

**EFFECTIVENESS OF PALLIATIVE HOME CARE ON CLINICAL, EMOTIONAL AND ECONOMIC WELL-BEING AT THE END OF LIFE: A NARRATIVE REVIEW**

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**ABSTRACT**

**Introduction:** Palliative home care is essential for terminally ill patients. This integrated approach is not limited to physical care, but also embraces the psychological, social and spiritual aspects of the patient. This model of care, focused on the patient and their family, aims to ensure quality health care during the advanced stage of a disease. In addition, by reducing the need for hospital admissions, palliative home care reduces costs, providing a sustainable alternative for the health system.

**Objective:** To describe the knowledge related to the clinical, emotional and economic impact of palliative home care in cancer patients

**Materials and Methods:** A narrative review was conducted using databases such as PubMed, Cinahl and Cochrane Library between December 2023 and March 2024, using the Population, Intervention, Outcome (PIO) methodology. The survey generated 551 articles, of which only 6 were relevant to the study. The selection of studies was guided by inclusion and exclusion criteria, with a quality assessment using the Dixon Woods instrument.

**Results:** The studies included in the review have demonstrated a positive and significant impact of palliative home care on the well-being and quality of life of terminal cancer patients. Some of these studies have examined the clinical efficacy of such treatments in mitigating the patient's symptoms, with conflicting results: while some have shown positive efficacy, others have not found the same result. Regarding the cost-effectiveness, the analysis highlighted a lack of definitive evidence on the possible economic advantage of palliative home care compared to hospital care.

**Conclusions:** Palliative home care emerges as a crucial element in the nursing care of the terminally ill cancer patient: it offers essential psychological support, enabling patients to feel understood and listened to with regard to their needs and requirements. However, there are some discrepancies, particularly with regard to economic effects and symptom control.

**Keywords:** palliative home care; terminal care; quality of care; quality of life; cost-effectiveness analysis.

## INTRODUCTION

Cancer represents one of the most significant global public health challenges of our time, with a significant and tangible impact on the lives of patients and their families [1,2]. Updated estimates by the International Agency for Research on Cancer (IARC), report almost 20 million new cancer cases worldwide (including non-melanoma skin cancers – NMSC) and 9.7 million cancer deaths (including NMSC). Data indicate that about one in five men or women develop cancer during their lifetime, while about one in nine men and one in 12 women die from it [3].

Over the years, the efforts of the scientific community have focused on improving the quality of life of cancer patients, who find themselves facing complex and challenging obstacles due to the disease. In this perspective, palliative care (PC), understood as the "*active and holistic care of individuals of all ages with significant health-related suffering due to serious illness, and especially those nearing the end of life*" [4] aims to improve the quality of life of patients, their families and caregivers. [5]

The typical patient undergoing palliative care for advanced cancer is often an older or elderly person with a diagnosis of metastatic or locally advanced malignancy, where curative options are limited or unavailable. This individual has probably been through numerous lines of cancer treatment, including surgery, chemotherapy and radiotherapy, which over time have led to a progressive reduction in quality of life due to cumulative side effects and the disease itself [6]. The clinical condition is characterised by complex and multidimensional symptoms, such as chronic pain, dyspnoea, pronounced asthenia, cachexia, and gastrointestinal symptoms such as nausea and constipation. The patient may also manifest cognitive disorders or psycho-emotional symptoms, such as anxiety, depression and a sense of loss of autonomy, which reflect the heavy psychological impact of the terminal illness [7].

From the socio-familial point of view, the patient is often surrounded by a support network of close family members, but is confronted with the difficulty of having to accept the increasing dependence on others for activities of daily living. Often, this person is in ongoing dialogue with the palliative care team to manage symptoms and make shared decisions about end-of-life care while seeking to maintain some dignity and comfort in the remaining time [8].

