

Ethical implications of the use of Artificial Intelligence in palliative medicine: An integrative review

Abel García Abejas, David Geraldes Santos, Fabio Leite Costa, Aida Cordero Botejara, Helder Mota-Filipe, Àngels Salvador Verges

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Abstract

Background: Palliative medicine, especially end-of-life care, is an essential component of medical care, focused on alleviating the physical, emotional and spiritual suffering of patients with advanced or terminal illnesses. However, implementing emerging technologies, such as artificial intelligence (AI), in this field raises important ethical implications that must be carefully considered. AI can potentially improve the quality and efficiency of palliative medicine, optimising pain management, communication and clinical decision-making. However, its use in a context as sensitive as end-of-life also raises concerns related to privacy, equity, the dehumanisation of care and decision-making dilemmas.

Objective: This study seeks to analyse the main ethical implications of using AI in palliative medicine at the end of life through an integrative review of recent literature. Both the benefits and risks of these technologies are explored to propose strategies for ethical and responsible implementation. It also evaluates how AI can influence the patient's experience in their final moments, addressing both positive and negative aspects. It will, likewise, analyse the technical benefits and risks of AI, but similarly consider how these tools can complement or hinder the ethical relationship between carer and patient.

Methods: An integrative review was carried out, based on studies published between 2020 and 2025 in English, Portuguese and Spanish. Scientific databases such as PubMed, Scopus and Google Scholar were accessed to identify relevant articles. The selection of studies was grounded on predefined inclusion and exclusion criteria, ensuring a rigorous and systematic approach. The extracted information was organised thematically to identify trends, challenges and key considerations in applying AI in palliative medicine.

Results: The review identified six key areas in the application of AI in palliative medicine: a) Practical applications of AI, b) Communication and AI tools, c) Patient experience and humanisation of care, d) Ethical implications, e) Ethical and quality of life perspectives, f) Challenges and limitations of AI.

Conclusions: AI has the potential to transform palliative medicine and improve the patient experience and outcomes, but its implementation must be patient-centred and aligned with fundamental ethical principles. It is recommended that policies and guidelines be developed to ensure equity, privacy and humanisation in AI-assisted palliative care, as well as to improve the end-of-life experience through the ethical use of AI. Clinical Trial: not

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Ethical implications of the use of Artificial Intelligence in palliative medicine: An integrative review

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Abstract

Introduction: Palliative medicine, especially end-of-life care, is an essential component of medical care, focused on alleviating the physical, emotional and spiritual suffering of patients with advanced or terminal illnesses. However, implementing emerging technologies, such as artificial intelligence (AI), in this field raises important ethical implications that must be carefully considered. AI has the potential to improve the quality and efficiency of palliative medicine, optimising pain management, communication and clinical decision-making. However, its use in a context as sensitive as end-of-life also raises concerns related to privacy, equity, the dehumanisation of care and decision-making dilemmas.

Goals: This study seeks to analyse the main ethical implications of the use of AI in palliative medicine at the end of life through an integrative review of recent literature. Both the benefits and risks of these technologies are explored in

order to propose strategies for ethical and responsible implementation. It also evaluates how AI can influence the patient's experience in their final moments, addressing both positive and negative aspects. It will, likewise, analyse the technical benefits and risks of AI, but similarly considering how these tools can complement or, alternatively, hinder the ethical relationship between carer and patient.

Methodology: An integrative review was carried out, based on studies published between 2020 and 2025 in English, Portuguese and Spanish. Scientific databases such as PubMed, Scopus and Google Scholar were accessed to identify relevant articles. The selection of studies was grounded on predefined inclusion and exclusion criteria, ensuring a rigorous and systematic approach. The extracted information was organised thematically to identify trends, challenges and key considerations in the application of AI in palliative medicine.

Results: The review identified six key areas in the application of AI in palliative medicine: a) Practical applications of AI, b) Communication and AI tools, c) Patient experience and humanisation of care, d) Ethical implications, e) Ethical and quality of life perspectives, f) Challenges and limitations of AI.

Conclusions: AI has the potential to transform palliative medicine and improve the patient experience and outcomes, but its implementation must be patient-centred and aligned with fundamental ethical principles. It is recommended that policies and guidelines be developed to ensure equity, privacy and humanisation in AI-assisted palliative care, as well as to improve the end-of-life experience through the ethical use of AI.

