; Palliative care; Nursing.

RESUMEN

Objetivos: resumir el conocimiento sobre el uso de la hipodermoclisis en diferentes contextos de atención a pacientes en Cuidados Paliativos. **Método:** se trata de una Revisión Integradora de la literatura para evaluar la evidencia científica sobre el uso de la hipodermoclisis, con búsqueda realizada en las bases de datos electrónicas LILACS, MEDLINE vía PubMed, SciELO, Web of Science, Scopus y Embase. **Resultados:** Se identificaron 383 estudios en las bases de datos, de los cuales 199 eran duplicados y fueron excluidos. Se leyeron 30 estudios completos. De éstos, 19 estudios fueron excluidos, por lo que 11 estudios comprendieron la muestra final. **Conclusión:** la hipodermoclisis es un procedimiento sencillo que puede utilizarse en pacientes en cuidados paliativo. Es una técnica segura, fácil y bien aceptada para administrar medicamentos. Por lo tanto, es necesario realizar más estudios para sustentar la práctica asistencial de los profesionales, favoreciendo el uso de la vía subcutánea.

DESCRIPTORES: Hipodermoclisis; Terapia subcutánea; Cuidados paliativos; Enfermería.

INTRODUCTION

The term "palliative" originates from the Latin "pallium," meaning "protection." Historically, this term referred to the cloak that knights wore to protect themselves from storms while traveling. Palliative care aims to alleviate pain and suffering of any origin, whether physical, psychological, social, or spiritual.[1]

In Brazil, the first debates on the subject emerged in the 1970s and focused on caring for patients who could not be cured. However, it was not until the 1990s that the first organized services focused on this type of care began, albeit incipiently and experimentally. [1]

In 1997, the Brazilian Association of Palliative Care (ABCP) was founded, becoming the country's first palliative care community. The association comprises a multidisciplinary group committed to disseminating PC philosophy nationwide.[1]

This philosophy is based on the work of a multidisciplinary team committed to a comprehensive approach to care that considers the physical, psychological, social, and spiritual needs of patients.[2,3]

Currently, it is estimated that more than 57 million people worldwide require PC. In Brazil, a country marked by deep regional inequalities, the need for PC is especially acute. It is estimated that approximately one million Brazilians need this type of care each year; however, the supply of specialized services remains significantly below demand. In addition, these services are concentrated in large urban centers, which contributes to the exclusion of large segments of the population, especially those living in peripheral areas or regions with less health infrastructure. [6]

The absence of adequate care compromises the quality of the dying experience, revealing structural and care gaps in the health system. The scarcity of trained professionals and insufficient resources allocated to the area make it difficult to expand and improve palliative care nationwide. [7,8]

Hospitalization of palliative care (PC) patients often occurs due to the clinical complexity associated with disease progression and the need for appropriate management of signs and symptoms. In these circumstances, establishing a route for administering medications is essential to ensuring adequate relief of suffering and clinical stabilization of the patient. [9]

Due to the complex therapeutic demands and clinical conditions of PC patients, it is common for them to experience significant limitations in using the oral route due to symptoms such as nausea, vomiting, dysphagia, and decreased level of consciousness. Thus, alternative routes must be considered to ensure continuity of treatment and adequate symptom control. [10,11]

In such cases, intravenous administration is the most common option. However, the literature indicates a significant incidence of complications associated with venous catheters, including phlebitis, infection at the insertion site, bacteremia, and sepsis. Furthermore, repeated use of these devices can lead to peripheral vascular trauma, which further compromises the patient's venous network. [12-15]

In this context, the subcutaneous approach (SC) using the hypodermoclysis technique emerges as a viable, safe, and less invasive alternative, especially when the goal is to ensure patient comfort and therapeutic continuity without exposing them to additional risks resulting from aggressive venous access.[16-20]

In the end-of-life context, hypodermoclysis is useful for patients with impaired oral intake, difficult venous access, and multiple comorbidities. Compared to intravenous infusion, hypodermoclysis offers advantages such as reduced invasiveness, easier access, greater comfort, and the ability to be used in a home setting. [21]

The most frequently cited benefits include effective hydration, symptom relief (e.g., nausea and dry mouth), preservation of patient autonomy, and satisfaction of family members and caregivers. Additionally, the technique is considered easy to perform, economical, and adaptable to home care. [21, 22]

However, studies also revealed significant limitations, including restrictions on infusion volume and speed, incompatibility with irritant or hyperosmolar solutions, frequent puncture site changes, and a lack of standardization in its use. [21]

In view of the growing demand for palliative care (PC) and the need for therapeutic strategies that prioritize patient comfort and dignity, hypodermoclysis emerges as a promising route of administration, especially in terminal settings. It's safe, cost-effective, and adaptable applicability to different care settings, including the home environment, reinforces its clinical relevance.

