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Knowledge, attitudes and practices regarding palliative sedation among healthcare professionals: a scoping review

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Abstract

Palliative sedation (PS) is a medical intervention aimed at alleviating refractory suffering in patients with advanced disease through the controlled reduction of consciousness. Although it is an essential practice in PS, its application continues to generate conceptual, ethical and procedural controversies among healthcare professionals. The aim of this review was to systematically explore and map the global scientific evidence on the knowledge, attitudes and practices of healthcare professionals regarding PS. A scoping review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews and Joanna Briggs Institute guidelines. The search was conducted in PubMed/MEDLINE, Web of Science, Scopus, BVS, LILACS and the Cochrane Library, covering publications from 2015 to June 2025. Of 2,204 records identified, 61 studies met the inclusion criteria. The results revealed significant gaps in knowledge, particularly regarding indications, pharmacology and the distinction between PSE and euthanasia. Attitudes were generally positive, although influenced by cultural, religious and ethical factors. Clinical practices showed considerable variability: midazolam was the most commonly used drug, while opioids were misused in several contexts. The lack of standardised protocols and interdisciplinary consultation contributed to heterogeneity and increased moral distress among healthcare teams. It is concluded that a disconnect between theory and clinical practice persists. Strengthening ethical and clinical training, developing context-specific guidelines and promoting interdisciplinary decision-making are key actions to ensure safe, equitable and compassionate end-of-life care.

Keywords: *palliative sedation, knowledge, attitudes, professional practice, end-of-life care*

Background

Palliative sedation (PS) is a medical intervention aimed at alleviating refractory suffering in patients with advanced disease through the controlled and proportionate reduction of consciousness [1]. It is indicated when conventional therapies fail to control physical or existential symptoms and is grounded in ethical principles such as proportionality and deliberation [2–5].

Review

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Despite the availability of international guidelines, variations persist in their interpretation and application, particularly regarding clinical indications, drug selection and monitoring. These differences are influenced by cultural, religious and regulatory factors, which generate uncertainty and affect the quality of end-of-life care [6–12].

PS remains a controversial area. Its potential confusion with euthanasia, together with ethical dilemmas regarding therapeutic intent and the difficulty in addressing existential suffering, creates tensions in clinical practice [12–15].

In this context, the European Association for Palliative Care (EAPC) defines existential suffering as 'feelings of hopelessness, helplessness, fear of death, disappointment, loss of self-esteem, remorse, loss of meaning and purpose in life, alteration of personal identity or loss of dignity' [16,17]. To clarify these differences, a comparative table between PS, euthanasia and medical assistance in dying is presented (Table 1).

The evidence highlights the importance of interdisciplinary work, ethical deliberation and communication with families in improving decision-making [8–11, 26]. However, the practice of PS remains variable, with a reported prevalence of between 12% and 67% depending on the context and professional training [27, 28]. The EAPC emphasises the need to strengthen continuing education, given that knowledge and attitudes continue to be influenced by cultural and religious factors, and challenges persist regarding autonomy and informed consent [29–33].

In this context, it is necessary to systematically analyse the knowledge, attitudes and practices (KAP) of healthcare professionals, with the aim of improving the quality of end-of-life care.

Methodology

Research design

A scoping review was conducted with the aim of comprehensively and systematically mapping the available scientific evidence on the KAP of healthcare professionals regarding PS. This design was chosen for its suitability in identifying knowledge gaps, synthesising scattered information and guiding future research [34]. The methodological process was conducted in accordance with the guidelines of the Joanna Briggs Institute (JBI) [34] and the presentation of results followed the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR checklist), ensuring transparency, rigour and reproducibility [35].

The population, concept and context strategy was applied, in which the population included healthcare professionals (doctors, nurses and support staff); the concept focused on KAP regarding PS; and the context covered end-of-life care in hospitals, palliative care units (PCUs) and home care (Appendices: Table 1). The literature search was conducted between January 2015 and June 2025 in the PubMed/MEDLINE, Web of Science, Scopus, Virtual Health Library (VHL), LILACS and The Cochrane Library databases. To maximise the retrieval of relevant studies, controlled terms (MeSH) and keywords combined using Boolean operators (AND/OR) were used: ('Health Knowledge' OR 'Attitudes' OR 'Practice') AND ('PS' OR 'Deep continuous sedation (CDS)' OR 'Continuous palliative sedation (CPS)') AND 'End-of-life care' AND 'Health personnel' (Appendices: Table 2)

We included peer-reviewed studies published in any language that addressed the KAP of healthcare professionals regarding PS. We considered research with qualitative, quantitative and mixed-methods designs, as well as systematic reviews. We excluded opinion pieces, letters to the editor, editorials and articles focused exclusively on patients or on aspects not directly related to PS.

The selection and data extraction process was carried out by two independent reviewers who conducted a structured search, removed duplicates, reviewed titles and abstracts and finally assessed the full text of the shortlisted studies. Data management was carried out using the Rayyan platform [36]. The two authors (MO and PB) reviewed the studies independently, achieving 95% agreement between the reviewers. Discrepancies were resolved by consensus with the involvement of a third reviewer. Subsequently, the data were organised into a matrix designed to systematically record the essential information from each study, including author, year, country, objective, study design, study population, level of KAP and main conclusions.

Mendeley Cite was used as bibliographic management software, and a data extraction matrix was developed to record the author, year, country, objective, type and design of the study, professionals included, level of KAP regarding PS as well as the main conclusions (Appendix 1).

Table 1. Comparison between euthanasia, medically assisted dying and PS: ethical and clinical aspects.

Aspect	PS	Euthanasia	Medical assistance in dying
Definition	It is the monitored use of medication intended to induce a state of diminished or absent consciousness (unconsciousness) due to refractory symptoms in patients with a terminal illness [18].	It is a medical intervention whose direct aim is to bring about the end of the patient's life [19].	It is the process in which a healthcare professional prescribes or provides the means for the patient to cause their own death [20, 21].
Objective intention	To alleviate the burden of refractory and intolerable suffering. Its primary and fundamental intention is not to hasten or shorten the patient's life, but to ensure their comfort [17, 19, 22]	To intentionally end the patient's life or hasten their death in order to eliminate suffering [18, 19].	To allow the patient to bring about their own death through the prescription or provision of medication [23].
Indications	Presence of truly intractable symptoms (physical symptoms such as dyspnoea, pain, delirium, massive haemorrhage, asphyxia or severe psychological/existential suffering) when other management options have failed [17, 18, 22].	An explicit request by the patient in the face of suffering or a condition they deem unacceptable, seeking medically assisted early death [18, 22].	An autonomous request from a patient with advanced disease who is experiencing suffering they consider intolerable [24].
Criteria	Require that the symptom be refractory (ideally confirmed by a multidisciplinary team), a limited life expectancy and the application of the principle of proportionality. Informed consent must be obtained from the patient or their legal representative [17, 18, 25].	This involves a death-oriented end-of-life decision or request ('medical end-of-life decision'), often strictly regulated by the legal frameworks of each jurisdiction [19, 22].	Decision-making capacity and patient autonomy, associated with an incurable condition and the presence of ongoing suffering [24].
Procedure	Gradual and proportional titration of sedative drugs (midazolam as first-line, levomepromazine, lorazepam and propofol) until the minimum level of sedation necessary to relieve symptoms is reached. It may be intermittent or continuous, superficial or deep. Opioids should not be used as sedatives [17, 25].	A fundamentally different procedure in which lethal doses of drugs are administered to ensure a rapid and painless death [18].	Provision or prescription of drugs for the patient to administer themselves [21, 23].
Outcome	Diminished or loss of consciousness leading to relief from suffering. Death occurs as a natural consequence of the underlying illness or end-of-life process, and evidence suggests that PSE does not shorten survival [17, 18].	The patient's immediate death as a direct and expected result of the medical intervention [18, 25].	Death following self-administration of drugs [23].

Results

A search of six electronic databases (PubMed/MEDLINE, Web of Science, Scopus, BVS, LILACS and The Cochrane Library) identified 2,204 references. After removing 548 duplicates, 1,656 records were reviewed. During the screening phase, 1,571 were excluded for failing to meet the inclusion criteria. A total of 85 full-text articles were assessed for retrieval, of which 4 could not be obtained. Finally, 81 articles underwent eligibility assessment, with those having irrelevant outcomes (*n* = 3), an inappropriate population (*n* = 4) and contextual articles (*n* = 13) being excluded. As a result, 61 studies were included in the final review (Figure 1, Appendix 1).