Key Words: *Palliative medicine; Artificial intelligence (AI); Ethical implications; End-of-life care; Patient-centred care.*

1. Introduction

Artificial intelligence (AI) is a subject within computer science that develops systems capable of performing tasks which simulate human capabilities, such as learning, reasoning and decision-making. Within this field, Machine Learning (ML) allows algorithms to learn from data without the need for explicit

programming, while Deep Learning (DL), a subset of ML, uses advanced neural networks to analyse large volumes of information and generate accurate predictions.

In the healthcare sector, AI is significantly transforming traditional paradigms towards an evidence-based and patient-centred model. Its application in areas such as the anticipation of complications, the personalisation of treatments and the optimisation of resources has proven to be a key catalyst for improving the quality and efficiency of medical care. [1] In particular, palliative medicine has also begun to benefit from the transformative potential of these technologies. This type of care, aimed at patients with advanced or terminal illnesses, seeks to alleviate physical, emotional and spiritual suffering while seeking to improve quality of life and promote dignity in the final moments. [2]

The use of AI in palliative medicine includes tools, such as predictive models, to identify specific needs, wearable devices to monitor symptoms in real time and virtual assistants that facilitate communication between patients, carers and professionals. These innovations not only promise to improve clinical outcomes, but also to enrich the patient experience by offering more personalised approaches. [3] However, its implementation poses significant ethical challenges due to the inherent vulnerability of patients and the complexity of end-of-life decisions.

These concerns become particularly relevant when applied in such sensitive contexts as palliative care at the end of life. From classical philosophy, Aristotle invites us to reflect on the notion of the 'good life' (*Nicomachean Ethics*. Aristotle), [4] understood not only as the fulfilment of individual desires, but also as the realisation of our highest capacities through virtues such, as wisdom, justice and temperance. In this sense, a 'good death' could be interpreted as a design consistent with this search for integral well-being, where even in the final stages of life, respect for the dignity and well-being of the patient is promoted. On the other hand, Immanuel Kant (*Groundwork of the Metaphysics of Morals*. Kant, 1785/2005) offers a transcendental vision of human dignity, emphasising that each person possesses an intrinsic and inalienable value that must be respected under any circumstances. According to Kant, using someone merely

as a means, even in medical or technological contexts, would violate this fundamental premise. Thus, when we apply AI in palliative care, we must ensure that these tools do not reduce patients to mere actionable data, but rather reinforce their humanity and dignity, honouring both their individuality and their right to compassionate and ethically informed care. Furthermore, it is crucial to consider how these technologies may affect human dignity and avoid a possible dehumanisation of care. [5] In response to these concerns, various institutions have developed ethical guidelines to evaluate and regulate the responsible use of AI-based systems in sensitive contexts.

Despite enthusiasm for its transformative potential, significant barriers to its widespread adoption in clinical practice remain. The lack of clear regulatory frameworks and consolidated examples of success highlights the urgent need for integrative research that addresses both the opportunities and the ethical and practical limitations of the use of AI in palliative care. As Miralles (2023) points out [1], although multiple promising areas for applying AI in healthcare have been identified, there are still few consolidated cases that have achieved effective adoption in real clinical environments.

In recent years, as a response to the ethical problems of implementing AI systems, different ethical self-assessment tools have been developed to verify the adequacy of a system in relation to different ethical principles. Many institutions have produced their own adequacy guidelines, such as the aforementioned Ethics Guidelines for Trustworthy AI, Draft text of the Recommendation on the Ethics of Artificial Intelligence, [6] Barcelona Declaration, [7] Ethical Impact Group of the IA: From principles to practice, [8] Technical methods for the regulatory inspection of algorithmic systems on social networking platforms [9] or AI systems classification framework at the OECD, [10] among others.

2. Goals

The aim of this article is to carry out an integrative review of the ethical implications of the use of AI in palliative care at the end of life. Through a critical

analysis of the recent literature, both the benefits and the risks associated with these technologies will be explored, with the aim of offering a balanced view which contributes to the debate on their ethical and responsible implementation.