However, gaps in the standardization of the technique, professional training, and robust evidence on the use of certain drugs, such as antibiotics, indicate the urgency of further scientific and institutional research on the subject.

Therefore, it is crucial to compile the existing knowledge on hypodermoclysis in palliative care to expand access to evidence-based practices that align with the principles of comprehensive and humanized care.

METHOD

Study Design

This is an integrative literature review (IR). The results can contribute to improving clinical practice in general. The following steps were taken: identifying the theme, sampling, categorizing studies, evaluating studies included in the IR, interpreting results, and synthesizing knowledge.[23]

This IR may contribute to the future development of a care protocol for administering medications to patients in PC via the SC route, enabling the continuity of this study.

Elaboration of the research question

The research was guided by the PCC strategy, an acronym representing the words population (who makes up the research population and its characteristics), concept (the central question to be examined), and context (refers to specific details, cultural factors, geographic location, gender issues, racial issues, etc., related to the population).

Thus, the guiding question of this IR was: What is the scientific evidence on the use of hypodermoclysis in various care contexts for palliative care (PC) patients?

Chart 1 - Description of the PCC strategy for developing the guiding question of the review. Ribeirão Preto, SP, 2024

Acronym	Definition	Description
P	Population	Patients in palliative care
C	Concept	Hypodermoclysis
C	Context	Care contexts

Eligibility criteria for studies to be included in the IR

The following inclusion criteria were applied for the selection: primary studies addressing aspects of healthcare for palliative care (PC) patients using hypodermoclysis, with no restrictions on publication date or language. Publications of an editorial nature, letters to the editor, thesis, dissertations, experience reports, case studies, and other publications that did not answer the research question were excluded.

Sources of information

Since the objective of a review is to retrieve as many relevant studies as possible, the search process must be as broad as possible. Thus, the search was carried out in the electronic databases LILACS (Latin American and Caribbean Health Sciences Literature), MEDLINE via PubMed (U.S. National Library of Medicine), SciELO, Web of Science, Scopus, and Embase.

Search Strategy

To identify as many studies as possible related to the theme of IR, the search strategy must be structured using a controlled vocabulary appropriate for each database. This review's search strategy was based on the research question and constructed using controlled descriptors and their synonyms.

On January 3, 2024, electronic access to the databases was carried out without using filters. After identifying the documents, they were exported to the Rayyan platform.[24, 25]

Chart 2 shows the search strategies and their results by database.

Chart 2 - Search strategies for the primary studies used according to the selected databases. Ribeirão Preto, SP, 2024

Sources of information	Search strategy	Number of records identified
LILACS and BDENF via VHL	((“Cuidados paliativos” OR “Doente Terminal” OR “Oncologia” OR “Pacientes oncológicos”)) AND (hipodermóclise) AND (db:(“LILACS” OR “BDENF”))	29
MEDLINE via PubMed	(“Palliative Care”[MeSH Terms] OR “Palliative Care”[All Fields] OR “Terminally Ill”[MeSH Terms] OR “Terminally Ill”[All Fields] OR “Oncology”[All Fields] OR “Cancer patients”[All Fields]) AND (“Hypodermoclysis”[MeSH Terms] OR “Hypodermoclysis”[All Fields])	59
SciELO	((“Cuidados paliativos” OR “Doente Terminal” OR “Oncologia” OR “Pacientes oncológicos”)) AND (Hipodermóclise)	03
Web of Science	(“Palliative Care” OR “Terminally Ill” OR Oncology OR “Cancer patients”) (All Fields) AND Hypodermoclysis (All Fields)	58
Scopus	TITLE-ABS-KEY (“Palliative Care” OR “Terminally Ill” OR oncology OR “Cancer patients”) AND TITLE-ABS-KEY (hypodermoclysis)	68
Science Direct	(“Palliative Care” OR “Terminally Ill” OR Oncology OR “Cancer patients”) AND Hypodermoclysis	131
Embase	(‘palliative care’/exp OR ‘palliative care’ OR ‘terminally ill patient’/exp OR ‘terminally ill patient’ OR ‘oncology’/exp OR oncology OR ‘cancer patients’) AND ‘hypodermoclysis’/exp AND [embase]/lim	35

Selection of Primary Studies

After identifying the references obtained from the search, duplicate documents were deleted. Then, two independent reviewers started reading titles and abstracts, following the eligibility criteria defined for this IR. The blinding tool was activated on the Rayyan platform. A third reviewer resolved the conflicts. Next, two independent reviewers read all the selected studies in full, and the third reviewer resolved the conflicts.