According to the World Health Organisation (WHO), PC represents one of the fundamental pillars of health care, involving more than 56.8 million people worldwide annually [9,10]. In Italy, about 1–1.4% of the

population needs palliative care, recognised as an integral part of the human right to health [11,12]. In this context, palliative home care plays a crucial role. Palliative home care, in fact, is reflected in a model of care focused on the person, aimed at ensuring high-quality health care [5]. On the physical side, they alleviate debilitating symptoms associated with disease, such as pain, nausea and vomiting, reducing the cancer patient's physical suffering and improving his or her clinical well-being through pharmacological and non-pharmacological therapies [13, 14]. On the emotional level, they offer complete psychological support to the patient and their family members, helping to meet their needs, in order to mitigate emotional distress and achieve spiritual balance [14-16]. This approach not only improves the quality of life of the terminally ill patient, but also alleviates the stress and anxiety of family members, creating a comfortable environment [17]. In the context of home care, nurses play a fundamental role in the delivery of palliative care, often representing the first point of contact for cancer patients. Growing evidence demonstrates the significant positive impact nurses have on the quality of care provided, improving symptom management, emotional support and overall coordination of care [18]. They are committed to creating a safe and efficient home environment, actively collaborating with the patient and family [18]. They instruct the latter on self-care techniques and the use of necessary medical equipment, promoting their autonomy [19]. They plan home care according to individual needs, constantly monitor the patient's clinical conditions and adapt interventions in a timely manner, acting promptly when necessary [19]. Finally, during the terminal stages of the disease, they provide support to the patient and caregivers, aimed at ensuring dignity and peace of mind, facilitating a respectful transition to death [12]. In addition, a study revealed that home care for cancer patients not only optimises their satisfaction, but also results in a more positive experience with a significant reduction in healthcare costs [20]. Patients receiving palliative home care are less likely to be hospitalised or go to the emergency room than those receiving standard care. This helps to reduce the frequency of hospital admissions, days spent in hospitals or care facilities, and medical services used, thus lowering the overall costs of end-of-life care [20-22]. It is estimated that care costs are reduced by about 34% in patients managed through PC compared to those who do not have access to PC.

In light of this, investigating the clinical, emotional and economic effectiveness of palliative home care appears to be of strategic importance in order to improve the approach to end-of-life care for cancer patients.

**Objective**

To describe the knowledge related to the clinical, emotional and economic impact of palliative home care in cancer patients

**MATERIALS AND METHODS**

A narrative review was conducted in compliance with the Preferred *Reporting Items for Systematic Reviews and Meta-Analyses Statement* (PRISMA) [23] and the guidelines for writing a narrative review to be published in peer-reviewed journals [24].

**Study design**

The research aims to answer the following question, formulated according to the *Population, Intervention, Outcome* (PIO) methodology: *To what extent does palliative home care help to ensure clinically, emotionally and economically effective care for patients with terminal cancer over the age of 18?*

The PIO defines the population subject to analysis, the intervention to be implemented and the outcomes (Table 1).

<b>P</b>	Patients > 18 years of age with terminal cancer
<b>I</b>	Palliative home care
<b>O</b>	Clinical, emotional and economic effectiveness

**Table 1.** Question according to the PIO method.

**Research strategy**

Bibliographic research was conducted in the period between the end of December 2023 and March 2024, consulting the following scientific databases: *PubMed*, *Cinahl*, and the *Cochrane Library*. The keywords used for the research were: "*palliative care*", "*palliative home care*", "*home care services*", "*home-based palliative care*", "*cancer*", "*cancer patients*", "*terminally ill*", "*terminal cancer*", "*quality of care*", "*quality of life*", "*cost-effectiveness analysis*", "*nurse-patient relations*". The keywords were combined through the use of the Boolean operators "AND" and "OR", which made it possible to filter the results and make the search more specific.

Subsequently, to obtain general information on palliative care, websites of national bodies and scientific associations were consulted. These include the official websites of the Istituto Superiore della Sanità and the Ministry of Health, as well as those of associations such as the Italian Society of Palliative Care (SICP), the Italian Association of Medical Oncology (AIOM), the Italian Association of Cancer Patients (AIMAC) and the European Society for Medical Oncology (ESMO).