Inspired by Lévinas' ethics of otherness, which emphasises the preservation of the patient's uniqueness, the following specific objectives will guide our analysis:

- Examining the current and potential applications of AI in palliative care.
- Identifying and analysing the main ethical implications associated with the use of AI in this context.
 - Assessing how AI can improve or negatively affect the patient's experience at the end of life.
 - Proposing considerations and recommendations for the ethical implementation of AI in palliative care at the end of life, considering Lévinas' ethics of otherness as a guiding principle to preserve the dignity and uniqueness of the patient.

Within the framework of the objectives set out, Lévinas' ethics of otherness (*Totality and Infinity: An Essay on Exteriority*. 1961/2002) [11] offers a crucial perspective for evaluating how AI can affect interpersonal relationships in palliative care. His approach emphasises the importance of preserving the uniqueness and dignity of the patient, which should be a guiding principle in the implementation of these technologies.

3. Methodology

This study was carried out using an integrative review, an approach which allows the synthesis of knowledge from different types of studies, providing a broad and comprehensive view of a complex subject. The review covered research published between 2020 and January 2025 in English, Portuguese and Spanish. The scientific databases consulted were PubMed, Scopus and Google Scholar, selected for their relevance in the biomedical and technological fields. In total, 29 relevant articles, which that met the inclusion criteria, were

identified.

3.1 Process of Search and Selection

The search process was designed to guarantee a rigorous and systematic approach. Keywords such as 'artificial intelligence', 'palliative care', 'palliative medicine', 'medical ethics', 'machine learning' and related combinations were used. The results obtained were filtered according to the following criteria:

Inclusion criteria:

- Studies published between 2020 and 2025;
- Research addressing the use of artificial intelligence in palliative medicine;
- Articles analysing the ethical implications or the patient experience in this context.

Exclusion criteria:

- Studies that did not focus specifically on palliative medicine;
- Research that did not include ethical analyses or analyses related to the patient's experience;
- Duplicate or non-peer-reviewed publications.

3.2 Organisation and analysis of data

The information extracted from the selected studies was organised thematically to identify trends, challenges and key considerations in the application of AI in palliative medicine at the end of life. The findings were grouped into predefined subject areas: Prediction and clinical decision-making; Symptom management and quality of life; Communication and emotional support; Process automation and modelling; Ethics and challenges in the implementation of AI; and Research and review of advances in AI. This approach allowed for the construction of a comprehensive understanding of the current and potential future impact of these technologies.

3.3 Guarantee of methodological rigour

To ensure the quality of the analysis, the following strategies were applied:

- Triangulation: The findings were compared between different studies to identify consistent patterns.
- Peer review: The methodology was reviewed by experts in bioethics and artificial intelligence to validate its adequacy.
- Critical evaluation: A comprehensive process was used to analyse and assess the quality, relevance and validity of the selected studies.

This procedure allowed us to identify strengths, limitations and possible biases in the included studies.

To this end, key questions were answered such as: Does the study explicitly address the use of AI in palliative medicine or its ethical implications? How robust are the methods used to assess clinical or ethical impact? Are possible risks associated with the use of AI in this context discussed?

Classification Criteria: Quality was evaluated considering factors such as methodology, scope, impact and relevance to the answers to our questions.

Most of the articles are in the middle category, as they offer valuable contributions, but with minor limitations. The high scores stand out for their rigour and relevance, while the low scores are useful as general context, but lack depth.

Authors	Year of publication	Areas of application	Main contribution of the article to our objectives
Balch et al. [12]	2024	Prediction and Clinical Decision Making	It carries out a review of the prediction of patient-reported outcome measures using AI.
Storlie et al. [24]	2024		It evaluates an AI/ML model designed to identify hospitalised cancer patients who could benefit from specialised palliative care.
He, J et al. [13]	2024		It proposes the use of machine learning to assign palliative care consultations during cancer treatments.
Liu et al. [14]	2023		It evaluates the use of portable devices and