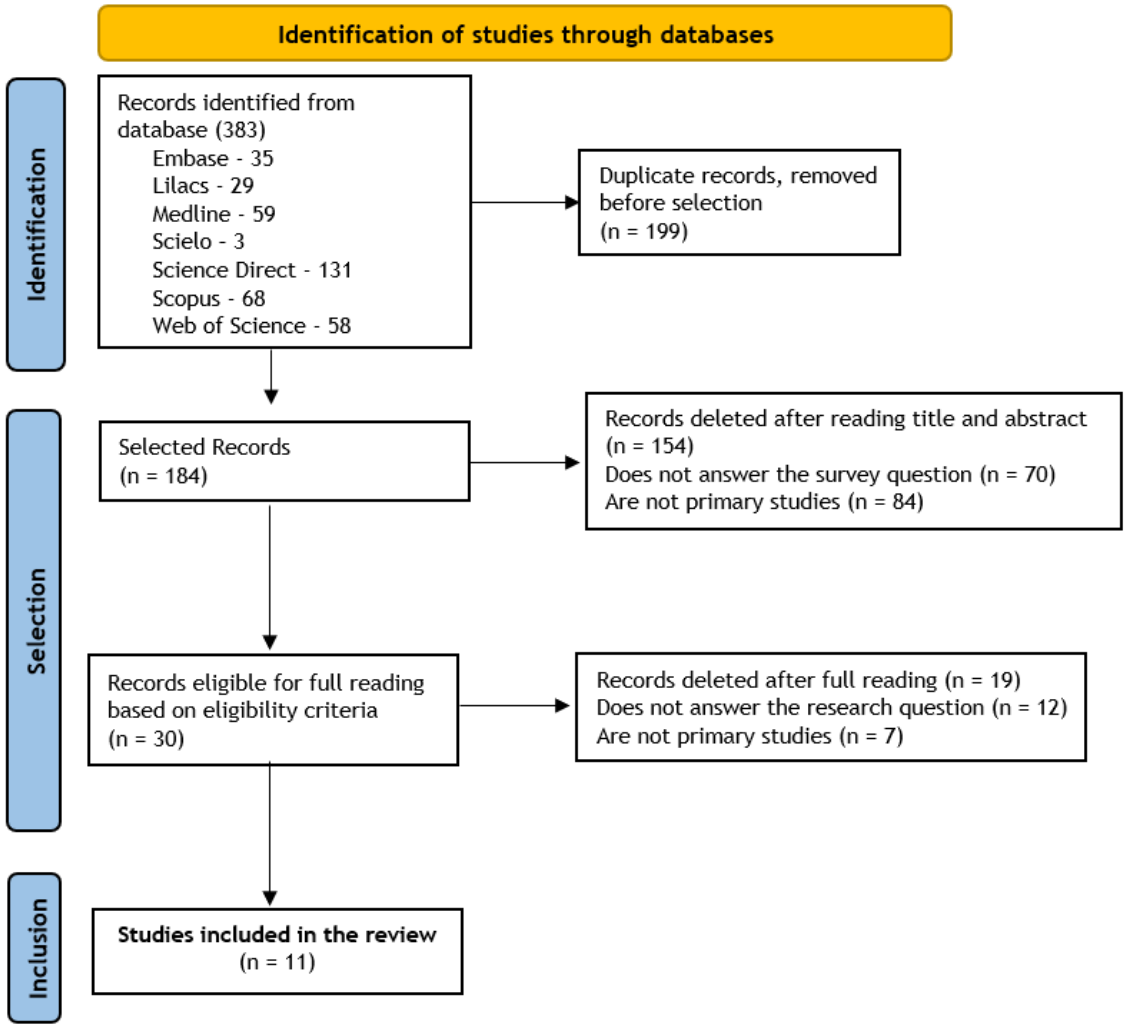
RESULTS

Studies included in the IR

A total of 383 studies were identified in the databases. Of those, 199 were duplicates and were excluded. Of the remaining 184 documents, 154 were excluded according to the eligibility criteria defined for this IR. 30 studies were selected for full reading. Seven were excluded because they were not primary studies, and 12 were excluded because they did not answer the research question. Thus, 11 studies made up the final sample.

Figure 1 presents the detailed flowchart of the selection, inclusion, and exclusion process of documents.

Figure 1 - Integrative Review flowchart adapted from the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). Ribeirão Preto, SP, Brazil, 2024



Source: Adapted from Page; Mckenzie; Bossuyt *et al.*, 2021.

Chart 3 shows the data from the included studies according to the author, title, year of publication, and country of origin.