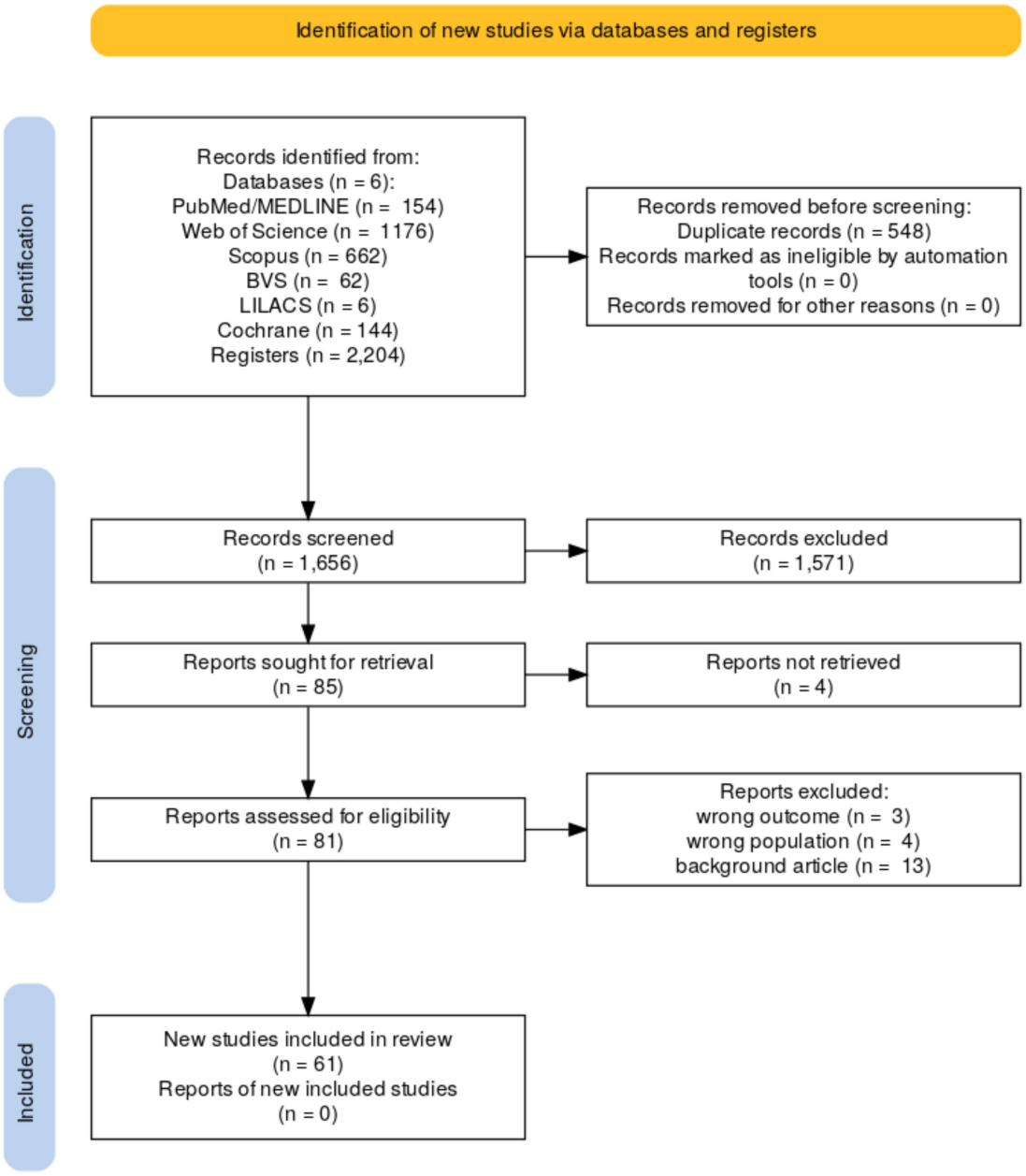

Figure 1. Flowchart.

In the general characterisation, qualitative studies were the most common (41%, *n* = 25), followed by quantitative studies (36.1%, *n* = 22), reviews (11.5%, *n* = 7) and mixed-methods studies (6.6%, *n* = 4). A Delphi study was also included (1.6%). The samples consisted mainly of doctors (62.4%) and nurses (37.1%), with limited participation from other healthcare professionals (0.47%). The geographical distribution showed higher output in France, Belgium and Germany, followed by Brazil, Japan, Switzerland and Spain, reflecting the concentration of evidence in European countries and limited representation from Latin America (Figure 2).

Figure 2 shows the distribution of studies by country, where darker colours indicate a higher number of publications.

The included studies covered a publication period between 2015 and 2025, with peaks in 2018 and 2024, years in which an increase in research on PS was observed. Detailed information on the included articles is presented in Appendix 1.

The results were organised into three dimensions – KAP – which reflect how professionals understand, value and apply PS.

Knowledge

Practitioners demonstrated a general understanding of PS, although technical and ethical gaps persisted. In Colombia, nursing staff reported medium-to-high knowledge, with limitations regarding indications and pharmacology [1]. In Europe, variability was observed in the availability and use of midazolam, with greater access in The Netherlands, Belgium and Spain, and less in Hungary and Romania [5]. Training in PS was associated with better conceptual understanding and was often confused with euthanasia in Brazil and Austria [15, 37].

Significant errors persisted. In Spain, only 5.6% recognised that morphine is not a sedative [2], and in Switzerland, 23% lacked standardised terminology [3]. Consequently, the inappropriate use of opioids as sedatives was reported in some contexts, a practice linked to training deficits. Taken together, these findings highlight the need to strengthen education and standardise clinical criteria.

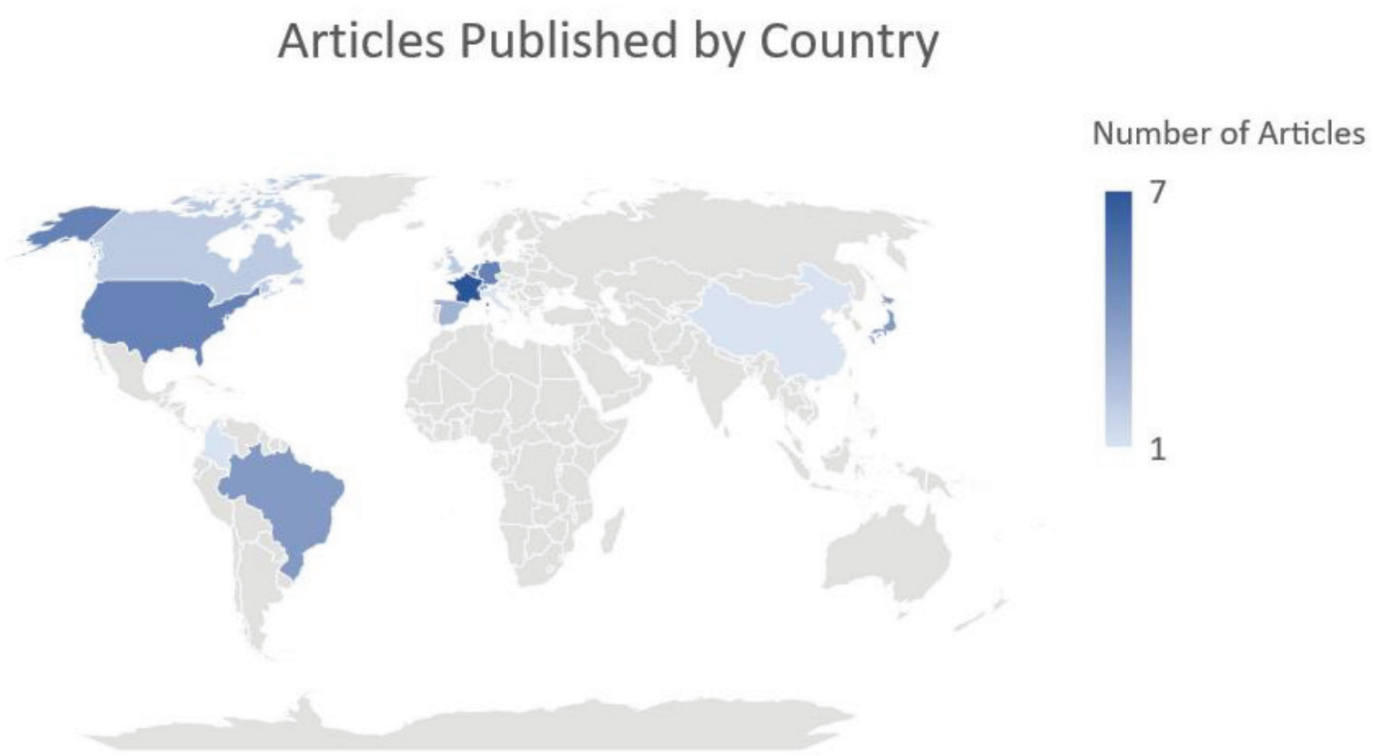

Figure 2. Distribution of the number of selected articles by country.

This point is critical because opioids are analgesics, not sedatives, and their sedative effect is unpredictable; therefore, they should not be used as the sole sedation strategy [38, 39]. Nevertheless, a Dutch study reported their use on its own in 22% of cases, which was considered inappropriate and linked to a lack of knowledge [39, 40]. In contrast, midazolam is the first-line drug, while morphine should be reserved for analgesia or dyspnoea, combined with benzodiazepines when sedation is required [38, 41]. Taken together, these findings highlight the need to strengthen training and standardise criteria for safe practice.

Attitudes

Most professionals considered PS to be an ethical intervention for relieving refractory suffering. However, attitudes varied according to culture, training and the type of suffering. In Canada, there was division regarding its use in existential suffering [12]. Religious beliefs influenced decision-making: in The Netherlands and Denmark, greater religiosity was associated with greater opposition to PS [26, 42]. In Japan, 95% supported its use for symptom control, but only 38% accepted continuous sedation until death (CSUD) [43].

In the United Kingdom, nurses reported ethical conflicts, particularly with young patients or when faced with family pressure [28]. The emotional burden was greater among professionals with less experience or without clear protocols [14, 29, 30, 44, 45]. In Germany, home care teams showed greater confidence than hospital teams, where the fear of 'blind sedation' predominated [46, 47]. In countries where assisted suicide is legal, such as Switzerland and Canada, SP was viewed by some as an ethical alternative, although the risk of confusion with euthanasia persists [48]. Overall, attitudes reflected the tension between the alleviation of suffering, patient autonomy and the ethical and legal principles that guide clinical practice.