			automatic learning to predict fatal events in patients with terminal cancer.
Schaeferle et al. [15]	2023		It evaluates the impact of a machine learning algorithm on the time to palliative care intervention in primary care through a randomised trial.
Morgan et al. [16]	2022		It presents a randomised trial using an AI/ML model to predict the need for specialised palliative care.
Porter et al. [25]	2020		It reflects on the risks and opportunities of AI-based prediction in palliative care.
Salama et al. [26]	2024	Management of symptoms and quality of life	It carries out a systematic review of AI and machine learning in cancer pain.
Lazris et al. [17]	2024		It compares AI-generated content (ChatGPT) with NCCN guidelines for the management of cancer symptoms.
Ott et al. [27]	2023		It evaluates the impact of intelligent sensor technologies on the principle of Total Care in palliative care.
Deutsch et al. [28]	2023		It uses machine learning to progressively monitor patient-reported outcomes in metastatic cancer.
Yang, T. et al. [18]	2021		It evaluates the potential of portable devices and automatic learning to predict fatal events within 7 days in terminal cancer patients.
Gondode et al. [30]	2024	Communication and Emotional Support	It evaluates the performance of AI chatbots (ChatGPT vs. Google Gemini) to demystify misconceptions about palliative care.
Srivastava et al. [29]	2023		It considers the possibilities of GPT-3 for improving communication in palliative care.
Reason et al. [31]	2024	Process Automation and Modelling	It evaluates the potential of large language models (LLMs) to automate economic modelling in healthcare.
Kamdar et al. [32]	2023		It debates on the future of AI in palliative care and hospice, highlighting both benefits and risks.
Windisch et al. [2]	2020		It addresses how AI can improve the quality and timing of palliative care interventions.
See, K. C. [35]	2024	Ethics and Challenges in the Implementation of AI	It explores the use of AI as an ethical advisor in clinical contexts.
Adegbesan et al. [19]	2024		It analyses the ethical challenges associated with the integration of AI in palliative care.
Ranard et al. [21]	2024		It analyses how to minimise algorithmic biases in critical care medicine through the use of AI.
De Panfilis et al. [20]	2021		It identifies key ethical challenges in the integration of AI in palliative care.
Ferrario et al. [33]	2023		It examines the ethics behind the algorithmic prediction of end-of-life care preferences.
Meier et al. [21]	2022		It proposes a concept for making ethical decisions based on algorithms in clinical environments.
Bozkurt et al. [38]	2024	Research and	It presents the protocol to investigate the diversity of data and the robustness of AI applications in palliative care and hospice.

<i>Macheka et al.</i> [39]	2024	Review of Advances in AI	It prospectively assesses AI applications in the course of post-diagnostic cancer treatment.
<i>Vu et al.</i> [36]	2023		It carries out a systematic review of machine learning applications in palliative care.
<i>Reddy et al.</i> [37]	2023		It reviews recent advances in AI applications for palliative care and support for cancer patients.
<i>Barry et al.</i> [22]	2023		It poses challenges for the delivery of evidence-based palliative care.
<i>Chua et al.</i> [23]	2021		It discusses the path towards the implementation of AI in oncology.

4. Results

This section analyses in detail the ethical and practical implications of the use of artificial intelligence (AI) in palliative medicine, especially at the end of life. The findings, organised thematically, provide a comprehensive view of the applications, challenges and opportunities offered by this technology in such a complex and sensitive context. It should be noted that the classification of the articles was complex, given that some covered more than one area of application. In these cases, priority was given to the category which reflected the main focus or the most significant contribution of the study.

4.1. Prediction and clinical decision-making

The ability of AI to predict specific patient needs and facilitate informed clinical decisions is one of its main contributions to palliative medicine. For example, Storlie et al. (2024) [24] developed a machine learning model designed to identify hospitalised cancer patients who could benefit from specialised palliative care, demonstrating a significant improvement in the accuracy of predictions compared to traditional methods. Likewise, they conducted a review of how AI can predict patient-reported outcome measures, allowing for more personalised treatment adjustments. However, Porter et al. (2020) [25] warn of the risks inherent in these predictions, emphasising the importance of balancing technological innovation with human sensitivity.