Chart 3 - Characterization of the primary studies included in the IR according to author, title, year of publication, country of origin and type of study. Ribeirão Preto, SP, 2025

Study	Author	Title	Year of publication	Country of origin
1	Cabañero-Martínez; Velasco-Álvarez; Ramos-Pichardo *et al.*	Perceptions of health professionals on subcutaneous hydration in palliative care: A qualitative study	2016	Spain
2	Pontalti; Riboldi; Santos *et al.*	Hipodermóclise em pacientes com câncer em cuidados paliativos [Hypodermoclysis in Cancer Patients in Palliative Care]	2018	Brazil
3	Guedes; Melo; Santos *et al.*	Complicações da via subcutânea na infusão de medicamentos e soluções em cuidados paliativos [Subcutaneous complications in the infusion of drugs and solutions in palliative care]	2019	Brazil
4	Moreira; Souza; Villar *et al.*	Caracterização de pacientes sob cuidados paliativos submetidos à punção venosa periférica e à hipodermóclise [Characterization of patients under palliative care undergoing peripheral venipuncture and hypodermoclysis]	2020	Brazil
5	Coelho; Wainstein; Drummond-Lage.	Hypodermoclysis as a strategy for patients with end-of-life cancer in home care settings	2020	Brazil
6	Lago; Souza; Souza.	Complicações relacionadas à punção venosa e à hipodermóclise em pacientes oncológicos sob cuidados paliativos [Complications related to venipuncture and hypodermoclysis in cancer patients under palliative care]	2021	Brazil
7	Lucio; Leite; Rigo *et al.*	Caracterização do uso de hipodermóclise em pacientes internados em um Hospital Infantil de Belo Horizonte [Characterization of the use of hypodermoclysis in patients admitted to a Children's Hospital in Belo Horizonte]	2022	Brazil
8	Bolela; Lima; Souza *et al.*	Pacientes oncológicos sob cuidados paliativos: ocorrências relacionadas à punção venosa e hipodermóclise [Cancer patients under palliative care: occurrences related to venipuncture and hypodermoclysis]	2022	Brazil

Study	Author	Title	Year of publication	Country of origin
9	Souza; Mendoza; Ferraciolli *et al.*	Incidência e eventos adversos da hipodermóclise no idoso em cuidados paliativos [Incidence and adverse events of hypodermoclysis in the elderly in palliative care]	2023	Brazil
10	De Souza; Mendoza; Reis *et al.*	Factors associated with the occurrence of adverse effects resulting from hypodermoclysis in older adults in palliative care: a cohort study	2023	Brazil
11	García-López; Chocarro-González; Martín-Romero *et al.*	Pediatric palliative care at home: a prospective study on subcutaneous drug administration	2023	United Kingdom/Spain

Qualitative synthesis of the studies included in the IR

The studies analyzed were published between 2016 and 2023, indicating a growing interest in hypodermoclysis in the context of palliative care (PC) within the scientific community.[26-32, 16, 33-35]

Most of the studies were conducted in Brazil (eight studies), while the remaining studies were carried out in European countries. One study was conducted in Spain, and another was a collaboration between the United Kingdom and Spain, focusing on pediatric PC at home.[35]

Most studies reported using hypodermoclysis to administer analgesics (e.g., morphine), anxiolytics (e.g., midazolam), antiemetics (e.g., ondansetron, metoclopramide), and hydration solutions.[30,34,28,32] The mean catheter permanence time ranged from one to 15 days.[33,35] The decision to use the technique was often based on criteria such as the ineffectiveness of the oral route, venous fragility, and the need for comfort.[27, 16]

Hypodermoclysis was considered a safe route in all studies, with mild local complications such as induration, edema, extravasation, and rarely, cellulitis. Obstruction and phlogistic signs were the most frequently reported adverse events. Studies that directly compare hypodermoclysis with peripheral venous punctures observed a higher frequency of complications with the venous route, such as extravasation, traction, and local infection. These findings reinforce the superiority of the subcutaneous (SC) approach in terms of comfort and clinical safety.

Chart 4 summarizes the studies included in the IR according to study type, objective, method, participants, relevant aspects of care, conclusions, and level of evidence.

Chart 4 - Synthesis of the primary studies included in the IR according to objective, method, relevant aspects of care practice, conclusions, and evidence level. Ribeirão Preto, SP, 2025

Article	Objective	Relevant Aspects of Care Practice	Conclusions	Evidence Level
Perceptions of health professionals on subcutaneous hydration in palliative care: A qualitative study	The goal is to explore the perceptions, attitudes, and opinions of health professionals regarding subcutaneous hydration in palliative care.	The decision about hydration depends on the clinical picture, context, the team's perception, and the family's needs. Hypodermoclysis is widely accepted at home and has few reported local adverse effects.	Rather than being influenced by scientific evidence, hypodermoclysis is influenced by subjective and contextual factors. To expand its safe and effective use, the development of protocols and clinical guidelines is suggested.	Level V: Qualitative study with focus groups.