Practices

Clinical practices in PS were heterogeneous. The use of midazolam predominated in most contexts, although differences in availability and administration persisted. In some countries, such as Italy, Germany and Brazil, the use of opioids as substitutes was reported due to limitations in access or training, while in the United States, this practice was largely rejected [4, 6, 49, 50]. In Austria, inappropriate use of opioids and diphenhydramine was observed among professionals without training in PS [15]. In Germany, some centres incorporated drugs such as lorazepam and ketamine in specific cases [51].

In Japan, progressive proportional sedation was the predominant approach (83%) [43]. In Brazil, continuous sedation was common, with high levels of family involvement in decision-making [45]. In the home setting, the main barriers were the lack of continuous coverage and the fragmentation of the team [52]. In Dutch care homes, CPS was used in some cases of existential suffering [53]. Its use was less frequent for nonphysical symptoms [54], and in paediatrics, it was reserved for exceptional situations [55]. Specialist units showed greater standardisation than general settings [33]. Nursing staff focused on patient monitoring and comfort [56, 57].

Discussion

This review demonstrated consistent gaps in KAP regarding PS, in line with the international literature.

Insufficient training, ethical uncertainty and variability in practice predominate. In various contexts, knowledge is primarily experiential, which leads to confusion regarding indications, terminology and the use of drugs [1–3].

At the conceptual level, clinically relevant errors persist. In some settings, opioids are still used as sedatives, despite not being indicated for this purpose. This practice is associated with a lack of training and unequal access to guidelines, rather than an intention to hasten death [4–7]. In contrast, settings with structured training show greater adherence to recommendations and a clearer distinction between PS and euthanasia.

Professional attitudes reflect a constant tension between alleviating suffering, respecting autonomy and avoiding the perceived risk of shortening life. Existential suffering remains a point of controversy, with a lack of consensus regarding its indication. These differences are influenced by cultural, religious and legal factors [8–13]. Specific training and working in PS teams favoured safer decisions [14, 15, 26, 27].

In high-demand settings or those with limited institutional support, the moral burden on the team increases, particularly in the face of diagnostic/ethical uncertainty or ambiguity regarding therapeutic intent [28–31, 58].

In practice, PS was common but varied. Settings with established guidelines showed greater standardisation, with a predominant use of benzodiazepines and proportional strategies. Conversely, in systems with resource or training limitations, variable practices persisted [4, 5, 7, 32]. Specialised units showed greater adherence to protocols [6, 32, 33], while in home care and care homes, factors such as resource availability, continuity of care and team coordination play a role [53, 56, 59–61]. In intensive care, doubts persisted regarding its impact on survival, reflecting the need to clarify the therapeutic intent of PS [62, 63].

Globally, the practice of PS continues to face ethical and conceptual challenges. However, effective strategies exist to improve its implementation. In Japan, progressive proportional sedation predominates, allowing for gradual symptom control. In Europe, structured ethical deliberation and early communication have been shown to reduce the moral burden on the team [43]. In Latin America, the adaptation of protocols and the active involvement of the family have fostered a more context-sensitive practice. In **Colombia**, PS has proven to be safe and effective when delivered in specialised units that tailor international protocols and guidelines to the patient's clinical needs on an individual basis [64]. Similarly, in **Brazil**, ethical dilemmas have been successfully navigated by actively involving the family in decision-making, thereby responding to Latin cultural values that prioritise family consensus over critical end-of-life decisions [45].

Based on these findings, three areas for improvement are proposed: first, to strengthen structured training at undergraduate and postgraduate levels, with an emphasis on criteria for treatment resistance, the use of drugs and decision-making [1, 29, 65]; second, to promote the implementation of clinical guidelines, alongside tools such as checklists and explicit documentation of therapeutic intent [5–7]; and third, to strengthen clinical governance through interdisciplinary teams, complex case committees and early communication with patients and families [10, 13, 66].

This review synthesises the evidence on KAP in PS and highlights significant gaps, particularly in Latin America. It also demonstrates a weak correlation between knowledge, attitudes and the implementation of clinical guidelines. Addressing these gaps is key to ensuring safer, more ethical and patient-centred end-of-life care.

Limitations

This review has limitations inherent to its design. The methodological heterogeneity of the included studies prevented direct comparisons or a meta-analysis, so the synthesis was narrative in nature. Furthermore, several primary studies used small or convenience samples, which may limit the generalisability of the findings. Finally, as this is a scoping review, the aim was to map the available evidence rather than assess its quality; therefore, the results should be interpreted with caution and within an exploratory framework.

Contribution to practice

This review offers a comprehensive and up-to-date overview of KAP regarding PS, highlighting the gaps and factors that influence its implementation. Its main contribution is to provide healthcare professionals with a tool for reflection, self-assessment and the strengthening of their clinical practice.

It accurately identifies the most common conceptual shortcomings, such as the confusion between PS and euthanasia or the management of existential suffering, guiding continuing education towards areas requiring greater clarity and technical competence. By highlighting international variability in the use of drugs, dosages and protocols, the review invites clinicians to contextualise their decisions within a broader ethical, legal and cultural framework and to promote institutional standardisation of practice.

Furthermore, it highlights the importance of interdisciplinary work and spaces for ethical deliberation to reduce the moral burden on the team and ensure shared and consistent decisions. In this regard, the review not only guides individual medical practice but also promotes the creation of ethics committees, institutional protocols and integrated training programmes.

Taken together, this study enables us to rethink how PS is practised, offering a solid foundation for professional training, public policy design and curricular reform, with the ultimate aim of achieving more compassionate, safe and patient-centred care.

Conclusion

This comprehensive review highlights persistent gaps in primary care regarding PS, alongside variability in its clinical application. Although it is an essential intervention for alleviating refractory suffering, conceptual confusion and operational differences persist, limiting its safe and consistent use.

The findings underscore the need to strengthen clinical and ethical training at all levels, with an emphasis on criteria for refractory suffering, differentiation from euthanasia and appropriate pharmacological management. They also highlight the value of interprofessional training and ethical deliberation in improving decision-making.

At the healthcare level, progress is needed in implementing clinical guidelines and regulatory frameworks adapted to the context, which promote proportionate, transparent and patient-centred practices. In research, comparative studies are needed, particularly in Latin America, to explore the cultural and ethical factors that influence its application.

Taken together, these findings provide a basis for improving training, strengthening institutional policies and promoting safer, more consistent, ethical and person-centred primary care practice.

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Conflicts of interest

The authors declare that there are no conflicts of interest.

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Author contributions

Conceptualisation, MFOS and PBS; methodology, MFOS; PBS, HPO; software, MFOS and PBS; validation, MFOS and PBS; formal analysis, MFOS; investigation, MFOS and PBS; resources, MFOS; data curation, MFOS and PBS; writing – original draft preparation, MFOS; writing – review and editing, MFOS and PBS; supervision, PBS; funding acquisition, NA. All authors have read and agreed to the published version of the manuscript.

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Appendices

Table 1. Search strategy according to the JBI guidelines [34].

Element	Description
Population	Healthcare professionals, doctors, nursing staff and support staff.
Concept	KAP related to PS
Context	End-of-life care, at any level of care or in any care setting, including hospitals, PCUs, home care and other services.

Table 2. Literature search strategy.

Element	Terms/Keywords	Operators Boolean	Description/Comments
Concept 1: KAP	'Health Knowledge' OR 'Attitudes' OR 'Practice'	OR	Group terms related to attitudinal and practical aspects
Concept 2: PS	'CDS' OR 'CPS' OR 'PS'	OR	Different ways of referring to PS
Concept 3: Context	'End-of-life care'	—	Specifies the scope of end-of-life care
Concept 4: Population	'Health personnel'	—	Health professionals
Final combination	(Concept 1) AND (Concept 2) AND (Concept 3) AND (Concept 4)	AND	Combine the concepts to find relevant studies
Databases	PubMed/MEDLINE, Web of Science, Scopus, BVS, LILACS and The Cochrane Library	—	Sources where the strategy will be applied

Appendix 1. Matrix for characterising studies included in the scoping review.