### **Inclusion and exclusion criteria**

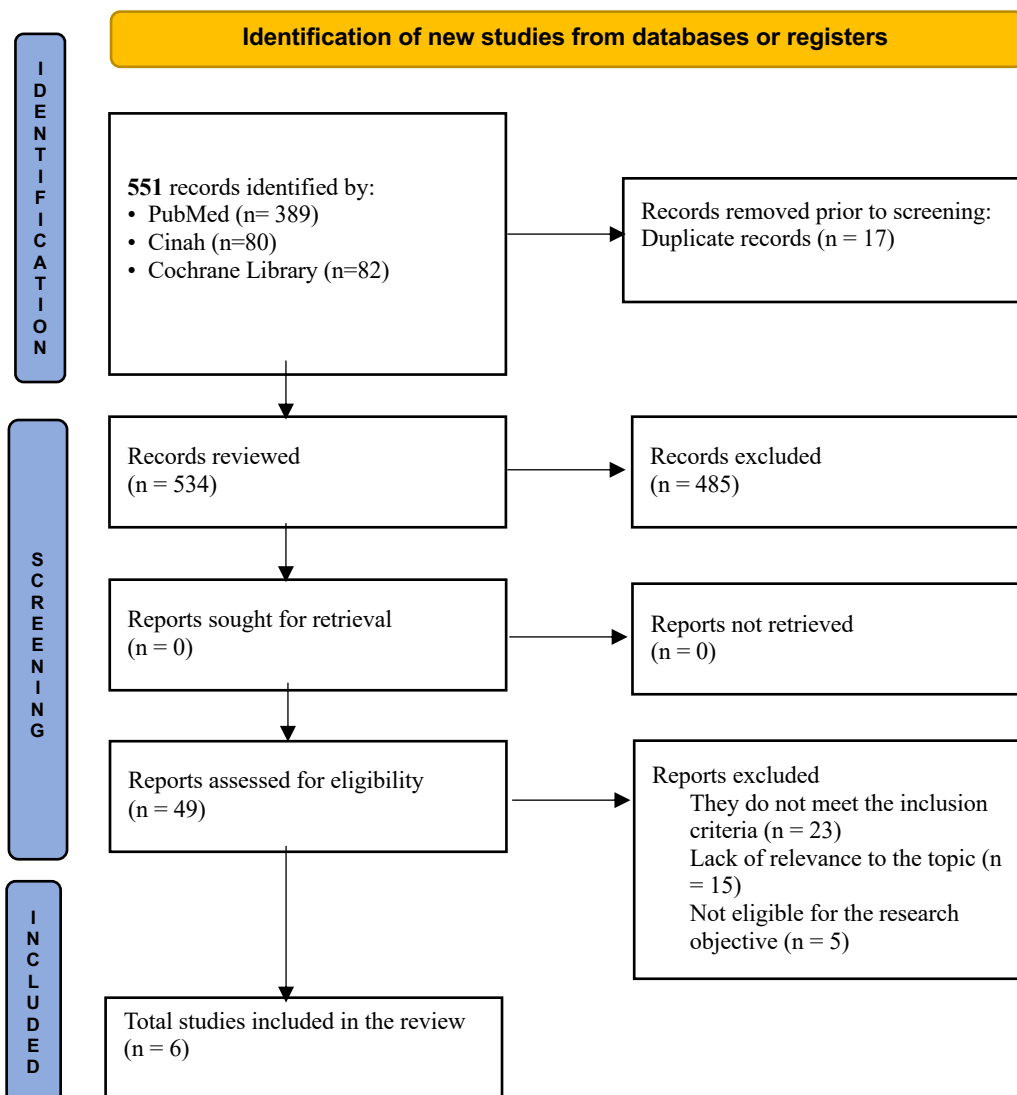
During the first phase of research and the selection of studies, specific inclusion and exclusion criteria were defined for the various databases, such as *PubMed*, *Cinahl* and the *Cochrane Library*. A restricted time criterion was applied, limiting the survey to articles published between 2019 and 2024. We included: a) primary studies; b) secondary studies; c) articles on patients with cancer over the age of 18; d) articles in English and Italian; e) articles available free of charge for the abstract and full text.

The following were excluded: a) studies concerning patients with oncological diseases under the age of 18 years and those concerning patients with non-oncological diseases; b) articles published before 2019 or which did not meet the stipulated time interval; c) articles written in a language other than English or Italian.

### **Selection of studies**

The survey yielded a total of 551 articles (389 on *PubMed*, 80 on *Cinahl* and 82 from *the Cochrane Library*). The articles obtained from the three databases were analysed in the preliminary phase. 17 duplicate articles were excluded. The remaining 534 were examined by title and abstract. Of these, 485 were discarded because they were not relevant to the main theme or were inconsistent with the inclusion criteria. Of the 49 remaining articles, the full text was examined. Of these, 43 were excluded from the review because they were not suitable for the search objective and inclusion criteria when reading the full text; 6 articles were included.

The method used in the selection of articles for this review is illustrated below in a flowchart compliant with the PRISMA-ScR (*PRISMA Extension for Scoping Reviews*) methodology [20]. This diagram highlights the final choice of the included articles (Figure 1).



