Chapter 55

Effects of physiotherapy intervention in lung cancer patients under palliative care: integrative literature review

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ABSTRACT

Lung cancer is one of the most common and lethal neoplasms. Its presence entails several functional repercussions, threatening the continuity of life. As the disease progresses, palliative care physiotherapy enters this scenario as a means of promoting functionality, quality of life, autonomy and dignity for the patient and his family, in a biopsychosocial way. This research aimed to verify the effects of the physiotherapy approach in patients with lung cancer under palliative care, to identify the attributions and limitations of physiotherapy in the palliative care of patients with lung cancer; and to know the physiotherapeutic interventions used in the functional repercussions of lung cancer, such as: dyspnea, cough, pain and fatigue. This is an integrative literature review carried out in the scientific databases PubMed, PEDro, Virtual Health Library and Google Scholar, through publications from the last ten years (2012-2022). The descriptors used were lung cancer (lung cancer), physiotherapy (physiotherapy) and palliative care (palliative care), including 12 articles that covered the established objectives. The selected studies showed a predominance of patients in advanced stages of cancer, who present great loss of muscle mass, decreased muscle strength, fatigue, as well as depression and anxiety. The physiotherapeutic resource most reported in the literature was kinesiotherapy, with emphasis on resistance and aerobic exercise programs Most outcomes showed benefits, such as reduction in levels of fatigue, dyspnea, pain, improvement in performance status, level activity, self-esteem, functional capacity and emotional aspects, resulting in maintenance of quality of life. On the other hand, the samples and interventions were not homogeneous, which in some of the studies may not have shown significant improvements in such dysfunctions. In view of the above, it is evident that physiotherapists need continuous improvement in palliative care, and must understand each phase of the process, which leads to use and when to use them, without subjecting the patient to futile measures or not providing adequate proportionate care.

Keywords: Lung cancer, Palliative care, Physiotherapy.

1 INTRODUCTION

Lung cancer is the second most common type of cancer. Its risk factors include smoking, exposure to environmental or occupational carcinogens, chronic obstructive pulmonary disease (COPD), and genetic predisposition. The signs and symptoms of the disease involve pain, dyspnea, fatigue, and, cachexia mainly in the late stage of the disease, causing poor physical functional condition as well as psychosocial disorders (GRANGER, 2016).

Ozalevli (2013) report that this type of cancer produces more deaths than the total of other cancers, such as breast, prostate and colorectal. In addition, patients with lung cancer have high mortality and high morbidity, facing problems related to the disease that compromise the performance of the treatment and course with severe decrease in functional condition.

Lung cancer constitutes a life-threatening disease with a decline in functionality from diagnosis to death. Thus, in order to improve the quality of life of patients and their families, the need arises for the implementation of Palliative Care (PC), which is active holistic care, provided to people of all age groups in intense suffering related to their health, due to a serious disease, especially those who are at the end of life (INTERNATIONAL ASSOCIATION OF HOSPICE AND PALLIATIVE CARE, 2018).

Mendes et al (2020) state that physical therapy plays an essential role in the practice of palliative care, since it aims to mitigate the physical-functional repercussions of the pathology, promoting the maximum possible autonomy and independence to the patient. Costa and Duarte (2019) corroborate that it is essential not only to recognize the impossibility of curative approach, but also to discern when a certain therapeutic conduct will not favor the patient, but only his survival in suffering.

Pyszora et al (2017) point out that the physiotherapeutic approach is one of the components of multifaceted symptom management in palliative care, emphasizing that it can allow patients to improve their physical activity, reduce fatigue, and optimize their functional status, positively impacting their quality of life. However, the authors point out that research that seeks to develop the type, intensity, and duration of specific therapeutic interventions is of paramount importance.

The general objective of this study is to verify the effects of the physiotherapeutic approach in patients with lung cancer under palliative care. As specific objectives: to identify the attributions and limitations of physiotherapy in the palliative care of patients with lung cancer; and to know the physiotherapeutic interventions used in the functional repercussions of lung cancer such as dyspnea, cough, pain and fatigue.

The methodology is an integrative literature review conducted in scientific databases (PubMed, PEDro, Virtual Health Library and Google Scholar) of publications from the last ten years (2012-2022). The descriptors that guided the search were *lung* cancer, *physiotherapy* and *palliative care*, being included in this work 12 articles that met the established objectives.

2 CANCER

The term "Cancer" involves more than one hundred different types of malignant diseases and is defined as the disordered growth of cells, which can invade both surrounding tissues and distant organs. Such cell growth tends to be uncontrollable and aggressive, leading to the formation of tumors (INCA, 2020).