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2018 Colombia Zuleta-Benjumea *et al* [1].	To analyse the fulfilment of the nursing role in PS and nurses' level of knowledge, professional confidence and associated emotional impact.	Exploratory mixed-methods study (quantitative and qualitative) with 41 participating nurses; 22 of them took part in 4 focus groups.	Validated self-administered questionnaire (α = 0.92) with items on knowledge and professional confidence, supplemented by focus groups guided by a phenomenological approach.	Knowledge: Adequate, but acquired mainly through practice rather than formal training. Attitudes: The lack of training reduced confidence and increased the emotional burden. Emotional impact: Mixed; anxiety regarding young patients predominated, but so did satisfaction at alleviating suffering.
2017 United States Henderson *et al* [67].	To assess paediatric professionals' knowledge, perceptions and practices regarding PS in end-of-life care for children.	Quantitative exploratory study, based on a national cross-sectional survey of 4,786 paediatricians who are members of the American Academy of Pediatrics. **Participants:** 831 complete responses (response rate = 17.8%).	Anonymous online survey (Qualtrics) with closed-ended, open-ended and clinical vignette questions; analysed using descriptive statistics, chi-square and ANOVA.	Knowledge: Ambiguity persisted regarding the concept of PS and its therapeutic objective. Attitudes: Discrepancies were evident regarding whether sedation aims to relieve symptoms or has another purpose. Practices: 56.8% of paediatricians reported having participated in PS procedures during the past year.
2023 Netherlands Heijltjes *et al* [68].	To analyse the causes of the increase in the use of CSUD in The Netherlands, as perceived by healthcare professionals involved in this practice.	Qualitative, based on semi-structured interviews with 41 healthcare professionals (29 doctors, 9 nurses and 3 others) from home care, hospices, care homes and hospitals; 78% had training in PS.	Semi-structured face-to-face or virtual interviews, recorded, transcribed and analysed thematically using a mixed-methods approach, based on the Dutch national guidelines on PS (2009).	Knowledge: Most had training in PS and used the RMDA guidelines as their main reference. Attitudes: A broader view of refractory suffering and a lower tolerance for suffering at the end of life lowered the threshold for initiating sedation. Practices: More than half were involved in PS, with midazolam being the most commonly used drug. The need to improve communication to distinguish CSUD from euthanasia was highlighted.
2015 Belgium/Netherlands/ United Kingdom Anquinet *et al* [59].	To explore how general practitioners and nurses describe their collaboration, roles and responsibilities during the administration of CSUD at home	Exploratory qualitative study involving 51 professionals (25 general practitioners and 26 nurses) using semi-structured interviews based on real cases.	In-depth face-to-face or virtual interviews, focusing on specific cases, transcribed and analysed using qualitative thematic analysis.	Knowledge: Professionals understood PS and recognised its role in decision-making. Attitudes: There was variation between countries in the decision-making and implementation of home sedation; the lack of medical supervision placed an emotional burden on nursing staff. Practices: In Belgium and The Netherlands, PS was supervised by doctors, whereas in the United Kingdom, nurses were able to initiate it following a doctor's instruction.

Continued

Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2015 Canada/Switzerland Dumont *et al* [69].	To compare the attitudes of French-speaking doctors in Quebec and Switzerland towards PS, examining prognosis (short term versus long term) and the type of suffering (physical versus existential)	Mixed-methods research involving statistical analysis (ANOVA and Wilcoxon) and qualitative analysis, conducted between 2002 and 2005 in Quebec and 2009–2011 in Switzerland, involving 175 PS doctors (98 from Quebec and 77 from Switzerland).	Clinical vignettes with variations in prognosis and type of suffering were used to assess attitudes using a Likert scale; the data were analysed using ANOVA and the Wilcoxon test, and the open-ended comments were analysed using qualitative content analysis.	Attitudes: Doctors in Quebec showed greater openness towards SP, although the majority of participants in both countries rejected its use to treat existential suffering at the end of life.
2021 Heino *et al* [57]	To analyse and synthesise nurses' practices and attitudes regarding PS	Scoping review, which analysed 17 empirical studies (out of 316 identified) using a descriptive and inductive approach, including surveys, focus groups and qualitative or mixed-methods designs involving nurses in various clinical settings.	Systematic review in PubMed, CINAHL and Cochrane with standardised data extraction (country, objective, design, sample, definition and findings), with data analysed using inductive content analysis to identify the main themes.	Attitudes: Most nursing staff perceived PS as beneficial, although ethically controversial. Practices: They actively participated in its delivery, prioritising needs assessment and communication with the patient and their. There was evidence of a need for further research and debate on nursing practices and perceptions regarding PS.
2018 Netherlands Muishout *et al* [42].	To explore the professional experiences and attitudes of Muslim doctors towards PS, analysing how they balance Islamic religious norms and Western medical standards	Qualitative with an interpretative phenomenological approach, based on in-depth semi-structured interviews with ten Muslim doctors (eight men and two women) trained in The Netherlands, all with a Sunni background.	In-depth semi-structured interviews, recorded, transcribed and analysed using IPA; thematic saturation was reached after eight interviews, with a total of ten completed.	Attitudes: Although PS conflicted with their religious beliefs regarding a 'good death', the doctors prioritised the patient's well-being and maintained a professional approach, adopting effective strategies to address it ethically and morally.
2023 Belgium Rodrigues *et al* [10].	To explore the ethical perceptions and decision-making processes of Belgian PS doctors regarding PS for existential suffering	Qualitative study guided by the Leuven model and COREQ criteria, based on semi-structured interviews with 25 PS doctors from Flanders, Brussels and Wallonia, selected through theoretical and convenience sampling.	Recorded and transcribed semi-structured interviews, analysed according to the Leuven Qualitative Analysis Guide and COREQ criteria.	Attitudes: Belgian doctors showed a lack of consensus on the definition and appropriate use of PS for existential suffering, expressing concern that it might be confused with euthanasia. Further research is recommended to strengthen the ethical foundations and standardise clinical practice.

Continued

Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2017 Japan/Netherlands Ziegler *et al* [30].	Assessing the emotional impact and psychological burden of CSUD on healthcare professionals	Systematic literature review (1990–2016) following PRISMA; included six studies (two quantitative and four qualitative) involving 3,900 healthcare professionals (82% nurses and 18% doctors).	Inclusion of quantitative and qualitative studies that assessed emotional stress, burnout and well-being through questionnaires, interviews or analysis of clinical records.	Attitudes: A greater emotional burden appears more likely when professionals find it difficult to justify CDS. This appears to be due, in part, to clinical experience.
2024 Netherlands, Belgium, Germany, United Kingdom, Italy, Spain, Hungary and Romania Pozsgai *et al* [5]	To assess perceptions of PS practice among clinical experts in eight countries, focusing on: most commonly used medications, availability by country and setting and barriers and facilitators to appropriate practice	Quantitative study using a survey of 124 PS specialists (60% response rate), with a minimum of 18 participants per country.	A 36-question online survey, developed by a European consortium and validated in 2019, administered in English via SurveyMonkey; it explored the frequency of sedative use, availability, co-medications and barriers or facilitators to their use.	Knowledge: In six of the eight countries analysed, insufficient knowledge of sedation was identified. Practices: In Western Europe, the use of drugs followed EAPC guidelines (midazolam and neuroleptics), while in Central and Eastern Europe there was less alignment due to limitations in training and access. In Germany, Italy and Spain, between 36% and 86% of professionals used opioids for sedation.
2018 Netherlands Lokker *et al* [58].	To explore nurses' reports on the practice of PS, with regard to their experiences of pressure, dilemmas and situations of moral suffering.	Exploratory qualitative study **Participants:** 36 nurses involved in the administration of PS	In-depth (semi-structured) interviews In hospital, residential and community settings	Attitudes: Nurses experienced moral distress in situations where they were unable to act in the patient's best interests. Situations leading to moral distress required nurses to be well-informed and able to communicate effectively with the patients, relatives and doctors involved.
2017 United States Lux *et al* [7].	To determine prevalent practices and medication preferences in PS among hospice and PS physicians in the US	Quantitative study using an online survey targeting 3,130 hospice and PS physicians; 381 complete responses were obtained (12% response rate), of which 335 (99%) specifically addressed the use of PS.	Self-reported online survey sent by email	Attitudes: 99% of the physicians surveyed (n = 335) considered PS to be a reasonable treatment modality for managing refractory symptoms. Practices: Midazolam was considered the drug of choice for inducing and maintaining sedation, and opioids were continued for pain control.
2017 Italy Mercadante *et al* [4].	To assess the attitudes and practices of home-based PS professionals in Italy regarding the use of PS in the home	Quantitative survey-based study **Participants:** 150 home-based PS doctors who responded to the survey	An anonymous questionnaire sent to home-based doctors. It included questions on organisation, criteria for indication, intention and monitoring of PS.	Attitudes: Indications and intentions regarding PS were appropriate, although cultural and logistical factors restricted its application. Practices: Home-based doctors often initiated sedation at home, but the lack of availability of midazolam led to the frequent use of opioids, particularly in Italy, where midazolam is only approved for hospital use.

Continued

Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2022 Belgium, Germany, Italy, Japan, The Netherlands, the United Kingdom and Singapore Heijltjes *et al* [6].	To describe doctors' experiences and views on the use of continuous sedation during the final days of life, including its acceptance, practices and clinical reasoning	Quantitative study using a questionnaire sent to 2,362 doctors; 521 professionals participated (22% response rate) from Belgium, Germany, Italy, Japan, The Netherlands, the United Kingdom and Singapore.	Standardised questionnaire, distributed by email, with questions on clinical experience, perceived acceptability in different situations and the use of specific drugs	Attitudes: High acceptance of PS to alleviate physical suffering in the final days of life. Practices: Most professionals had recent experience with PS; the use of opioids as sedatives was common, particularly in Germany (55%), followed by Italy, the United Kingdom and Japan (20%–27%). The approach of starting with low doses and gradually increasing them was predominant.
2017 Canada Voeuk *et al* [12]	To determine the views and practices of Canadian PS physicians regarding the use of CPS specifically for existential suffering	Quantitative survey Participants: 322 specialist members of the Canadian Society of PS Physicians **Participants:** 81 doctors (response rate of 26%)	Survey sent by email, with questions on clinical experiences and attitudes (using a Likert scale) regarding CPS for existential suffering	Attitudes: Canadian PS physicians showed a lack of consensus on the use of CPS for existential suffering without refractory physical symptoms, with opinions divided between support and opposition, reflecting persistent ethical dilemmas. Practices: 31% reported having used CPS in such cases, indicating its clinical acceptance despite the ethical controversy.
2024 France Niaré *et al* [44]	To describe the KAP of French general practitioners regarding PS and end-of-life care, with a particular focus on deep and continuous sedation for pain relief	Descriptive, cross-sectional study **Participants**: 123 primary care doctors affiliated with the Sentinelles network Period: November 2020 to November 2021	Self-administered questionnaire sent by email, with questions on training, perceived competencies and knowledge of PS services	Knowledge: 59% of participants had received academic training in PS. Attitudes: One-third expressed discomfort with CDS for pain relief, reflecting ethical and emotional uncertainty; only 41% felt comfortable with this practice, highlighting the need to strengthen training in end-of-life sedation.
2024 Belgium Rodrigues *et al* [11].	To provide an in-depth understanding of the content and decision-making process regarding SP for existential suffering as perceived by Belgian PS doctors	National qualitative study using grounded theory **Participants:** 25 PS specialists. From 19 hospital-based PCUs and 4 hospices	In-depth semi-structured interviews, recorded and transcribed. Analysis using the Qualitative Analysis Guide by Leuven, following COREQ standards	Attitudes: Some expressed conceptual and clinical uncertainty, acknowledging the diagnostic complexity of the 'existential' and its distinction from the physical Practices: Doctors acknowledged that there was no clear definition or uniform consensus on when and how to apply SP for existential suffering, so they only implemented it when the patient requested it, in the face of intolerable suffering and in a confirmed terminal phase, provided that a consensus was reached with the team and the family.