**Figure 1.** Flowchart model of PRISMA-ScR (PRISMA Extension for Scoping Reviews).

### Quality Assessment

To assess the methodological quality and homogeneity of the studies included in the review, the method proposed by Dixon-Woods was used by means of a specific checklist [25]. This checklist comprises five domains to assess the methodological quality of the studies, and each article was assigned an overall rating based on the assessment of these domains. Studies that received a score of less than 3 "yes" answers were excluded from the analysis. Those with 3 "yes" answers were considered discrete, while studies with 4 "yes" answers were classified as good and those with 5 "yes" answers were considered to be of excellent quality

(Table 2).

<i>Author(s), year</i>	Are the aims and objectives of the research clearly stated?	Is the research design clearly specified and appropriate to the purposes and objectives of the research?	Do the researchers provide a clear account of the process by which their results were reproduced?	Do researchers present enough data to support their interpretations and conclusions?	Is the method of analysis appropriate and adequately explained?	SCORE
<i>Patel et al., 2023</i>	YES	YES	YES	YES	YES	Excellent
<i>Riolfi al., 2021</i>	YES	YES	YES	YES	YES	Excellent
<i>Shepperd et al., 2021</i>	YES	YES	YES	YES	YES	Excellent
<i>Biswas al., 2022</i>	NO	YES	YES	YES	YES	Good
<i>Constantinou et al., 2022</i>	YES	YES	YES	YES	YES	Excellent
<i>Kim et al., 2022</i>	YES	YES	YES	YES	YES	Excellent

**Table 2.** *Quality appraisal according to Dixon-Woods scale*

## RESULTS

The results of the review highlighted six studies relevant to the research objective. These include two quantitative cross-sectional studies [26,27], a study using mixed methods [28], a retrospective study [29], a systematic review [30], and finally a cost-effectiveness study [31]. The studies were conducted in several countries, including Bangladesh [26], the Republic of Cyprus [27], India [28], Italy [29], the United Kingdom [30] and Korea [31]. The studies selected by the review involve a total of 1702 patients with cancer. 68 patients participated in the mixed study [28], 375 patients in the retrospective cohort study [29], 1128 patients in the systematic review [30], while 131 patients were involved in the remaining quantitative cross-sectional studies



[26,27]. The cost-effectiveness analysis considered a hypothetical cohort of patients with terminal cancer [31]. In two studies [28,29], patients enrolled were predominantly male; in one observational study [26], by contrast, 76.5% of patients were female. Only in one study were there similar proportions between men and women [30]. Of the six included studies, the mixed method study compared palliative home care with hospice care [28], while two studies [30,31] compared palliative home care with the usual palliative care in inpatient units. The main characteristics of the studies are summarised in the following summary table (Table 3);

Author, year	Study design	Population	Country in which the study was carried out	Goal of the study	Results
<i>Biswas et al., 2022 [26]</i>	Cross-sectional study	n=51 terminal cancer patients	Bangladesh	Assessing the quality of life of patients with cancer illnesses receiving palliative home care. Identify the factors that influence physical well-being and symptom control.	Palliative home care proved effective in promoting social and emotional well-being for the majority of patients included in the study. However, it showed limited effectiveness in controlling symptoms.
<i>Constantinou et al., 2022 [27]</i>	Cross-sectional study	n=80 patients with cancer	Republic of Cyprus	Conducting an analysis of the quality and effectiveness of palliative care delivered at home, while assessing the level of patient satisfaction.	Participants rated the overall quality of palliative home care positively, highlighting a satisfactory level of psychological support.
<i>Patel et al., 2023 [28]</i>	Mixed method study	n=68 patients with terminal cancer	India	Examining how patients with terminal cancer perceive the quality of palliative care in different contexts and measuring quality of life. Inizio modulo	- Positive impact on the QoL of the terminal patient both at home and in the Hospice. The need to expand access to palliative care, increasing its coverage.
<i>Riolfi et al., 2021 [29]</i>	Retrospective cohort study	n=375 cancer patients	Italy	Examining the effectiveness of palliative home care in reducing costs by minimising admissions to acute care facilities.	Palliative home care reduces hospital admissions and hospital days in the last two months of life, while increasing the probability of death at home, ensuring the patient's well-being at the end of life.
<i>Shepperd et al., 2021 [30]</i>	Systematic review	n=1128 patients in the terminal stage	United Kingdom	Examining the effectiveness of palliative home care in reducing the likelihood of death in the hospital setting, in mitigating patient symptoms, in reducing health system costs, as an alternative to hospital and hospice care	Palliative home care increases the likelihood of death at home for the patient. Uncertainty persists regarding symptom control and the impact on health system costs.