The process of cancer formation is called carcinogenesis that starts from an alteration in the cell's DNA, which begins to receive incorrect instructions for its functions. These changes can occur in protooncogenes, which at first are inactive in normal cells, but, when activated, become oncogenes, which are responsible for the transformation of normal cells into cancer cells (INCA, 2021).

Lung Cancer

Steven et al. (2016) report that worldwide, lung cancer is one of the most lethal of solid cancers. It starts in the lungs and can spread to lymph nodes or other organs in the body, and are called *metastases.*

Lung cancers are generally categorized into two main groups called small cell and non-small cell (including adenocarcinoma and squamous cell carcinoma), with non-small cell being more common. Such types of cancer develop differently and are not treated in the same way (CENTERS FOR DISEASE CONTROL AND PREVENTION, 2022).

This type of cancer is associated with great physical and functional difficulties, occasioned by a set of important symptoms that include dyspnea, fatigue, persistent cough, bloody sputum, pain in the chest region, hoarseness, unexplained weight loss, recurrent pneumonia or bronchitis, cachexia, and insomnia, which result in high patient distress and interference with their quality of life (GRANGER, 2016; BRASIL, 2022).

Regarding the risk factors for the disease, Cruz et al (2013) state that the magnitude of the effect of smoking exceeds all other factors that cause lung cancer and that the risk of developing the disease increases with the duration of smoking and the number of cigarettes smoked per day. Moreover, other factors contribute to the induction of carcinogenesis such as chronic obstructive pulmonary disease (COPD); dietary factors through low serum concentrations of antioxidants, such as vitamins A, C, and E; substances present in certain workplaces, i.e., asbestos, arsenic, beryllium, cadmium, chromium, nickel, silica, and diesel fumes.

Cancer is estimated to be the leading cause of death and a considerable impediment to increased life expectancy in all countries of the world in the 21st century. Proportionately, both cancer incidence and mortality are growing rapidly worldwide. The reasons why this is happening are associated with aging and population growth (BRAY et al., 2018).

Internationally, lung cancer has been the most commonly diagnosed cancer in recent decades. In the case of emerging nations, comprising Brazil, Russia, India, China and South Africa (BRICS) there is a lower incidence of cancer, but a higher mortality burden when compared to developed countries. This is due to unequal access patterns to health services, leading to delays in diagnosis and treatment, environmental contamination, sociocultural barriers, and consequent advancement of the disease to the most lethal stages (BARTA et al., 2019).

The 2020 estimates indicate that lung cancer is the third most common in men (17,760 new cases) and the fourth in women in Brazil (12,440 new cases). Worldwide, it is the first in incidence among men and the third among women (INCA, 2022).

In terms of mortality, it is the first among men and the second among women, according to world estimates for 2020, which show an incidence of 2.12 million new cases, 1.35 million of which in men and 770,000 in women. The relative five-year survival rate is 18%, 15% for men and 21% for women. Only 16% are diagnosed at an early stage, and the five-year survival rate is 56% (INCA, 2022).

Mathias et al (2020) report that the data are still underestimated due to the high rate of underdiagnosis and underreporting. In addition, the prevalence of non-small cell lung cancer (NSCLC) has been decreasing among men, while it has increased in the female population, especially among those who have never smoked.

The classification is according to the type of cells present in the tumor. The two main ones are **non-small cell cancer**, which is the most common, and **small cell cancer**. Non-small cell lung cancer is subdivided into three categories: **adenocarcinoma, squamous cell cancer,** or epidermoid cancer, and **large cell cancer**. Small-cell cancer accounts for less than 20% of cases, and is most often associated with tobacco use. It usually begins in the bronchi, but grows rapidly and spreads to other areas, including the lymph nodes (A.C. CAMARGO CENTER, 2021).

About 80% to 85% of lung cancers are non-small cell lung cancers (NSCLC), and although the subtypes start in different lung cell types, their treatment and prognosis are usually similar. **Adenocarcinoma** begins in cells that secrete substances such as mucus. It occurs mainly in women and individuals who smoke or have smoked, but it is also the most common type seen in people who do not smoke. **Adenocarcinoma *in situ*** tends to have more favorable prognoses than other types of lung cancer (AMERICAN CANCER SOCIETY, 2019).

Vieira et al (2017), state that squamous cell carcinoma appears in the lung, usually in the central bronchus, with endobronchial growth and also covers the lung lobes. The clinical manifestations appear early, such as cough and hemoptysis, and, because it presents these symptoms, squamous cell carcinoma is more likely to be diagnosed in the early stages, but cavitations may develop and spread to regional lymph nodes. This type of tumor is strongly associated with chronic smoking and is predominant in males.