Continued

Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2022 Switzerland Cocker *et al* [66].	To explore the perceptions and experiences of PS professionals regarding how patients and their families should be informed about PS.	Qualitative study **Participants:** five doctors and five nurses Sampling: purposive, focusing on experience in PS	In-depth semi-structured interviews Moderated by an experienced facilitator Thematic analysis using grounded theory	The professionals demonstrated a good understanding of the concept and indications of PS, distinguishing it from euthanasia. However, there was no standard procedure for informing patients, highlighting the need for clear guidelines and further training in PS for professionals outside the PS setting.
2022 Belgium Vissers *et al* [70].	To explore how environmental factors (organisational, legal, cultural and structural) influence the practice of CDS until death, as perceived by doctors	Qualitative study with interpretative secondary analysis, conducted with 47 doctors (February–May 2019): oncology (28%), general practice (28%), intensive care (26%), geriatrics (17%) and anaesthesiology (2%).	Semi-structured interviews Interpretative thematic analysis (Grounded Theory)	Attitudes: Individual and institutional moral reservations regarding CDS were prevalent Fear of clinical errors and stigma regarding assisted dying, which generates ethical anxiety Practices: Up to 59% of doctors were involved in CDS; however, this was affected by structural conditions: time pressure, lack of technical support and the centrality of team-based guidelines
2020 Denmark Balslev van Randwijk *et al* [26].	To assess whether the religious and spiritual characteristics of Danish doctors are associated with their attitudes towards end-of-life decisions, specifically euthanasia, medically assisted suicide, sedation to unconsciousness in terminally ill patients and withdrawal of life-sustaining treatment.	Quantitative study using a survey of 1,485 Danish doctors, with 911 responses (61.3%); participants included general practitioners, specialists and subspecialists in end-of-life care. The majority identified as Christian (76.2%), followed by nonreligious (20.5%) and Muslim (0.7%).	An anonymous postal questionnaire was sent out between 2019 and 2020, which included questions on religiosity, spirituality and attitudes towards end-of-life procedures, including sedation to unconsciousness.	Attitudes: It was observed that being more religious was associated with a higher likelihood of opposing SP
2024 France Auffray *et al* [62]	To assess whether intensive care unit professionals perceive CSUD as a practice that, in addition to alleviating suffering, hastens death, and to analyse their perceptions of medical assistance in dying.	Quantitative, cross-sectional, using a national survey distributed by the French Society of Anaesthesiology and Critical Care Medicine, with the participation of 956 ICU professionals: 363 doctors (38%) and 593 nurses (62%).	Anonymous questionnaires adapted for doctors and nursing staff (based on previous studies and citizens' conventions on end-of-life care). Distributed by the French Society of Anaesthesiology and Critical Care Medicine (SFAR).	Knowledge: 16% of professionals considered that PS induces a coma to alleviate suffering, and 20% interpreted it as a form of assisted dying. Attitudes: Between 12% and 22% perceived CSUD as a means of hastening death, and 20% associated it directly with medical assistance in dying. Practices: more than half of respondents had administered PS, and 25% of doctors admitted to having prescribed it with the intention of hastening death.

Continued

Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2017 United States Maiser *et al* [50].	To identify the attitudes and clinical experiences of PS and hospice care professionals regarding SP, including preferred terminology, indications, clinical practice and bioethics.	Quantitative, cross-sectional, based on a 32-item electronic survey. 4,678 members of the American Academy of Hospice and Palliative Medicine were invited to participate via a survey distributed in three rounds of contact. **Participants:** 936 doctors (response rate 20.4%).	Online survey sent to members of the American Academy of Hospice and Palliative Medicine, distributed across three rounds of contact.	Knowledge: 94% of healthcare professionals correctly distinguished PS from euthanasia and assisted suicide. Attitudes: There was a predominance of low moral distress when prescribing PS, with it being considered a bioethically valid and intervention for relieving refractory symptoms in terminally ill patients. Practices: 66% reported having prescribed PS in the past year, with a predominant use of midazolam and a preference against opioids as primary sedatives, and its use being more frequent in hospice settings.
2015 Brazil Spineli *et al* [49].	To describe the PS process from the perspective of doctors and nurses working in PS in Brazil.	Descriptive quantitative **Participants:** 61 professionals (32 doctors and 29 nurses) Sampling method: snowball sampling	Adapted questionnaire (28 questions) based on Moyano *et al* (2008) Data collection period: May to December 2011	Knowledge: Healthcare staff demonstrated an adequate understanding of the symptoms indicative of PS, clearly distinguishing it from euthanasia. Attitudes: Collaborative and patient-centred approaches predominated, although family influence continued to represent a significant barrier to decision-making. Practices: Sedation was mainly used for refractory physical symptoms, through shared decision-making. The most commonly used drugs were midazolam (85.2%), morphine (54.1%) and fentanyl (27.9%).
2017 United Kingdom De Vries and Plaskota [28].	To explore the experiences, ethical and emotional dilemmas of hospice nurses when administering PS	Qualitative, phenomenological study **Participants:** seven hospice nurses who had administered PS in the past year	Semi-structured interviews, analysed using Colaizzi's methodology to develop emerging themes	Findings: PS nurses in the UK frequently face ethical and emotional dilemmas when administering PS. Making these decisions regarding the use of PS causes them general distress. Taking on this aspect of care requires confidence and competence on the part of nurses, and working within a supportive PS team is essential to underpin this practice.

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Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2019 United Kingdom Vivat *et al* [32].	To describe current practices regarding the use of sedatives at the end of life in London using a mixed-methods design: (1) to explore qualitatively the knowledge and criteria of PS doctors, (2) to analyse the documented use of sedatives in medical records and (3) to compare/triangulate both findings to identify agreements, gaps and opportunities for improvement.	Mixed-methods approach: qualitative-descriptive (focus groups) + quantitative (retrospective review of medical records) **Participants**: 10 doctors and 17 nurses	Focus groups: 10 doctors and 17 senior nurses in 8 groups Record review: 50 medical records of patients who received continuous sedation at the end of life	Practices: Clinical practice in these London centres largely aligns with the EAPC framework for the use of sedation at the end of life. Doctors first considered using sedatives if patients were agitated and/or experiencing significant anxiety and, if used, started with low doses where possible, with the primary aim of increasing patient comfort. Sedation, where used, was described as 'moderate sedation'.
2024 France Locatelli *et al* [71].	To assess healthcare professionals' knowledge and views on end-of-life care practices, as well as to highlight the particularities of their discourse.	Descriptive quantitative study using a mixed-methods survey (closed and open-ended questions) and lexical analysis of open-ended responses. Seventy-four healthcare professionals participated: doctors (45.9%), nurses (41.9%) and other support staff (12.2%), including nursing assistants, psychologists, physiotherapists, social workers and dietitians.	Survey distributed to professionals at the Cancer Centre grouped by category: doctors, nurses, support staff	Knowledge: 82% of professionals distinguished PS from euthanasia and perceived the latter as a means of alleviating patients' suffering without inducing death; only 68% had received training in PS Attitudes: Professionals considered that advance directives should be systematically recorded; the majority of healthcare workers were aware of the various procedures relating to active assistance in dying. Half (54.7%) of participants considered their training to be insufficient, indicating the need to address this shortcoming.
2019 Spain Ávila *et al* [72].	To determine knowledge and preferences regarding PS, euthanasia, medically assisted suicide and the appropriateness of therapeutic effort.	Descriptive and cross-sectional quantitative study, conducted with 158 healthcare professionals (doctors, nurses and support staff) attending the PS Conference, without specifying the distribution by professional category.	Anonymous, self-administered ad hoc questionnaire with closed-ended multiple-choice questions and voluntary participation	Knowledge: 89% of healthcare professionals correctly defined PS. Attitudes: They considered PS to be the most appropriate resource and even its use for family members and themselves