4.2. Management of symptoms and quality of life

The effective management of symptoms, the improvement of quality of life and the promotion of dignity are central priorities for palliative medicine, and AI is showing its potential in this field. Salama et al. (2024) [26] carried out a systematic review on how AI and machine learning can improve the management of cancer pain, highlighting promising advances in the personalisation of treatments. Furthermore, Ott et al. (2023) [27] evaluated the impact of smart sensors on the 'Total Care' principle, concluding that these devices can significantly improve real-time symptom monitoring. However, Deutsch et al. (2023) [28] emphasise that there are still limitations in terms of the robustness of the models and data diversity, which suggests the need for further research.

4.3. Communication and emotional support

Effective communication between professionals, patients and families is crucial in the field of palliative care, and AI offers new tools to improve it. Srivastava et al. (2023) [29] explored the possibilities of GPT-3 to facilitate communication in this context, noting that advanced language models can help address sensitive issues in an empathetic way. Similarly, Gondode et al. (2024) [30] evaluated the performance of AI-based chatbots, such as ChatGPT and Google Gemini, to demystify misconceptions about palliative medicine, obtaining positive results. Despite these advances, both studies recognise the importance of complementing these technologies with human interventions to avoid a possible dehumanisation of care.

From the perspective of Lévinas (1961/2002), this risk of dehumanisation represents a violation of the ethical relationship between carer and patient, emphasising the importance of preserving human uniqueness and dignity at all times. Therefore, the implementation of AI must balance technical efficiency with the ethical consideration of the patient's emotional and relational needs.

4.4. Process automation and modelling

The automation of processes through AI has the potential to optimise resources and improve efficiency in palliative medicine. Reason et al. (2024) [31]

demonstrated how large language models (LLMs) can automate economic modelling in healthcare, which could reduce costs and improve access to services. Windisch et al. (2020), [2] meanwhile, emphasised how AI can improve both the quality and timing of palliative care interventions, although they pointed out the need to integrate these technologies responsibly. Kamdar et al. (2020) [32] debated the future of AI in hospices, emphasising the importance of maintaining a patient-centred approach even in highly automated environments.

4.5. Ethics and challenges in the implementation of AI

The ethical implications of the use of AI in palliative medicine, and especially in the end-of-life setting, are complex and multifaceted. Ferrario et al. (2023) [33] analysed the ethical issues related to the algorithmic prediction of end-of-life care preferences, highlighting the need to guarantee transparency and accountability in the development of these systems. Ranard et al. (2024) [34] addressed the challenge of minimising algorithmic bias in critical care medicine, a particularly relevant problem in contexts where decisions directly affect patients' quality of life and dignity. Finally, See K-Ch. (2024) [35] proposed the use of AI as an ethical advisor, although it recognised that this application is still in its early stages and requires further research. From the perspective of Lévinas' (1961/2002) ethics of otherness, technological mediation should serve to enrich, and not hinder, the ethical relationship between carer and patient.

4.6. Research and review of advances in AI

Numerous studies have helped to document and systematise recent advances in the use of AI in palliative medicine. Vu et al. in 2023 [36] carried out a systematic review of machine learning applications in this field, providing a comprehensive overview of current trends. Reddy et al. (2023) [37] summarised key advances in AI-based symptom management, while Bozkurt et al. in 2024 [38] developed a protocol to investigate the robustness of these applications. Macheka et al. also in 2024 [39] prospectively evaluated the role of AI in post-diagnostic treatment pathways, highlighting its potential to transform traditional paradigms. These studies underline the importance of continued research to

maximise the benefits of AI while mitigating its risks.

Taken together, these findings demonstrate that AI has a fundamental role to play in the future of palliative medicine and especially in end-of-life care. From more accurate predictions to improvements in quality of life, in the experience of dignity and communication, AI applications offer innovative solutions to some of the biggest challenges in this field. However, it is also clear that their implementation must be guided by sound ethical principles and accompanied by rigorous research to ensure that the technologies do not compromise the dignity and well-being of patients, or their relationship with their doctors.

5. Discussion

Results show that AI can improve the efficiency of palliative care, but it also poses significant ethical risks, such as the risk of dehumanising it and the use of data and privacy. These findings coincide with previous studies by Diniz in 2019, [40] which highlight the need to balance technological innovation with the preservation of human dignity.