Large cell carcinoma accounts for 9% of cases, presenting the worst prognosis among non-small cell carcinomas due to its rapid growth (VIEIRA et al, 2012). It is the rarest among the types of NSCLC, it originates from differentiated lung epithelial cells and is formed by bulky cells, which have a moderate amount of cytoplasm and exhibit prominent nuclei, and can be located in any region of the lung (VIEIRA et al, 2017).

Small cell lung cancer (SCC) is a malignant epithelial tumor that originates in the cells lining the lower respiratory tract. The tumor cells are small and densely concentrated, with sparse cytoplasm, finely granulated nuclear chromatin, and absent nucleoli (BMJ BEST PRACTICE, 2022).

Yang et al. (2019) assure that this type constitutes the leading cause of cancer death among men and the second among women worldwide. CPCP has a 5-year survival rate of less than 5% and a median overall survival period ranging from 2-4 months for patients receiving no active therapy.

Bayan and Rodin (2014) state that compared to non-small cell lung cancers (NSCLC), CPCP is characterized by a rapid doubling time and early generalized metastasis.

Mathias et al (2020) report that in Brazil, 70% of lung cancer cases are diagnosed in advanced or metastatic stages, as opposed to only 8% that are diagnosed in stage I. Unfortunately, access to techniques that obtain tissue samples for diagnosis differs between public and private institutions, since in the public system, non-surgical diagnostic procedures, such as percutaneous needle biopsy or bronchoscopy, are deficient, causing major delays in the care of these patients.

The sputum examination is fundamental, since it offers the possibility of identifying tumor cells in several patients. The positivity depends on the experience of the professional pathologist and is between 45% and 90% of the cases. In addition, the number of sputum samples also relates to the positivity of the examination, for example, three samples increase positivity to 69% of cases (SAITO et al, 2015).

Among conventional diagnostic methods, Prabhakar et al (2018) discuss that CT scan combined with various other tools, such as biopsy and sputum cytology, is useful for efficient diagnosis of lung cancer. The sensitivity of chest radiography is 91.3% and the sensitivity of low-dose computed tomography (LDCT) is 73.5%, indicating that chest radiography is more sensitive, while the specificity of LDCT found was 93.8% and the specificity of chest radiography was 73.4%, respectively.

PET/CT scanning is combined with a CT scan using a special machine, which can do both at the same time, allowing the doctor to compare the areas of highest radioactivity on the PET scan with an image of greater detail on the CT scan. This is the most common type of *PET scan* used in patients with lung cancer, and can be useful in the suspicion of spread. It can show dissemination to the liver, bones, adrenal glands, or other organs, and is not as useful for looking at the brain or spinal cord.

The trans-thoracic needle biopsy technique is used to detect malignancy in pulmonary nodules. Such a technique depends on the size of the nodule (2 cm or more) and determines the tumor present in the pleura, mediastinum, or lung parenchyma (PRABHAKAR et al, 2018).

Bronchoscopy is routinely performed, except in small peripheral lesions, which do not display hilar or mediastinal adenomegaly. In about 25-30% of cases, it is possible to visualize the tumor and perform a biopsy, with the highest sensitivity in non-small cell carcinomas. Some bronchoscopists choose to perform the procedure at the time of anesthesia, when the patient is intubated (if they are candidates for surgery), because there may be presence of synchronous endobronchial lesion in about 1% of cases (SAITO et al, 2015).

For the definition of prognosis and the selection of treatment the TNM staging system is mainly considered, which classifies the extent of cancer into four categories, stages ranging from I to IV, based on the size of the primary tumor (T), evidence of cancer cells in lymph node regions (N), and the presence of metastases (M). Despite this, the clinical course can vary significantly among patients classified in the same TNM stage (STANKOVIC et al., 2018).

Treatment

Araújo et al (2018) mention that only a limited portion of patients undergo surgery for curative purposes. Approximately 25% of patients undergo surgical treatment, since access to this treatment is possibly influenced by socioeconomic differences, presence of comorbidities, advanced age, and geographic distribution.

In pneumonectomy, an entire lung is removed if the tumor is near the center of the chest, while in lobectomy, the entire lobe containing the tumor(s) is removed, which is commonly the preferred type of surgery for NSCLC. Segmentectomy consists of removing part of a lobe and is used when the individual does not have sufficient lung function to support total removal of the lobe. In sleeve resection treats some types of large airway cancer (AMERICAN CANCER SOCIETY, 2019).