<i>Kim et al., 2022 [31]</i>	Cost-effectiveness analysis study	Hypothetical cohort of terminal cancer patients who have benefited from palliative home care.	Korea	To investigate the economic advantage of palliative home care compared to hospital care.	Palliative home care can result in a doubling of expenses compared to hospital care. However, the cost-benefit outcome is uncertain.
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**Table 3.** Summary of the selected studies

### Clinical effectiveness

Two studies included in the review show a positive effectiveness of palliative home care in alleviating patients' symptoms [28,29], while others do not find the same result [26,30]. The study by Riolfi et al. [26] showed that patient care by palliative home care services improves the control of psycho-physical symptoms that occur towards the end of life. Similarly, Patel et al. [28] highlighted effective symptom management by the home care team. In contrast, the research by Biswas et al. [26] found below-average physical well-being in 60.8% of the patients included in the survey, who complained of feeling sick (54.9%), lack of energy (43.1%), and pain (47.1%). The study calls for more research aimed at improving interventions for symptoms. Finally, the study conducted by Shepperd et al. [30] shows uncertain outcomes on symptom control.

### Emotional effectiveness

Three studies [26-28] have highlighted the positive impact of palliative home care on the well-being and quality of life of patients with cancer. In the study by Biswas et al. [26], 92.1% of patients who received palliative home care demonstrated above-average emotional and social well-being. However, the greater well-being seems to be related to the duration of the care provided (> months) and to a less ominous prognosis. The investigations by Constantinou et al. [27] and Patel et al. [28] also reveal that palliative home care guarantees greater psychological support.

### Cost effectiveness

The impact of palliative home care on health system costs has been the subject of conflicting considerations among the various studies included in the review. The study conducted by Riolfi et al. [29] indicates potential savings thanks to palliative home care that reduces costs related to hospitalisation, access to the emergency

room and days in hospital. In contrast, the systematic review conducted by Shepperd et al. [30] highlighted a certain degree of uncertainty regarding the effect of home services on health system costs. The study conducted by Kim et al. [31] also revealed ambiguous and inconclusive results.

## **DISCUSSION**

This review provided an analysis of the clinical, emotional and economic effectiveness of home palliative care for terminal cancer patients. A positive and significant effect of such treatments on patients' psychological well-being was found, in line with studies conducted by Biswas et al [26], Constantinou et al. [27] and Patel et al. [28]. Home care has been shown to offer essential psychological support, enabling patients to feel understood and listened to about their needs and alleviating the emotional burden of illness. The choice to die at home promotes the emotional well-being of terminal patients, maintaining normality and social integration until the end of life [29-31]. Family support offers spiritual and emotional comfort, reducing anxiety and discomfort. Indeed, none of the research conducted showed that patients prefer to die in a hospital environment rather than in their home environment. However, only a fraction of the estimated total of patients who require it manage to benefit from it. A 2019 study, based on data collected through the palliative home care monitoring portal, showed that in 2013, 38,384 cancer patients were assisted by home care units [32], while many others could not benefit from such services. The Italian reality, therefore, does not guarantee uniform coverage throughout the country; suffice it to say that, at present, only 59% of the local health authorities have an active palliative care network, highlighting the urgent need to expand access [29,33]. The lack of studies conducted specifically in Italy is also a significant limitation in understanding the clinical, emotional and economic effectiveness of home palliative care in the terminal cancer patient. In fact, only one study [29] considered this scenario, whereas the other surveys included in the review refer to different countries. It is well known that differences in health care systems, available resources and modes of care between countries can greatly influence the results of studies and complicate the extension of results in a different context.

One study suggests potential cost savings through home-based services [29], while others, such as the research by Shepperd et al. [30] and Kim et al. [31], point to uncertainties or a lack of significant differences in costs compared to hospital care. It is not yet clear whether home care is more beneficial in terms of results and costs for terminal cancer patients. This highlights the need for further research on the economic impact of palliative

home care. Although the cost-effectiveness analysis is not conclusive, the lack of negative impacts on other results could justify the implementation of home services to meet the needs of patients.

Similarly, with regard to symptom control, a diversity in results has emerged that highlights the importance of adopting personalised approaches to manage them effectively.