Article	Objective	Relevant Aspects of Care Practice	Conclusions	Evidence Level
Hipodermóclise em pacientes com câncer em cuidados paliativos [Hypodermoclysis in Cancer Patients in Palliative Care]	To analyze the use of hypodermoclysis in cancer patients in palliative care.	The main indications are analgesia (78.8%), an inaccessible venous network (63.8%), and oral intolerance (47.5%). The most used medications are morphine, metoclopramide, and dipyrone. There were local complications in six patients (edema, pain, and extravasation).	Hypodermoclysis is considered safe, effective, and less invasive with no occurrence of systemic complications. It is recommended that it be expanded in palliative care practice and other care contexts.	Level IV: Descriptive, cross-sectional study.
Complicações da via subcutânea na infusão de medicamentos e soluções em cuidados paliativos [Subcutaneous complications in the infusion of drugs and solutions in palliative care]	To characterize complications associated with using the SC route to infuse drugs and solutions in PC patients.	Major punctures occurred in the thigh in 50% of cases. Complications occurred in 34.6% of punctures, with edema (9.4%) and hyperemia (9.1%) being the most frequent. Cellulite was present in only 3.5% of cases. The most used medications were morphine, dipyrone, and scopolamine.	The SC route was safe, with only mild, reversible complications. Training the nursing team and conducting new studies on the causality of complications is emphasized.	Level IV: Observational prospective study
Caracterização de pacientes sob cuidados paliativos submetidos à punção venosa periférica e à hipodermóclise [Characterization of patients under palliative care undergoing peripheral venipuncture and hypodermoclysis]	To characterize cancer patients undergoing peripheral venipuncture and hypodermoclysis in a PC setting according to sociodemographic and clinical variables.	Hypodermoclysis was mainly used for analgesia and antibiotic therapy. The abdominal and anterolateral regions of the thigh were the most used sites. The peripheral venous approach predominated, even with multiple puncture attempts. There was low adherence to the SC route.	Hypodermoclysis is underutilized. Adopting it can improve comfort and quality of life by reducing complications associated with venipuncture. There is a need for studies with a higher level of evidence to support clinical practice.	Level IV: Prospective descriptive observational study
Hypodermoclysis as a strategy for patients with end-of-life cancer in home care settings	To evaluate the use and benefits of hypodermoclysis in patients with advanced cancer assisted by a home-based palliative care (PC) program.	Hypodermoclysis was used primarily for symptom control (pain, fatigue, hyporexia, and vomiting) and hydration (95%). The main medications were opioids, antiemetics, and antipyretics. There were mild adverse events (edema 3%, abscess 2.1%). Most patients died at home (90.2%).	Hypodermoclysis has been shown to be safe, effective, and viable at home with a low incidence of complications. It promotes symptom and death management at home and is an important strategy in home palliative care (PC).	Level IV: Quantitative retrospective study
Complicações relacionadas à punção venosa e à hipodermóclise em pacientes oncológicos sob cuidados paliativos [Complications related to venipuncture and hypodermoclysis in cancer patients under palliative care]	To identify complications related to peripheral venipuncture (PVP) and hypodermoclysis in cancer patients under palliative care.	There was a predominance of PVP (90%), which was associated with a higher number of complications, such as local pain, extravasation, and bent or tractioned catheters. Hypodermoclysis was rarely used (10%) and had no complications. There were failures in identifying punctures.	Complications only occurred in venipunctures. Hypodermoclysis has been shown to be safe but underutilized. Greater use of the subcutaneous (SC) approach in palliative care (PC) is recommended.	Level IV: Longitudinal descriptive study