Shirish et al (2015) advocate that the goal of therapy in patients with small cell lung cancer is cure, which can be achieved by combined modality therapy with chemotherapy plus radiation, significantly improving the overall 2- to 3-year survival in patients with CPCP by 5.4%.

CPCP is extremely radiosensitive and thoracic radiotherapy optimizes survival in patients with both extensive and limited-stage tumors. Prophylactic cranial irradiation can prevent central nervous system recurrence and improve long-term survival in patients with good performance status who have responded to chemoradiation therapy, and provide palliation of symptomatic metastatic disease (NATIONAL CANCER INSTITUTE, 2022).

In the **limited stage** of CPCP, chemotherapy is usually given with radiation therapy, whereas in the extensive stage with or without immunotherapy it is usually the main treatment. In some cases, radiation therapy is also administered. The most commonly used combinations of drugs are: Cisplatin and etoposide; Carboplatin and etoposide; cisplatin and irinotecan; Carboplatin and irinotecan. It is administered in cycles, with treatment period interspersed by rest periods, usually lasting 3 or 4 weeks and varying according to the drugs used (AMERICAN CANCER SOCIETY, 2019).

The likelihood of response to 2nd line chemotherapy varies with the response to initial treatment, i.e. responsive patients with relapse 60-90 days after completion of initial treatment (sensitive disease) have a greater chance of response to 2nd line treatment. Responsive patients with relapse within 60-90 days of the end of initial treatment (refractory disease) or who do not respond or progress during initial treatment (chemoresistant disease) have a lower chance of success with 2nd-line chemotherapy (BRASIL, 2014).

The aforementioned protocol highlights that the 1st line chemotherapy scheme can be redone in cases of sensitive disease, especially when relapse occurs late (over six months). Patients with refractory or chemoresistant disease do not always benefit from 2nd line palliative chemotherapy; if indicated, schemes based on antineoplastics not used in the 1st line treatment can be used, in monotherapy or associated, emphasizing that the most clinical experience gathered is around topotecan or the CAV (doxorubicin and vincristine) scheme (BRASIL, 2014).

Lemjabbar-Alaoui et al (2015) argue that the best treatment option for early-stage (stage I and II) NSCLC is surgery, which offers a good long-term survival rate of 60% to 80% for stage I and 30% to 50% for stage II. For stage III, the treatment strategies are defined by the location of the tumor and the possibility of resection. For unresectable stage IIIA individuals, treatment may comprise sequential surgery or coexisting combination of chemotherapy and radiotherapy or external radiotherapy for those who cannot be treated with combination therapy.

Treatment alternatives for stage IIIB NSCLC are established based on the tumor site and the patient's performance status (PS). Generally, there is no benefit from surgery alone, requiring chemotherapy or external radiotherapy, and external radiotherapy may be palliative treatment for relief of pain and other symptoms. Stage IV depends on comorbidities, PS, histology, and genetic characteristics of the cancer, with external palliative radiotherapy, combination chemotherapy, combination chemotherapy and targeted therapy, and any laser therapy or internal endoscopic radiotherapy as treatment (LEMJABBAR-ALAOUI et al, 2015).

Paesmans (2012) asserts that the patient profiles used to identify prognostic factors can be very broad, ranging from stage I resected patients to stage IV patients scheduled to receive chemotherapy, such as patients treated with radical radiotherapy or stage III patients. Outcome measures include overall survival, progression-free survival, response to antitumor treatment, and disease-free survival rate or portion of patients alive in a specific period.

Woodard et al (2016) argue that survival estimates are based on clinical and pathological stages with different prognoses. Tumors clinically staged as T1a or T1b have 5-year survival rates of 53 and 47%, respectively, whereas tumors pathologically staged as T1a and T1b have 5-year rates of 77 and 71%. The presence of any nodal spread is indicative of poor prognosis, as N1 nodal disease is associated with a 1-year survival rate of 67% and a 5-year survival rate of 29%. At pathologic stage, N1 has a better prognosis with 77% survival at 1 year and 38% at 5 years.

Individuals in pathologic stage IA have a median survival time of 119 months or approximately 10 years, and an overall 5-year survival rate of 73%. This compares to a 5-year survival rate of 46% among stage IIA patients and a 5-year survival rate of 24% among IIIA patients. However, there is heterogeneity within each stage, in which some patients develop systemic disease rapidly and others survive long-term without recurrence (WOODARD et al, 2016).