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Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2015 Belgium Rys *et al* [13]	To explore the perceptions and ethical reasoning of doctors, nurses and care assistants regarding the dividing line between CSUD and medical assistance in dying in the context of care homes.	Qualitative, using focus groups. Six groups were formed with a mixed sample **Participants:** 10 doctors, 24 nurses; *Others: 14 (nursing assistants)	Discussions in moderated focus groups, transcribed and analysed using thematic analysis. Topics such as therapeutic intent, dosage, unconsciousness and the pace of the dying process were addressed.	Knowledge: The professionals were able to distinguish between PS and medical assistance in dying Attitudes: PS was considered emotionally easier to cope with, as it involves a gradual dying process. Healthcare professionals in care homes have differing perceptions of the relationship between PS and medical assistance in dying; some consider PS to be more than a purely palliative measure, seeing it as a means of hastening death. Professionals placed SP between pain relief and the termination of life; others consider it a form of euthanasia.
2018 Japan Hamano *et al* [43].	To identify the medical intentions behind initiating CDS and the factors influencing their perception of proportionality, considering expected survival, the patient's wishes and the refractoriness of symptoms.	Quantitative, cross-sectional, survey-based 695 certified PS specialists were invited. **Participants:** 440 PS specialists (response rate: 69%).	Structured questionnaire sent by post (August–December 2016). It included Likert scale questions on intentions, practices and clinical judgement	Practices: Japanese PS specialists generally attempted to control symptoms and reduce the level of consciousness when administering PS, but there are differences in their intentions regarding maintaining unconsciousness until death. These doctors determine PS, as proportionately appropriate based on expected survival, the patient's wishes and refractoriness; 11% of participants stated they intended to shorten life.
2025 Germany Bazata *et al* [47	To explore the opinions and perceptions of members of a German specialist PS team regarding the process of dying under sedation.	Qualitative, phenomenological **Participants:** 59 professionals: doctors: 26, nurses: 22 and *others: 11 (psychologists, physiotherapists, chaplains, social workers) 83% with training in PS Internal medicine: 9 (35) Anaesthesiology: 7 (27) General practice: 4 (15) Neurology: 3 (11) Others: 3 (12)	Face-to-face semi-structured interviews (July 2018–September 2019), transcribed and analysed using a framework analysis approach with MAXQDA version 2018, with the COREQ checklist	Knowledge: Participants were divided in their views on whether sedation alters the dying process, Attitudes: the practice of sedation was influenced by personal beliefs and ideas about a good death, and participants stated that sedation provides relief to the patient and peace of mind to family members

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Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2020 Spain Benítez-Rosario and Ascanio-León [73].	To describe doctors' attitudes towards deep PS.	Quantitative, cross-sectional (survey using clinical vignettes) **Participants:** 292 responses from PS specialists (approximately 40% response rate)	National online survey with clinical cases (vignettes) based on the Richmond Agitation–Sedation Scale; descriptive analysis and logistic regression	Knowledge: A minority of doctors were unable to distinguish PS from euthanasia. Attitudes: Doctors have a favourable attitude towards deep sedation when there are refractory physical symptoms. They regarded sedation as a form of covert euthanasia, which significantly reduced its use in all clinical cases. Practices: opinions were divided when the symptom was existential suffering: only 60% supported sedation in that context.
2019 Benítez-Rosario and Morita [54].	Exploring the consistency of international experts' opinions on the use of PS – in particular, its continuous application and levels of sedation – in clinical scenarios involving refractory symptoms	A modified electronic Delphi process, consisting of two consecutive rounds to reach consensus among experts **Participants:** 61 doctors 34 doctors responded in the first round and 27 doctors in the second	Clinical vignettes (three cancer cases and two noncancer cases) were used, featuring a prognosis of days to live and refractory symptoms. Each expert was asked whether they would use continuous (versus temporary) sedation and what level of sedation they would employ (according to RASS or perceived relief). Consensus was considered to have been reached when ≥70% of the experts agreed.	Practices: The experts indicated a high degree of acceptance of the use of sedation, particularly in cases of refractory delirium and dyspnoea. There was greater ethical controversy and less willingness to apply sedation in nonphysical contexts
2020 Ciancio *et al* [8].	To examine the literature on PS and existential suffering and inform research, policy and practice	Scoping review; included empirical, ethical and clinical guideline studies. Of 427 search results, 71 full-text articles were obtained, of which 20 were included.	An exploratory review was conducted, covering electronic databases of peer-reviewed literature and grey literature. Articles were screened for inclusion and a thematic content analysis was performed, enabling the key findings to be summarised	Attitudes: There was considerable ethical variability and arguments based on the principles of double effect, proportionality, autonomy, etc. Practices: It was only recommended as a last resort for refractory existential suffering, according to guidelines such as those from the EAPC and NHPCO. However, there was difficulty in recognising this symptom due to its subjectivity

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Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2018 Brazil Eich *et al* [37].	To understand the meanings that healthcare professionals attribute to existential suffering in the dying process, its relationship with euthanasia, and the ethical principles and values underpinning decision-making.	Qualitative, exploratory and descriptive study with a hermeneutic-dialectical approach, conducted with ten healthcare professionals (two doctors, two nurses and six from other disciplines), all with over 10 years' experience or certification in PS, selected through purposive sampling.	Semi-structured interviews, analysed using Atlas.ti software; horizontal and cross-sectional reading following Minayo's methodology	Knowledge: Participants had up-to-date and adequate knowledge of PS, including criteria for refractory conditions, types of sedation and medications; they also distinguished it from euthanasia Attitudes: Decision-making was based on collective deliberation, centred on patient autonomy and clinical proportionality Practices: The family is involved and decisions are guided by a multidisciplinary assessment, refractory symptoms and respect for the patient's values
2025 Austria Fischer *et al* [15].	To assess Austrian doctors' knowledge of assisted suicide and PS, comparing the knowledge levels of PS doctors with those of other professionals.	Exploratory study using a structured online survey **Participants:** 223 doctors surveyed: 89 PS doctors and 134 nonspecialists (non-PS)	Validated questionnaire comprising four sections: demographics, knowledge, perceptions/attitudes, experiences/clinical practice. Administered online between November 2022 and February 2023	Knowledge: PS doctors had significantly more training and technical knowledge of SP Attitudes: Both groups showed a consistent attitude towards PS, viewing it as a valid alternative and considering it in end-of-life situations. Practices: There was a gap in guideline adherence: PS doctors used recommended drugs more consistently, including for refractory symptoms; midazolam was used frequently, although opioids and diphenhydramine were used incorrectly by doctors without PS training.
2015 Switzerland Foley *et al* [14].	To explore doctors' attitudes towards PS at the end of life and their perceptions of the potential hastening of death, in a context where assisted suicide is legal but not euthanasia	Qualitative research based on semi-structured interviews **Participants:** 31 Swiss doctors caring for terminally ill patients (selected by level of experience, place of practice and specialism).	In-depth interviews supplemented by contextual clarification regarding Swiss legislation. Interpretative analysis of textual narratives to identify patterns of attitude.	Findings: PS doctors clearly distinguished between PS, euthanasia and assisted suicide on legal and conceptual grounds; confusion persisted in nonspecialist settings. Attitudes: Specialists demonstrated confident, prudent and professional stances; nonspecialists showed uncertainty and avoidance, with occasional use of sedation without supervision or sufficient ethical deliberation. Key gaps: Doubts persisted regarding the timing of the initiation of PS and its differentiation from other interventions, highlighting the need for training and protocols

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Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2022 Germany Grüne *et al* [46]	To identify (1) the challenges in the use of sedatives and sedation at the end of life in hospitals and care homes and (2) the strategies and support that nurses and doctors perceive as necessary to address them.	Multicentre qualitative study with semi-structured interviews **Participants**: 49 professionals: 24 doctors 25 nurses	Semi-structured face-to-face interviews analysed in October 2019, focusing on three levels: individual, interactions and the work environment	Attitudes: Respondents felt insecure and confused when prescribing PS, as well as legal and ethical uncertainty; this was due to the limited training in PS they had received. They indicated that PS practices improved when they were working alongside a specialist team; there were also difficulties with communication within the team.
2024 Canada Guité-Verret *et al* [65].	To better understand PS doctors' experiences with CPS.	Qualitative study based on six focus groups (Interpretative Phenomenological Analysis) **Participants:** 28 professionals 15 nurses, 12 doctors, *Others: 1 (doula) who had been involved in continuous sedation at the end of life	Six semi-structured qualitative focus groups were conducted virtually using an online platform from October 2022 to March 2023. They were video-recorded and transcribed verbatim	Knowledge: Understanding of clinical criteria, legality and the rationale for continuous sedation. Attitudes: Based on the ethical intention to alleviate suffering, empathy and recognition of the moral and emotional aspects for staff and relatives. Furthermore, the professionals considered CS to be a viable option in countries where assisted dying is legal. Practices: Adapted to intention, ethics and interprofessional communication.
2023 Brazil Halfeld *et al* [74].	To collect scientific and professional data on PS in terminally ill patients in Brazil to analyse medical, bioethical and educational perspectives.	Comprehensive review of the national literature. Included: five studies selected from a total of 2,151 results (VHL and Google Scholar), published in Portuguese since 2010. These include surveys of doctors and students, observational and qualitative studies **Participants:** Not specified	Analysis of scientific studies addressing knowledge, opinions, attitudes, clinical practices, ethical dilemmas, academic training and cultural aspects.	Knowledge. There were training gaps among doctors and terminological confusion. Attitudes: Professionals showed a favourable attitude towards PS, but this was conditional on refractory suffering. Nevertheless, they face social and religious pressures. Practices: PS was common in oncology care pathways and was predominantly applied in advanced stages. There is a need to improve professional support and education for patients and families to enable more ethical and humanised decision-making.
2022 Finland Heino *et al* [57].	To describe nurses' practices regarding PS in hospital PS wards.	Qualitative-descriptive design. **Participants:** 27 nurses (focus groups of six + one paired interview) working in four PCUs	Focus groups conducted between May and November 2019; analysis using inductive content analysis, following COREQ guidelines	Knowledge: Most nursing staff had training in PS and were able to identify the symptoms indicating the need for PS Attitudes: Nurses played a central, integral role in PS: from participating in decisions to monitoring and providing emotional support. Practices: Nursing staff implemented and monitored PS following medical instructions, assessed the effects and adjusted doses