Article	Objective	Relevant Aspects of Care Practice	Conclusions	Evidence Level
Caracterização do uso de hipodermóclise em pacientes internados em um Hospital Infantil de Belo Horizonte [Characterization of the use of hypodermoclysis in patients admitted to a Children's Hospital in Belo Horizonte]	To characterize the use of hypodermoclysis in patients admitted to a pediatric hospital in Belo Horizonte, Brazil.	The main indications were comfort and pain control (42%), followed by infection treatment. Morphine was the most widely used drug. The catheter permanence time was 1–5 days (51.7%). Reasons for withdrawal included phlogistic signs and accidental exteriorization.	Hypodermoclysis is safe and effective in pediatrics, with a low rate of serious events. The importance of new studies and greater team training to expand the use of the technique is emphasized.	Level IV: Cross-sectional observational descriptive study
Pacientes oncológicos sob cuidados paliativos: ocorrências relacionadas à punção venosa e hipodermóclise [Cancer patients under palliative care: occurrences related to venipuncture and hypodermoclysis]	To identify occurrences related to peripheral venipuncture and hypodermoclysis in cancer patients under PC.	Venipunctures had a higher number of complications (dirt, expiry, infiltration). There were few occurrences of hypodermoclysis: phlogistic signs and hematoma, all of which were of low severity and without systemic repercussions.	Compared to venipuncture, hypodermoclysis has been shown to be safer. Training the team, expanding the use of the technique, and including it in undergraduate nursing curricula are recommended.	Level IV: Multicenter descriptive observational study
Incidência e eventos adversos da hipodermóclise no idoso em cuidados paliativos [Incidence and adverse events of hypodermoclysis in the elderly in palliative care]	To estimate the incidence and time of occurrence of adverse events and catheter permanence time in hypodermoclysis in elderly patients under PC.	Adverse events occurred in 22.8% of punctures. The most frequent events were obstruction (46.5%) and edema (34.8%). The mean catheter permanence time was four days (range, one to 15 days). Most of the punctures were on the lateral aspect of the thigh.	The incidence of adverse events associated with hypodermoclysis was low, and all were reversible. The probability of complications increased with the length of time the catheter was left in place. Although it is a safe procedure, it is still underused in clinical practice.	Level IV: Longitudinal Prospective Study
Factors associated with the occurrence of adverse effects resulting from hypodermoclysis in older adults in palliative care: a cohort study	To analyze the factors associated with local adverse effects of hypodermoclysis in elderly patients receiving PC.	The incidence of adverse events was 24%, mainly obstruction (11.3%) and edema (8.5%). Ondansetron was associated with an increased risk (OR = 3.16), while 0.9% sodium chloride was a protective factor (OR = 0.31).	Hypodermoclysis had a low occurrence of adverse effects. Its use as a safe route is reinforced. When choosing substances and monitoring the technique, it is necessary to consider pharmacological and clinical factors.	Level II: Prospective cohort study
Pediatric palliative care at home: a prospective study on subcutaneous drug administration	To describe the experience of a pediatric palliative care (PC) unit in using the subcutaneous (SC) route for symptom control at home.	Complications occurred in 53.7% of the lines; the most common complication was hardening (46.3%). The main drugs used were midazolam (82%) and morphine (55.7%), primarily administered via continuous infusion. There was a significant association between infusion rate and the occurrence of hardening.	The SC route has been shown to safely and effectively control pediatric symptoms at home, particularly pain, dyspnea, and seizures. Complications were local and manageable. Further studies are recommended to determine safe infusion rates in pediatrics.	Level IV: Observational Prospective Study

*KPS: Karnofsky Performance Status; **ESAS-Br: *The Edmonton Symptom Assessment System* validated for Brazil; ***PVP: Peripheral Venipuncture.

Considering the relevant aspects of care practice evidenced in the included studies, we identified four particularities related to hypodermoclysis: indications, benefits, limitations, and clinical applicability. These particularities are presented in Chart 5.

Chart 5 – Particularities of hypodermoclysis (indications, benefits, limitations, and clinical applicability) in the context of palliative care identified in the primary studies included in IR. Ribeirão Preto, SP, 2025

Article	Indications	Benefits	Limitations	Clinical Applicability
Lago; Souza; Souza, 2021	Drug Administration in Cancer Patients on PC.	Safety and absence of observed complications.	Low professional adherence.	Safe application to hospitalized prostate cancer patients.
Souza; Mendoza; Ferraciolli *et al*., 2023	Fluid and Medication Replacement in the Elderly.	Safety, simplicity, and effectiveness.	Increased risk of adverse events after five days.	Safe use in the elderly, need for institutional protocols.
Moreira; Souza; Villar *et al*., 2020	Analgesia, antibiotics, and difficulty with venous access.	Preservation of the venous network and increased comfort.	Low adherence from the team.	A viable alternative for cancer patients in a hospital setting.
Guedes; Melo; Santos *et al.,* 2019	Symptom control, hydration, and difficult venous access.	Low complication rate; comfort; home viability.	Lack of technical knowledge.	Effective for use with elderly and chronic patients in hospital and home settings.
Pontalti; Riboldi; Santos *et al.,* 2018	Analgesia, precarious venous access, and oral intolerance.	Effectiveness; safety; less invasive; low complication rate.	Edema and hyperemia, local complications.	High applicability in hospitals for PC.
Cabañero-Martínez; Velasco-Álvarez; Ramos-Pichardo *et al.,* 2016	Mild/moderate dehydration; impossibility of the oral route.	Simplicity; low cost; safety; use at home.	Mild local complications and drug restrictions.	More applicable at home but still limited in hospitals.
Lucio; Leite; Rigo *et al.,* 2022	Pain control; infections; fluid and electrolyte replacement (pediatrics).	Safety; low cost; reduction of venipunctures.	Resistance from families and lack of protocols.	Use in a pediatric clinic and intensive care unit.
Bolela; Lima; Souza *et al.,* 2022	Analgesia and hydration for cancer patients.	Compared to PVP, fewer complications.	Phlogistic signs; low systematic adoption.	Feasible for symptom management and hospital and home hydration.
Coelho; Wainstein; Drummond-Lage, 2020	Symptom control in advanced cancer patients at home.	Ease at home; low rate of adverse effects.	Low utilization by the team, venipuncture culture.	Effective for home administration of opioids and sedatives.
De Souza; Mendoza; Reis *et al*., 2023	Fluid and medication replacement in the elderly.	Safety with a low adverse event rate.	Hospital preference for the IV route and need for trained staff.	Effective for elderly people in hospitals but requires training.
García-López; Chocarro-González; Martín-Romero *et al.,* 2023	Pain management, dyspnea, and seizures in pediatric palliative care (PC).	Effective symptom management at home and autonomy.	Adverse events with ondansetron; lack of protocols.	Highly effective in the pediatric home environment.