In the case of small cell lung cancer, Paesmans (2012) points out that it is a highly chemosensitive tumor; however, progression-free survival and overall survival remain significantly low. When it comes to long-term survival, it is rare and with cure rate achieved in <5% of patients. For the limited stage the median survival time ranges between 15-20 months, while the extensive stage is between 8-13 months.

3 PALLIATIVE CARE

During the Middle Ages there were Christian pilgrimages for long periods, which led to deprivation and sickness of the pilgrims. Thus, they were accommodated in houses called hospices. The term palliative derives from the Latin *pallium*, which means "cloak", "cover", or "blanket". This term was used to name the cloaks received by pilgrims when they left the hospices, in order to protect them throughout their journeys. Such actions refer to the welcome and appreciation of the human being in palliative care today (MANCHOLA et al., 2016).

The concept of palliative care was presented in 1967 by the English nurse Cicely Saunders and some collaborators, founding Saint Christopher's Hospice, a reference center in palliative care that proposed a global perspective of the human being (body, mind, and spirit) and not only conducts focused on the affected organ. This proposal would be achieved through symptom control and relief of physical and psychological pain (National Academy of Palliative Care, 2021).

At the same time, Elisabeth Kübler-Ross, a Swiss psychiatrist naturalized in the United States, released the book "On Death and Dying". Her studies influenced the Western medical community to study thanatology and the psychological states of the sick. For Elisabeth, the patient with no chance of cure goes through a process of life finitude that is described in five stages: denial and isolation, anger, bargaining, depression, and acceptance. It should be noted that these stages can be experienced alternately or simultaneously (REZENDE et al. 2014).

Manchola et al. (2016) describe that the work of Cicely Saunders spearheaded the Hospice Movement and the search for the "good death". The term good death advocates a more balanced end of life, with family closeness, respecting human dignity in a favorable space where the patient can say goodbye. This process needs great pondering, since futile or obstinate treatments and practices should be excluded, aiming at a cure that will not materialize.

In 1986, the World Health Organization (WHO) gathered its Cancer Committee to construct policies that would promote *hospice* and pain relief care for oncologic patients. In 2002, this vision was redefined and palliative care began to encompass other areas besides oncology, advocating early identification of the need for it and the use of behaviors that mitigate pain, as well as the problems of other human spheres (SILVA et al. 2013).

Evangelista et al. (2016) refer to palliative care as an integral approach directed to patients beyond the possibility of cure, considering human dignity in the face of a critical state in the physical and psychological spheres.

Moreover, they should involve interdisciplinarity, associating medicine, nursing, social work and other specialties, which together seek to establish individualized care goals and a combination of treatments that provide biopsychosocial support to patients and their families. Such actions need to be performed in an anticipatory manner, that is, extending from the diagnosis to the entire natural follow-up of the disease (KELLEY; MORRISON, 2015).

Campos et al. (2019) point out that palliative care is not only intended for terminally ill patients, but for all those with any chronic, active, progressive disease that threatens the continuity of life. Thus, the real difference consists in the extent of care that must be appropriate according to each stage of the pathology.

Dying with dignity should obey intrinsic human values, such as physical comfort, quality of life, autonomy, and purpose. Thus, preserving dignity, avoiding harm, preventing and resolving conflicts are attributions of the health professional involved in patient care during their end of life, leading to a paradigm shift of alleviating suffering instead of curing the disease (COELHO; YANKASKAS, 2016).

Maiello et al (2020) corroborate that care should be appropriate, that is, defined as individualized care that enhances health and well-being by providing what is needed, wanted, and clinically effective in an affordable, equitable, and resource-responsible manner.

From the functional point of view, for Arantes (2012) one must consider the capacities and limitations, which can be assessed by actively questioning the patient and family members using scales such as the Karnofsky performance scale (Chart 1), which was developed for oncology patients as a way to measure clinical decline and the ability to perform certain activities.

Chart 1 - Karnofsky's performance scale

	Karnofsky *Performance* Scale
100%	No signs or complaints, no evidence of disease
90%	Minimal signs and symptoms, able to perform his activities with effort
80%	Major signs and symptoms, performs his activities with effort
70%	Take care of yourself, not able to work
60%	Needs occasional assistance, able to work
50%	Needs considerable assistance and frequent medical care
40%	You need special medical care
30%	Extremely disabled, requires hospitalization, but no imminent death
20%	Very sick, needs support
10%	Dying, imminent death

Source: UNIFESP (2017)

Most patients with a Karnofsky scale percentage of less than 70% have an early indication for Palliative Care assistance. Performance of 50% is indicative of terminality, supporting that these patients are eligible for Palliative Care except when there is a potentially beneficial gain in sustaining therapy for the underlying disease that is available and can be tolerated (ARANTES, 2012).