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Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2017 France Leboul *et al* [29]	To provide a comprehensive description of carers' views on the use of sedation in PCUs	Qualitative: Multidisciplinary focus groups + personal narratives, **Participants:** 35 professionals from three PCUs in two hospitals Doctors: 16 Nurses: 12 *Others: Nursing assistants: 9	Five focus groups and written narratives; thematic analysis focusing on uncertainties and competencies	Knowledge: Professionals were clear about which refractory symptoms indicated SP and felt familiar with the use of midazolam and protocols Attitudes: The uncertainty experienced by carers regarding the medical, psychosocial and ethical justification for sedation generates psychological strain and moral distress and has proven to be a significant source of suffering in the workplace; furthermore, they have doubts when administering the drug, questioning the appropriateness of the indication. Practices: They use midazolam following prior indication and work as a team.
2019 Japan Maeda *et al* [27].	To clarify (1) changes in the views of PS specialists regarding PS and (2) the effects of these views on clinical practice.	A comparative cross-sectional study using questionnaires conducted in 2000 and 2016. **Participants:** 417 doctors. Response rate ≈ 67%.	Questionnaires with questions on attitudes towards PS: difficulty in indicating it, necessity if good PS is provided, legal concerns and actual PS practices	Knowledge: Difficulties persist in defining PS and determining when it is indicated. Attitudes: Physicians from PS teams showed greater agreement with using PS to relieve physical suffering in the final months (OR 1.99; 95% CI 1.10–3.61; $p = 0.024$); there were no significant differences compared with those working in home-based hospices. Practices: Only 20% of doctors agreed to administer SP to relieve physical suffering in the final days.
2024 Spain Hernández Manzano *et al* [2].	To describe primary care professionals' knowledge of advance directives, appropriate therapeutic effort (ATE) (SP) and euthanasia, and to identify conceptual errors or training gaps.	Quantitative, observational, descriptive and cross-sectional study **Participants:** 53 professionals (out of 182 eligible), comprising: • 31 general practitioners • 22 nurses	Self-administered online questionnaire (40 true/false questions) divided into four thematic blocks: Advance Directives, ATE, PS and Euthanasia	Knowledge: There was a good general understanding of PS, based on the 85% correct responses indicated by the study, but significant errors persisted, particularly regarding: Indications (confusion with agony or euthanasia), appropriate medication (incorrect use of morphine), and legal requirements (consultation with another doctor, consent)
2023 Germany Meesters *et al* [52].	To explore the circumstances in specialist home PS that influence the practice of sedation.	Qualitative study with semi-structured interviews ($n = 59$) + 2 focus groups (four and five participants). **Participants:** 59 professionals: Doctors: 26 Nurses: 22 *Others: 11 (profession not specified)	Interviews and focus groups, recorded and analysed using MAXQDA to identify key themes	Attitudes: Professionals expressed uncertainty regarding the use of SP, stating a fear of applying it 'blindly' given the limitations of the home environment. Practices: The implementation of SP often depended more on the professional's attitude or institutional policy than on the patient's needs.

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Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2021 Germany Meesters *et al* [56].	To explore the concept of 'sedatives' and the intentions of German healthcare professionals in general PS when administering sedatives at the end of life.	Qualitative study using semi-structured interviews **Participants:** 49 professionals from hospitals and care homes Doctors: 24 Nurses: 25	Interviews conducted from May to October 2019, transcribed and analysed thematically using the Framework approach with MAXQDA.	Knowledge: The professionals demonstrated an adequate general understanding of the use of sedatives, although with differences depending on their profile. Most agreed that the purpose of PS was to alleviate suffering and control symptoms, without seeking to induce unconsciousness. Attitudes: Some doctors acknowledged having used PS also to alleviate the emotional burden on the team or the family, while nursing staff distanced themselves from any responsibility related to shortening life when prescribing sedation.
2020 Brazil Piedade *et al* [45].	To investigate the prevalence of PS use and related factors.	Observational, cross-sectional and retrospective study, using an electronic questionnaire. **Participants**: 324 doctors surveyed (2% of the 20,168 emails sent). Profile: predominantly specialists	Questionnaire comprising 23 questions (true/false and multiple-choice) on use, frequency, causes, training, comfort and family consultation	Knowledge: Limited specific training (26%) may have restricted technical competence, although there is conceptual understanding. The healthcare professionals who took part in this survey were able to distinguish between PS and euthanasia. Attitudes: There were doubts regarding its application in cases of nonphysical suffering. Practices: Moderate but frequent use, particularly for pain; frequent decisions; comfort with the use of sedatives.
2017 Belgium Robijn *et al* [75].	To analyse more specifically how healthcare professionals justify the use of CSUD and which factors they report as influencing the decision-making process	Qualitative study using in-depth interviews. **Participants:** 50 professionals: 28 doctors 22 nurses, involved with 27 patients receiving continuous sedation.	Semi-structured interviews, thematic analysis of influential clinical and nonclinical factors	Attitudes: Sedation was perceived as an ethical and necessary response, but this is qualified by personal and contextual considerations. The use of continuous sedation was influenced by medical reasons as well as personal, family and legal factors. Practices: In some cases, continuous sedation replaced euthanasia when the latter was not available.
2016 Belgium Robijn *et al* [76].	To examine trends in the prevalence and characteristics of the practice of CDS until death in Flanders (Belgium) between 2007 and 2013, and to investigate variations in the level of PS training among doctors.	Repeated population-based survey (2007 and 2013) using questionnaires sent to professionals following deaths: 3,600 in 2007 and 3,750 in 2013; responses from doctors involved in these deaths **Participants:** Not specified	Questionnaire on: prevalence of PS, drugs used, duration, administration of nutrition/fluids, consent and intention and physician training	Attitudes: Ethical tensions existed; patient autonomy was taken into account, although formal consent was not always obtained. Practices: The frequency of SP changed over time, optimising the use of sedatives and reflecting greater sensitivity to autonomy and medical ethics. However, there was room for improvement in consent and full adherence to guidelines. Doctors with experience in PS used more benzodiazepines and fewer opioids or propofol for sedation.

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Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2020 Rodrigues *et al* [9].	To explore doctors' perceptions of PS, the factors influencing it, the conditions for its implementation and existing alternatives.	A systematic review that included qualitative, quantitative and mixed-methods studies. 17 publications focusing on medical professionals **Participants:** Not specified	Comprehensive database search (PubMed, CINAHL, EMBASE, Scopus, WoS, etc.). Data analysed and synthesised thematically	Findings: There were divergent views among doctors, ranging from acceptance to rejection, which were influenced by the ethical and moral context, particularly when applied to nonphysical symptoms; furthermore, some confuse it with euthanasia.
2022 Germany Salzmann *et al* [77]	To assess the perceptions and experiences of doctors (neurologists and CP specialists) regarding the use of SP in patients with amyotrophic lateral sclerosis.	Mixed-methods quantitative study (survey) based on a national questionnaire. **Participants:** 296 doctors responded (30% response rate); the group included neurologists (44%), internists (27%) and anaesthetists (18%)	A questionnaire featuring common clinical cases in ALS was used to assess experience, acceptance and frequency of use of SP; the data were analysed using statistical tests such as the Chi-square, Kruskal–Wallis and Wilcoxon tests.	Attitudes: The doctors showed a high level of acceptance of PS, particularly in relation to physical rather than psychological symptoms. Most would not restrict its use solely to terminally ill patients and accepted its application alongside the withdrawal of mechanical ventilation. Professionals with PS training expressed greater openness and confidence towards PS in various clinical scenarios. Practices: 41.8% of participants had been involved in the administration of PS, indicating its frequent use in clinical practice.
2015 United Kingdom, Belgium, Netherlands Seymour *et al* [78].	To explore the practices of CSUD for cancer patients, from the perspective of doctors and nurses	Qualitative research using case studies, through semi-structured interviews **Participants:** 57 doctors 73 nurses (UK: 17 doctors, 25 nurses; BE: 18 doctors, 20 nurses; NL: 22 doctors, 28 nurses)	In-depth interviews on each clinical case. Reasons, context and the ethical and practical aspects of the decisions were recorded.	Attitudes: Four areas of divergence in clinical practice were identified: the decision between preserving consciousness or inducing deep sedation, the fear of hastening death, the perception of PS as an alternative to euthanasia and the intention to maintain unconsciousness to prevent the patient's suffering. Practices: In Belgium, isolated cases were recorded where the intention was to shorten life, while in The Netherlands a progressive and proportional approach prevailed, with doses adjusted according to clinical response. The most common refractory symptoms were severe pain, delirium, dyspnoea and nausea.
2020 Switzerland Abarshi *et al* [79]	To understand and describe nursing staff's experience of the PS process, in accordance with the 2005 Swiss guidelines	Single-centre qualitative exploratory study using in-depth individual interviews. **Participants:** 8 nurses	Face-to-face interviews, transcription and qualitative thematic analysis	Attitudes: The nurses felt emotional and professional uncertainty; the most experienced nurse was resistant to PS, considering it not an effective practice for symptom management.