It is essential to reflect on the principle of non-maleficence, which demands that any technological innovation avoids negative impacts on the patient, minimising the risks of dehumanisation and violation of privacy. [41] Charity, meanwhile, demands that AI be used to provide the best possible care, always respecting the patient's wishes. On the other hand, distributive justice imposes the need to guarantee that these technologies do not deepen inequalities in access to quality palliative care, [42] positively enhancing access to palliative care. Therefore, a balanced ethical approach must consider both the benefits and the risks of AI, always in the light of the dignity and well-being of the patient.

However, it also raises important ethical and practical challenges which must be carefully addressed to ensure that these technologies do not compromise the dignity and well-being of patients.

Balance between technological innovation and ethical principles

From an ethical perspective, it is essential to reflect on fundamental principles such as **non-maleficence**, which requires minimising the risks associated with the implementation of AI, especially in such delicate contexts as end of life. Studies, such as those by Ferrario et al. and Ranard et al., highlight how algorithmic biases and a lack of transparency in decision-making can negatively affect patients. On the other hand, the principle of **beneficence** (doing good) emphasises the need to use AI to provide the best possible care, always respecting the wishes and values of the patient. From the perspective of Lévinas (1961/2002), the ethical relationship between carer and patient must be preserved, even when technological tools are introduced, which means avoiding any form of dehumanisation. In this sense, it is crucial that the AI tools used in palliative care have been duly evaluated and approved for their specific intended purpose, thus ensuring their effectiveness and safety.

Challenges related to privacy and equity

Data privacy is another crucial aspect which emerges from this review. The mass collection and processing of sensitive information requires clear and robust regulatory frameworks to protect patient privacy. Furthermore, distributive justice must be considered to guarantee that access to these technologies does not deepen existing inequalities in healthcare. As Miralles points out, [1] although multiple promising applications of AI in healthcare have been identified, its effective adoption remains limited due to the lack of clear policies and guidelines.

Impact on the patient's experience

In terms of the patient's experience, the studies analysed suggest that AI can significantly improve aspects such as clinical prediction, symptom management and communication. However, there is also the risk that these tools will reduce human interaction. For example, Srivastava et al. and Gondode et al. explored how chatbots and advanced language models can facilitate and reinforce communication in the field of palliative care, but they warn of the importance of complementing these technologies with empathetic human interventions, under the risk of dehumanising care. As AI provides additional information about

patients' conditions and can make predictions, the roles of patients and carers change and they are no longer the only source of information about their well-being. The results and recommendations of AI could be established as absolute, thus jeopardising human autonomy and self-determination. Therefore, maintaining the dialogue between the professional and the patient is particularly important to guarantee their autonomy and their importance as a source of information, without losing those aspects that are more difficult for AI to evaluate.

Future Prospects

Overall, these findings coincide with previous studies, such as those by Diniz (2019), which highlight the need to balance technological innovation with the preservation of human dignity. In order to move towards an ethical and responsible implementation of AI in palliative medicine, collaboration is required between experts in bioethics, technology and healthcare, as well as the participation of patients and families in the design and evaluation of these tools. These tools should be used in a complementary and responsible way and should never replace the specificity of the decision shared between doctors and their patients.

6. Conclusions

This integrative review has shown that artificial intelligence has a fundamental role in the future of palliative care at the end of life. Through applications, such as clinical prediction, symptom management, resource management, communication and process automation, AI offers innovative solutions to some of the biggest challenges in this field. However, its implementation must be carried out with a patient-centred approach and in line with fundamental ethical principles.

Key Recommendations

- 1. Clear policies and regulations:** There is an urgent need to develop regulatory frameworks which guarantee fairness, privacy and transparency in the use of AI in palliative care.

2. Humanising care: Technologies should be designed and applied in a way that complements - and does not replace - human interaction, preserving the dignity and uniqueness of the patient.

3. Continuous research: More rigorous studies are needed to evaluate both the benefits and the risks of AI in different clinical contexts, as well as to address pending issues related to algorithmic biases and data diversity.

4. Multidisciplinary participation: The successful implementation of AI requires collaboration between medical professionals, engineers, bioethicists and patients to ensure that these technologies respond to the real needs of the healthcare system and individuals.

To sum up, although AI has the potential to positively transform palliative medicine, its adoption must be guided by sound ethical principles and accompanied by rigorous research. Only this way will we be able to maximise benefits while mitigating risks, thus improving the experience and the results for patients in their final moments.