The *Palliative Performance Scale* (PPS) is also used as a communication tool, describing the patient's current functional status. It is fundamental as a criterion for assessing work capacity and has prognostic value when related to other symptoms such as edema, *delirium*, dyspnea, and cachexia (ISGH, 2014).

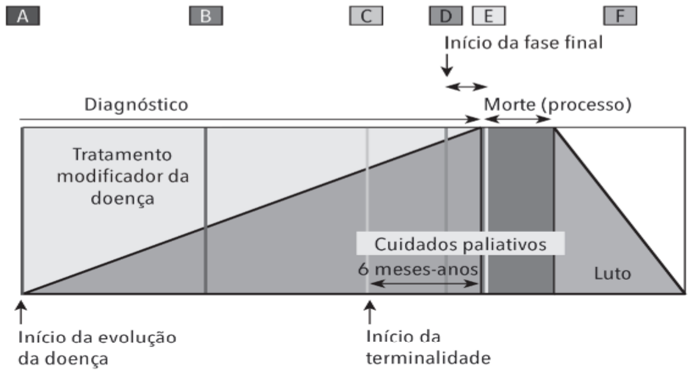
Chart 2 - Palliative Performance Scale (PPS)

%	Wandering	Activity and evidence of disease	Self-care	Intake	Level of consciousness
100	Complete	Normal activities and work, no evidence of illness	Complete	Normal	Complete
90	Complete	Normal activities and work, some evidence of illness	Complete	Normal	Complete
80	Complete	Normal activities with effort, some evidence of disease	Complete	Normal or reduced	Complete
70	Reduced	Unable to work, significant illness	Complete	Normal or reduced	Complete
60	Reduced	Unable to do hobbies or housework, significant illness	Occasional assistance	Normal or reduced	Complete or periods of confusion
50	Most of the time sitting or bedridden	Incapacitated for any job, extensive illness	Considerable assistance	Normal or reduced	Complete or periods of confusion
40	Most of the time bedridden	Unable to do most activities, extensive illness	Nearly Complete Assistance	Normal or reduced	Complete or drowsiness +/- confusion
30	Totally bedridden	Unable to do any activity, extensive illness	Complete dependency	Normal or reduced	Complete or drowsiness +/- confusion
20	Totally bedridden	Unable to do any activity, extensive illness	Complete dependency	Minimal to small sips	Complete or drowsiness +/- confusion
10	Totally bedridden	Unable to do any activity, extensive illness	Complete dependency	Mouth care	Complete or drowsiness +/- confusion
0	Death				

Source: ISGH (2014)

Carvalho et al (2018) argue that it is essential to assess the timing of disease progression, using a process that facilitates recognition of the phases and proper care planning for each one. To this end, Figure 1 allows for the visualization and better understanding of the phases that follows:

Figure 1 - Chart of disease progression phases



In stage A, disease-modifying therapy (DMT) is the patient's greatest need, with little demand for palliative care. He is fully assisted in controlling symptoms and in reversible acute complications, invasive measures can be used. In phase B, according to the progression of the pathology, these therapies are reduced and palliative care begins. In phase C, the individuals have a disease with terminality criteria, needing organ transplantation, with progressive loss of functionality. TMDs are not contraindicated, but invasive therapies may not be proportional (CARVALHO et al, 2018).

During phase D, Carvalho et al (2018) mentions that the prognosis is days to a few weeks of life, observing low functional *status*, dyspnea, *delirium*, low oral intake, and invasive interventions are inappropriate. Stage E is characterized as an active dying process, requesting that therapy be focused on integral comfort and symptom control considering a 24-hour PC team available. In phase F, the patient evolved to death and the grieving process begins, which should normally be supported by the PC team according to demands.

The ISGH (2014) used the following stratification: early palliative care adopted in good functional *status* (KPS or PPS >60%), with curative or restorative treatment, the estimated prognosis is months to years, based on the principles of beneficence and autonomy. In complementary palliative care, the estimated prognosis is weeks to months, the functional status is intermediate (KPS or PPS between 40-60%), and it is uncertain that the patient will respond completely or satisfactorily to curative treatment, but may benefit from invasive procedures that provide improvement of symptoms and quality of life.