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Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2015 Netherlands van Deijck *et al* [53].	To describe characteristics and factors related to the use of CPS in frail patients experiencing existential suffering	Cross-sectional study using a questionnaire sent retrospectively to doctors in care homes, who described 314 patients. **Participants:** not specified	Questionnaire sent to doctors describing cases of CPS in care homes. It included data on indication, life expectancy, consent and previous history of sedation	Practices: Existential suffering was a reason for administering SP, whether or not accompanied by other refractory symptoms; some doctors administered SP with the intention of shortening the patient's life There is little use of consultations with PS specialists and spiritual counsellors prior to administering SP.
2021 Netherlands Veldwijk-Rouwenhorst *et al* [61]Haga clic o pulse aquí para escribir texto..	To explore the pathway leading to CPS and its administration in nursing home residents with dementia and refractory neuropsychiatric symptoms.	Exploratory qualitative study based on semi-structured interviews Nine in-depth interviews **Participants:** 13 (doctors, nursing staff and family members) associated with three clinical cases; number in each category not specified	Review of medical records and transcribed interviews, analysed using guided thematic analysis	Attitudes: Some doctors considered aspects such as loss of dignity, anxiety or severe agitation when making decisions regarding the indication for PS and experienced feelings of helplessness and failure. Practices: The process leading to CPS in patients with dementia and extreme refractory neuropsychiatric symptoms was complex and burdensome, but its initiation brought relief and satisfaction to all involved, although in some cases doctors expressed feelings of helplessness and failure
2021 France Vieille *et al* [80]Haga clic o pulse aquí para escribir texto..	To explore the perceptions, experiences and beliefs of PS teams regarding sedation practices within a legislative context (Claeys-Leonetti Law, 2016; France), which authorises CDS until death	Qualitative study with semi-structured interviews **Participants:** 28 doctors and nurses working in a PS team in France (PACA region); the number in each category is not specified	Semi-structured interviews were transcribed in full and their content analysed.	Knowledge: Professionals perceived PS as a treatment aimed at alleviating suffering. Attitudes: They considered that sedation met the criteria for a 'good death', although it generated intense emotions and fear of hastening death. Practices: Progressive and proportional sedation was the most commonly used method in clinical practice.
2025 Japan Yamashita *et al* [33]	To quantitatively assess PS nursing practices in respiratory medicine wards (RMWs) and PCUs and to identify the associated factors influencing these practices.	Observational, cross-sectional, using a self-administered questionnaire **Participants:** 430 nurses (171 in RMWs and 259 in PCUs)	Questionnaire using a Likert scale that assessed five key components of PS practice, plus variables relating to ethical space and collaboration	PS practices were more comprehensive, collaborative and patient-centred in units specialising in PS than in general wards

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Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2024 China Yu *et al* [63].	To investigate the practice and views of doctors regarding sedation therapy in terminally ill patients at Peking Union Medical College Hospital	Online survey between August 2022 and April 2023. **Participants:** 205 professionals (response rate: 56.1%) – does not specify the type of professional	Digital questionnaire for clinicians caring for patients in PS	Attitudes: Most doctors agreed that sedation therapy could alleviate physical distress and psycho-existential distress in terminally ill patients. However, most doctors had concerns about the use of sedation therapy due to a lack of legal support. Practices: Most had used sedation in a terminal care setting, although they called for greater legal clarity and professional training.
2023 Europe (various countries) Zanin *et al* [55].	To identify similarities and differences in the experiences and attitudes of doctors, nurses and related healthcare professionals in European paediatric intensive care regarding decision-making and end-of-life care	Quantitative cross-sectional study (survey study) with a descriptive and comparative approach. **Participants:** 198 healthcare professionals working in paediatric intensive care units 61.9% (123) doctors 34.3% (68) nurses 3.5% (7) *other professionals	Self-administered online questionnaire (SurveyMonkey) Designed by experts in bioethics and paediatric intensive care Available between January and March 2021 Contained 48 items (attitudes, practices, experiences and beliefs)	Attitudes: In some countries, there was a favourable response to PSE, but with cultural and professional differences; similarly, a difference in acceptance was observed between doctors and nurses. Practices: It was used in the paediatric population with the aim of alleviating refractory suffering. In southern European countries, there were ethical, cultural and religious differences regarding the use of PS
2018 Switzerland Sarah *et al* [3]	To explore doctors' and nurses' conceptual understanding of CDS and to unpack decision-making processes in daily clinical practice.	Qualitative study using focus group methodology and complementary descriptive quantitative analysis. **Participants:** 47 doctors PS specialists: 26 General practitioners (nonspecialists): 21	Focus groups conducted between 2016 and 2017. A structured thematic guide was applied. Participants also completed a quantitative questionnaire to describe clinical practices, frequency of sedation, medications used and guidelines applied.	Knowledge: Substantial variation was found in the terminology, definition, indication and medication used for CDS until death. Practices: It is noteworthy that nonspecialists considered opioids for CDS and that there was a low percentage of guideline use compared to specialists. The use of CDS for delirium was more common among specialists than nonspecialists.

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Appendix 1. Matrix for characterising studies included in the scoping review. *Continued*

Year/Country/Author	Objective	Study type	Data collection	Conclusion
2023 Garcia *et al* [60].	Mapping the available evidence in the literature on the performance of PR in the home	Scoping review, based on 23 selected studies **Participants:** Not specified	Literature review, including empirical studies (quantitative, qualitative or mixed methods) on PS in the home. Variables extracted included the care setting, decision-makers, indications, medications and duration, adverse events and ethical/legal aspects.	Attitudes: Positive attitudes were shown towards PS, respecting patient autonomy and the focus on home care; there is awareness of the ethical implications. Practices: Increased use of midazolam was observed in refractory symptoms; its use at home is possible, taking into account patient preferences.
2025 France Locatelli *et al* [31].	To explore the experiences of healthcare professionals and family members regarding the use of CSUD, highlighting its emotional, ethical and practical implications.	A PRISMA-compliant systematic review, which included qualitative, quantitative and mixed-methods studies on the perceptions and experiences of healthcare professionals and/or family members regarding CDS. Forty studies were analysed, of which 31 directly involved healthcare professionals. Participants: Not specified.	Systematic search (October 2023–June 2024), selecting studies that assessed emotional or ethical experiences in CDS using surveys, interviews or mixed-methods designs.	Findings: Conceptual confusion persisted between CDS and euthanasia, alongside ethical dilemmas and communication gaps between healthcare teams and families, which remained a significant challenge to its implementation. Attitudes: PS professionals expressed uncertainty regarding prognosis and personal conflicts when attempting to ensure a 'good death'. They expressed emotional ambivalence regarding the balance between alleviating suffering and the perceived risk of hastening death, which generated moral distress in clinical decision-making.

Appendix 2. PRISMA-ScR checklist.

Section	Item	Prisma-ScR checklist item	Reported on page #
Title			
Title	1	Identify the report as a scoping review.	1
Abstract			
Structured summary	2	Provide a structured summary that includes (where applicable): background, objectives, eligibility criteria, sources of evidence ( ), charting methods, results and conclusions that relate to the review questions and objectives.	1

Continued

Appendix 2. PRISMA-ScR checklist. *Continued*

Section	Item	Prisma-ScR checklist item	Reported on page #
Introduction			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	2
Objectives	4	Provide an explicit statement of the questions and objectives being addressed, with reference to their key elements (e.g., population or participants, concepts and context) or other relevant key elements used to conceptualise the review questions and/or objectives.	1
Methods			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a web address); and, if available, provide registration information, including the registration number.	5
Eligibility criteria	6	Specify the characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language and publication status) and provide a rationale.	6
Information sources*	7	Describe all information sources used in the search (e.g., databases, including their coverage dates, and contact with authors to identify additional sources), as well as the date on which the most recent search was carried out.	5
Search	8	Provide the full electronic search strategy for at least one database, including any search criteria used, so that it can be replicated.	6
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	5
Data charting process‡	10	Describe the methods used to extract data from the included sources of evidence (e.g., standardised forms or forms that have been tested by the team prior to use, and whether data extraction was carried out independently or in duplicate) and any processes for obtaining and verifying data from investigators.	5
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	5
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	6
Synthesis of results	13	Describe the methods used to handle and summarise the data that were recorded.	7
Results			
Selection of sources of evidence	14	Provide the number of sources of evidence screened, assessed for eligibility and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	7
Characteristics of sources of evidence	15	For each source of evidence, present the characteristics for which data were recorded and provide the citations.	8

Continued

Appendix 2. PRISMA-ScR checklist. *Continued*

Section	Item	Prisma-ScR checklist item	Reported on page #
Critical appraisal of sources of evidence	16	If done, present data on the critical appraisal of the included sources of evidence (see item 12).	8
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted and that relate to the review questions and objectives.	35
Synthesis of results	18	Summarise and/or present the charting results as they relate to the review questions and objectives.	8–10
Discussion			
Summary of evidence	19	Summarise the main results (including an overview of concepts, themes and types of evidence available), link to the review questions and objectives and consider the relevance to key groups.	11
Limitations	20	Discuss the limitations of the scoping review process.	13
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	14
Funding			
Funding	22	Describe the sources of funding for the included sources of evidence, as well as the sources of funding for the scoping review. Describe the role of the funders of the scoping review.	16

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews

*Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms and websites

†A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote)

‡ The frameworks by Arksey and O'Malley [6] and Levac *et al* [7] and the JBI guidance [4, 5] refer to the process of data extraction in a scoping review as data charting

§ The process of systematically examining research evidence to assess its validity, results and relevance before using it to inform a decision. This term is used for items 12 and 16 instead of 'risk of bias' (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion and policy documents)

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