Palliative home care brings emotional benefits, but uncertainties remain regarding its effectiveness in controlling symptoms and its economic impact compared to hospital care. It is essential to consider patient diversity when designing personalised strategies. Further detailed research is needed to examine these aspects.

Despite this, the implementation of home care programmes for end of life seems promising, but it is essential to improve and expand services to respond to the growing demand and ensure adequate support for patients in their home environment.

In this context, the nurse assumes a vital role in offering complete and patient-centred care, designing a personalised care plan. Through specialised training and constant professional updating, the nurse is able to guarantee high-quality palliative care, working in close collaboration with the other professionals in the palliative care team. This multidisciplinary approach ensures that the physical, emotional and spiritual needs of the patient are adequately met [34]. Using their skills, the nurse educates the patient on the management of typical symptoms that can occur during the terminal phase of cancer, such as pain, nausea and dyspnoea, teaching the patient strategies that can be effective.

Nursing not only allows the patient to autonomously manage symptoms, but also helps to provide a feeling of security and tranquillity regarding their situation [35].

At the same time, the nurse is actively engaged in the education of family members, so that they can acquire the skills and competences necessary to offer the appropriate support to the patient [36,37]. In addition, the nurse provides information on the resources available in the community, such as support groups, to expand the usable support network, in order to support the patient and their family during the course of the disease. This significantly contributes to preventing the patient and their loved ones from feeling isolated during this delicate phase [38]. However, nursing care is not only limited to alleviating physical suffering; in fact, the role of the nurse at this critical moment is crucial and goes far beyond the simple monitoring of physical symptoms. They offer constant and comprehensive support to both the patient and their family members, improving quality of life until the last moment. The main objective is to face the evolution of the disease in the most comfortable,

reassuring and respectful way possible, and to facilitate a smooth transition towards the end of life that allows the patient to manage their condition with dignity and peace of mind [10,28,33].

### **Limitations of the study**

This review has some limitations, which hinder its applicability in the context of the Italian health system. First, the limited number of databases consulted may have reduced the amount of articles identified, potentially excluding relevant information. The choice of inclusion criteria, although targeted, excluded studies relating to palliative care delivered at the outpatient and hospice level, focusing exclusively on home care. This approach, while guaranteeing a precise focus, on the other hand limits the completeness of the data collected and loses useful knowledge, excluding a broader vision of palliative care.

. Some of the studies included in the review [26-28] had unrepresentative or small samples of participants, which could influence the generalisability of the results.

### **Implications for clinical practice**

The review suggests that palliative home care may be useful for patients with terminal cancer. In particular, the review highlights the benefits that could be derived from the use of palliative home care in promoting the psychological well-being of cancer patients and enabling terminal patients to spend their last days in the comfort of their own home environment, as desired by them. In fact, in order to apply the results of the review, it is essential to implement palliative home care programmes and services that reduce the use of hospital facilities. Adequate human resources must be provided, suitably trained in palliative home care. The health personnel involved in the treatment, in fact, must have advanced skills in pain management, symptom control and coordination of health and social services. This approach not only aims to improve the quality of life of the patient through a more effective control of symptoms, but also to offer fundamental emotional and social support during the advanced stages of a disease. The continuity of home care allows to establish relationships of trust between the patient, family members and the medical team, facilitating a more personalised and human-centred management of care.

Another crucial point concerns the careful monitoring of symptoms. Implementing specific protocols for the assessment and management of symptoms allows treatment to be adapted in a timely manner to the individual

needs of the patient, ensuring optimal comfort and improving quality of life even in the most delicate phases. However, it is also essential to consider the economic aspect of palliative home care, therefore, studies dealing with the continuous and accurate cost-benefit assessment are required to balance the clinical effectiveness with the economic sustainability of such interventions.

## **CONCLUSIONS**

The objective of the study was to describe the knowledge related to the clinical, emotional and economic impact of palliative home care in cancer patients. The review conducted suggests that palliative home care is a crucial element in the care of the terminally ill cancer patient, fundamental to ensuring adequate end-of-life management.

Our review shows that home care offers essential psychological support, enabling patients to feel understood and listened to with regard to their needs and requirements. However, some discrepancies have emerged, particularly with regard to the effectiveness of PC in terms of symptom control and reduction of economic costs, therefore, it is hoped that more field studies will be carried out in order to provide a broader and more detailed picture of the effectiveness of palliative care in these areas.

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## **CONFLICT OF INTEREST**

The authors report no conflict of interest.

## **AUTHORS' CONTRIBUTION**

All authors contributed equally.

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