The predominant palliative care is marked by low functional *status* (KPS or PPS <40%), prognosis of days to a few weeks, prioritizing quality of life and symptom control. It is not indicated to include or maintain futile therapies, nor referral to ICU. In exclusive palliative care, prognosis is hours to days, low functional status (KPS or PPS <40%), rapid and irreversible decline in general condition, impaired level of consciousness, and cardiopulmonary instability. Futile therapies are discontinued, focusing only on symptom control, with psychosocial and spiritual support for patients and families (ISGH, 2014).

Even if there are specificities in each professional area, all should be able to identify symptoms and apply appropriate management techniques, promote dignity, self-esteem, functionality and personalization, while safeguarding the patient's autonomy and independence (GOMES; OTHERO, 2016).

Bioethics can be understood as a complex and interdisciplinary reflection on the actions that involve life and living. Life understood in its biological dimension, and living from the perspective of the relationship between people. Even when the discussion about the conservation of life is no longer at the core, living remains a fundamental issue. Therefore, palliative care is fully incorporated into the scope of bioethical reflection, especially with regard to the decision-making process (VIEIRA; GOLDIM, 2012).

Maiello et al (2020) argue that any decision involving ethical issues in health must be preceded by an analysis of the Bioethical Principles, namely: autonomy, which aims to ensure the right of the informed patient to participate in decisions on his or her care plan; beneficence, which aims to extend the good provided to the patient; non-maleficence, whose concept lies in not causing harm and not doing harm; and, justice, in order to treat the other fairly by using resources equitably.

For patients in terminal stages of the disease, in palliative care, there are five relevant principles: Principle of truthfulness - truth underlies the relationship of trust and the active participation of the patient and his representative in the process; Therapeutic proportionality - moral obligation in the implementation of therapeutic measures that have adequate relationship between the means adopted and presumed results. Double effect - balancing desirable symptom relief and drug side effects. Prevention of complications and symptoms that may appear due to the characteristic evolution of the disease. Non-abandonment - even in the face of refusal the patient cannot be abandoned. (MAIELLO et al, 2020).

Bioethics suggests reflections to health professionals in an attempt to promote effective care to patients, and not only the maintenance of life at any cost. Ratiocinar sobre a ética no desenvolvimento científico demanda reconhecer fronteiras, haja vista que se o intuito da ciência é melhorar a vida das pessoas e o convivio social, deve-se estabelecer alguns limites éticos e o horizonte infinito do desejo pelo conhecimento científico (COSTA; DUARTE, 2019).

From a bioethical perspective, the process "death" involves several definitions, among which some stand out: orthothanasia, euthanasia, dysthanasia, and misthanasia:

Orthothanasia: It means not artificially prolonging the dying process beyond what would be the natural process. It is related to acting correctly when faced with the situation of a dying patient. It is associated with palliative care provided in the final moments of life, that is, avoiding the implementation or withdrawal of futile treatments, prioritizing comfort during the dying process, but without anticipating death (MENDES et al, 2020).

Euthanasia: occurs when the patient, upon learning of his incurable disease or that he will remain in a situation that will lead him to not have a dignified life, requests the abbreviation of his life, aiming to avoid physical and psychological suffering that will be installed with the development of the disease. It is characterized in Brazil as a homicide crime (MENDONÇA; SILVA, 2014).

Dysthanasia: means artificial prolongation of the death process, with patient suffering. It is connected to therapeutic obstinacy for treatment, without the necessary attention to the individual. There is a prolongation of the patient's life through devices and invasive measures, but without expectations of cure or improvement of the condition (MENDES et al, 2020).

Mysthanasia: consists in the miserable and early death of an individual, resulting from human perversity (active mistanasia) or medical malpractice (passive or omissive mistanasia). Unnecessary prolongation of suffering may occur due to negligence, imprudence, malpractice, or deficiencies in the public health system (MENDES et al, 2020).

4 PHYSIOTHERAPY IN PALLIATIVE CARE

Patients in palliative care commonly manifest high levels of physical and functional disabilities, culminating in great difficulty to perform their activities of daily living with consequent overload of the caregiver. In this sense, physical therapy in palliative care can have a preventive, educational and supportive function depending on the patient's condition, proposing to maintain and improve physical function, minimize complications, relieve pain and discomfort (MÖLLER et al, 2018).

Minosso et al (2016) emphasize that functional rehabilitation can promote stress reduction and improvement in the perception of independence of the patient. Furthermore, there is an influence on issues related to the psychosocial sphere, such as anxiety, stress, and depression, even in the face of the awareness of imminent death.