*PVP: Peripheral Venous Puncture; **IV: Intravenous

DISCUSSION

The studies included in this IR examined the care practices related to the use of hypodermoclysis in palliative care (PC) patients from different perspectives. Based on the analysis of the evidence, central aspects of the technique were identified, including its indications, benefits, limitations, and clinical applicability in the palliative care context. To ensure greater argumentative coherence and thematic organization in the discussion, the studies were not presented in chronological order but rather according to the identified analytical axes.

Indications

Hypodermoclysis, also known as subcutaneous (SC) fluid administration, is a long-standing care technique, with reports of its use dating back to 1913. However, its use has significantly decreased over time due to adverse events related to improper use, particularly the use of hypertonic solutions, which compromises the procedure's safety.[36]

Although the intravenous (IV) route is widely used in clinical care, it is not always feasible for patients with compromised peripheral venous access. This often occurs with agitated, confused, or fragile veins, which are common conditions in palliative care (PC).[30]

When adopted, especially in specialized palliative care (PC) services, hypodermoclysis proves to be an effective therapeutic strategy, commonly used for administering antibiotics, followed by analgesics and hydration solutions.[31, 29]

This review indicates that hypodermoclysis is commonly used to administer analgesics, especially opioids, as well as antiemetics, anxiolytics, and antibiotics to patients receiving PC. The objective of this route is to relieve symptoms such as pain, nausea, vomiting, dyspnea, and agitation, thereby contributing to the comfort and quality of life of these individuals.[27, 30, 29, 35]

Several studies included in this review indicated that hypodermoclysis is an effective alternative for fluid replacement in cases of mild to moderate dehydration. This is especially true for patients with restricted oral intake due to symptoms such as dysphagia, vomiting, or hyporexia.[26, 28, 34]

Benefits

One benefit of hypodermoclysis is the safety of the procedure. Most studies have shown that it is a safe technique with a low incidence of serious complications, even in vulnerable populations such as the elderly and patients with cancer.[26, 28, 34, 35]

Another benefit frequently identified in the studies included in this review is the ease of execution and technical simplicity of hypodermoclysis. Several articles have emphasized that this technique is simple to perform and requires less complexity for device insertion and handling than PVP. This favors its application in different care contexts.[30, 27, 16]

These advantages are directly related to the technique's low cost, which results from the use of less expensive materials compared to the IV route, whose cost can be up to four times higher. Ease of use refers to the simplicity of catheter insertion and the practicality of administering and maintaining the infusion. It also favors early hospital discharge due to its safety and effectiveness. These attributes contribute to the technique's feasibility for home use, promoting greater patient comfort, autonomy, and convenience with minimal risk of local or systemic complications.[37, 38]

The comfort associated with hypodermoclysis, mentioned above, was also identified as an important benefit of the technique. Hypodermoclysis reduces discomfort related to multiple venipunctures attempts and even allows patients to stay home, corroborating other studies.[39]

Limitations

One of the recurring limitations identified in the studies included in this IR is the low adherence of health professionals to the hypodermoclysis technique. This issue has also been observed in other investigations.[9, 37]

A study aimed at characterizing cancer patients hospitalized under palliative care (PC) and undergoing percutaneous endoscopic gastrostomy (PEG) and hypodermoclysis revealed a significant discrepancy between the number of PEGs (87.0%) and hypodermoclyses (13.0%) performed during the hospitalization period. This discrepancy reflects the reduced use of the SC route by the care team and is attributed by the authors to insufficient technical knowledge among professionals, scarce consolidated evidence on the technique's benefits, and limited dissemination of its practice in health services.[29]