Authors' Contributions

Each author actively participated in the conception, development, and writing of this study. AGA, DGS, and ASV contributed to the conceptualization of the study and methodology, FLC, ACB, and HM contributed technical expertise and interpretation of the findings, and AGA and ASV participated in the drafting of the manuscript and critical revision of the content. All authors have read and approved the final version of the article.

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Conflicts of Interest

The authors declare that there are no conflicts of interest about the publication of this article.

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Supplementary Files

Figures

Results.

Authors	Year of publication	Areas of application	Main contribution of the article to our objectives
Balch et al. [12]	2024	Prediction and Clinical Decision Making	It carries out a review of the prediction of patient-reported outcome measures using AI.
Storlie et al. [24]	2024		It evaluates an AI/ML model designed to identify hospitalised cancer patients who could benefit from specialised palliative care.
He, J et al. [13]	2024		It proposes the use of machine learning to assign palliative care consultations during cancer treatments.
Liu et al. [14]	2023		It evaluates the use of portable devices and automatic learning to predict fatal events in patients with terminal cancer.
Schaeferle et al. [15]	2023		It evaluates the impact of a machine learning algorithm on the time to palliative care intervention in primary care through a randomised trial.
Morgan et al. [16]	2022		It presents a randomised trial using an AI/ML model to predict the need for specialised palliative care.
Porter et al. [25]	2020		It reflects on the risks and opportunities of AI-based prediction in palliative care.
Salama et al. [26]	2024		It carries out a systematic review of AI and machine learning in cancer pain.
Lazris et al. [17]	2024	Management of symptoms and quality of life	It compares AI-generated content (ChatGPT) with NCCN guidelines for the management of cancer symptoms.
Ott et al. [27]	2023		It evaluates the impact of intelligent sensor technologies on the principle of Total Care in palliative care.
Deutsch et al. [28]	2023		It uses machine learning to progressively monitor patient-reported outcomes in metastatic cancer.
Yang, T. et al. [18]	2021		It evaluates the potential of portable devices and automatic learning to predict fatal events within 7 days in terminal cancer patients.
Gondode et al. [30]	2024	Communication and Emotional Support	It evaluates the performance of AI chatbots (ChatGPT vs. Google Gemini) to demystify misconceptions about palliative care.
Srivastava et al. [29]	2023		It considers the possibilities of GPT-3 for improving communication in palliative care.
Reason et al. [31]	2024	Process Automation and Modelling	It evaluates the potential of large language models (LLMs) to automate economic modelling in healthcare.
Kamdar et al. [32]	2023		It debates on the future of AI in palliative care and hospice, highlighting both benefits and risks.
Windisch et al. [2]	2020		It addresses how AI can improve the quality and timing of palliative care interventions.
See, K. C. [35]	2024	Ethics and Challenges in the Implementation of AI	It explores the use of AI as an ethical advisor in clinical contexts.
Adegbesan et al. [19]	2024		It analyses the ethical challenges associated with the integration of AI in palliative care.
Ranard et al. [34]	2024		It analyses how to minimise algorithmic biases in critical care medicine through the use of AI.
De Panfilis et al. [20]	2021		It identifies key ethical challenges in the integration of AI in palliative care.
Ferrario et al. [33]	2023		It examines the ethics behind the algorithmic prediction of end-of-life care preferences.
Meier et al. [21]	2022		It proposes a concept for making ethical decisions based on algorithms in clinical environments.
Bozkurt et al. [38]	2024		It presents the protocol to investigate the diversity of data and the robustness of AI applications in palliative care and hospice.
Macheke et al. [39]	2024	Research and Review of Advances in AI	It prospectively assesses AI applications in the course of post-diagnostic cancer treatment.
Vu et al. [36]	2023		It carries out a systematic review of machine learning applications in palliative care.
Reddy et al. [37]	2023		It reviews recent advances in AI applications for palliative care and support for cancer patients.
Barry et al. [22]	2023		It poses challenges for the delivery of evidence-based palliative care.
Onye et al. [23]	2021		It discusses the path towards the implementation of AI in oncology.

TOC/Feature image for homepages

Illustration related to the application of AI in Palliative Medicine.