Another limitation identified in the analyzed studies refers to the occurrence of local complications associated with hypodermoclysis. The studies indicate that complications are infrequent and, when present, are mostly restricted to mild, localized manifestations that are easily managed in clinical practice. The most reported adverse effects are pain, hyperemia, erythema, and edema at the infusion site. These signs have minimal clinical impact on patients and are usually reversible and manageable with simple interventions, such as local massage, changing the puncture site, and reducing the infusion rate.[40]

A literature review focused on identifying hypodermoclysis complications in PC patients revealed that edema and erythema at the puncture site were the most prevalent complications. However, a study comparing complications associated with PVP and hypodermoclysis in hospitalized oncology patients found that adverse events occurred exclusively in venipunctures; no complications related to the SC route were observed during the analyzed period.[31]

The absence of standardized protocols and specific regulations was also identified as a recurring limitation among the studies analyzed in this IR. This gap compromises the standardization of clinical practice and can create uncertainty among healthcare professionals regarding the use of hypodermoclysis.

A study analyzing the availability and perceived usefulness of guidelines, algorithms, and clinical protocols for SC hydration in the context of PC from the perspective of clinical specialists observed that these instruments were limited in the services. Only 24.8% of professionals reported the existence of formal guidelines, and 38.8% mentioned specific protocols. Nevertheless, most participants recognized the importance of these tools, even when they were unavailable. They noted that, when present, these tools are widely followed. The professionals emphasized that guidelines and protocols standardize care, support clinical decision-making, and facilitate communication with patients' families.[43]

In the Brazilian context, there is a lack of studies and specific protocols regarding the use of hypodermoclysis. This reinforces the need for investigations exploring its application as a therapeutic alternative in PC. Such research should consider aspects related to adverse events, patient safety, the effectiveness of the technique, and its impact on the quality of life of those receiving care.[43-45]

Clinical Applicability

Several studies highlight the high clinical applicability of hypodermoclysis, particularly in home settings. It has been shown to be a safe and effective strategy for administering medications and fluids, as well as for symptom control. This characteristic promotes the patient's ability to remain in their family environment, significantly contributing to the quality of end-of-life care.[30, 35]

Considering that several studies indicate that people prefer to die at home rather than in hospitals or other institutions,[46-49] the provision of effective symptom management methods at home becomes essential. In this sense, hypodermoclysis is an important tool for making palliative care at home viable.

Another relevant aspect of hypodermoclysis's clinical applicability concerns its versatility in different contexts and populations, including pediatric patients. This population requires different approaches due to the age group's particularities, often making venipuncture a difficult, traumatic, and avoidable procedure.[50]

In this context, hypodermoclysis has demonstrated its applicability not only in adults but also in children undergoing palliative care (PC), adapting to different infusion volumes, clinical needs, and individual characteristics.[32, 35]

Despite the promising evidence, little research systematically investigates the use of hypodermoclysis in pediatrics. Robust methodological studies are necessary to build scientific evidence for the safe and effective implementation of this method in professional practice.[51, 52]

FINAL CONSIDERATIONS

The objective of this IR was to synthesize the available literature on the use of hypodermoclysis for palliative care (PC) patients in different care contexts, emphasizing its indications, benefits, limitations, and clinical applicability. The results showed that hypodermoclysis is a safe, effective, and easy-to-apply technique, especially in situations where establishing a venous access line is difficult, such as with frail, agitated, or terminally ill patients. The main identified indications were administering analgesics, antiemetics, anxiolytics, and antibiotics, as well as replacing fluids in cases of mild to moderate dehydration.

The most notable benefits are patient comfort, technical simplicity, low cost, and feasibility of home use. These benefits contribute significantly to quality of care, especially at the end of life. Additionally, the technique has been shown to be applicable to both adult and pediatric populations. It has proven to be a viable and safe alternative to the intravenous route in various care settings, including hospitals and homes.

However, this review identified several limitations: low adherence by health professionals; a lack of standardized clinical protocols; the occurrence of local adverse events, which are mostly mild and manageable; and limited scientific research with a high level of evidence on the technique. These gaps suggest the need for investments in professional training, development of specific clinical guidelines, and expansion of the body of evidence supporting their systematic adoption.

Therefore, the review emphasizes the importance of hypodermoclysis as a relevant therapeutic strategy in palliative care (PC), particularly regarding promoting patient comfort, autonomy, and dignity. New studies are recommended, particularly randomized controlled trials (RCTs) and multicenter research, to further analyze the effectiveness,

safety, and applicability of the technique. This will help consolidate its use in care practices and health education.

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