The planning and execution of treatment must be performed individually, based on the clinical picture, complementary exams, general prognosis and, essentially, on the appropriate kinetic-functional diagnosis of the patient. The physical therapist needs to consider the desire and motivation of the individual to achieve the treatment goals, promote a safe environment and support all aspects that make up the integrality of the being (MINOSSO et al, 2016).

Among the various functions of physical therapy in this field, Carvalho et al (2018) highlight: evaluation of biopsychosocial aspects, quality of life of the patient and family nucleus, activities of greatest interest to the patient and those that the disease will affect; adaptation of activities of daily living with energy conservation techniques in case of irreversible and inevitable functional loss; conditioning of respiratory function; guidance about mobilization and transfers; prevention of physical complications derived from the disease; control of symptoms (fatigue, pain, cough, dyspnea, among others.)

Fatigue is a subjective and persistent complaint of tiredness in patients with various chronic diseases, which can interfere with work performance and activities of daily living, as well as with social and family attributions. Cancer-associated fatigue would be in the range of 70-80% and the most severe is reported among lung cancer patients, persisting for several months or years after the end of treatment, producing immense negative impact on quality of life (NOGUEIRA et al, 2017).

Silva et al (2021) advocate exercise in this scenario as the gold standard approach, optimizing muscle strength, raising levels of activities of daily living and aerobic fitness. However, the appropriate exercise prescription for patients with fatigue is still unclear. Current exercise prescription guidelines call for 150 minutes of aerobic exercise, 2 days of muscle strength training, and flexibility exercises per week. They suggest that patients engage in at least 3 to 5 hours of moderate activity weekly so that the side effects of therapy are alleviated.

Pain has been defined as "an unpleasant sensory and emotional experience associated with actual or potential tissue injury, or described in terms of such injury" (RAJA et al, 2020).

Cardoso (2012) states that it can be classified according to the pathophysiological mechanisms into nociceptive, neuropathic, and mixed pain. In nociceptive pain, the nociceptive pathways are preserved, being triggered by nociceptors of cutaneous tissues (somatic pain) or deep tissues (visceral pain). In neuropathic, the nociceptive pathways demonstrate changes in structure and / or function, due to selective lesion of the neo-spinothalamic tract (central pain) or lesions in the peripheral nervous system (peripheral pain).

Some patients experience both types of pain, for example, nociceptive pain due to tumor growth and metastases and neuropathic pain subsequent to tumor compression on neural structures. Therefore, cancer pain is consistently considered a mixed pain. It may be linked in 64% to 93% of patients in palliative care to an intense pain, initiated suddenly with a peak within five minutes, known as incidental or *breakthrough* type pain (CARDOSO, 2012).

Maiello et al (2020) reinforce that the institution must choose which instruments are the most adequate to assess pain intensity within its reality. One of the main tools used for this purpose is the Visual Analog Scale (VAS).

Machado et al (2022) recall the concept of total pain that aims at welcoming the patient in a holistic way, considering aspects beyond physical pain, marked by sensitive elements, which can directly impact the expression of this feeling by the patient and the approach to this symptomatology. The anguishes that are intertwined with the social, psychological, spiritual, family, and financial spheres of the human being are pointed out as agents in total pain.

Tonezzi and Campanholi (2021) highlight the objectives of physical therapy treatment in this sense, which are: reduction and control of pain, prevention of immobilism syndrome and pressure injuries; control of associated symptoms (fatigue, nausea, dyspnea, insomnia); improvement of mobility; home adaptations, basic activities of daily living and mobility aids. The resources employed include mobilizations and change of decubitus, prescription of positioning and support devices, manual therapy (massage therapy, myofascial release, scar therapy), superficial thermotherapy, low frequency *laser*, transcutaneous nerve electrical stimulation (TENS), functional electrical stimulation (FES).

Parshall et al (2012) defined dyspnea as "a subjective experience of respiratory discomfort consisting of qualitatively distinct sensations that vary in intensity. It can be triggered by a number of factors, encompassing physical stress such as walking and climbing stairs, emotional stress from fear, panic, irritation, environmental influences (dust, temperature), and medical conditions such as infections (BAUSEWEIN; SIMÃO, 2013).

The physiotherapeutic intervention complements the pharmacological treatment, using techniques and positioning that help maintain a patent airway, relax the accessory muscles, and reduce respiratory work, through exercises to avoid immobility and improve physical conditioning, as well as providing guidance on strategies for energy conservation and anxiety control (PLENS, 2021).

The author cited above points out that neuromuscular electrical stimulation can be used in order to maintain or increase muscle strength, exercise tolerance, and minimize dyspnea in patients with a prognosis of months to years. Pulmonary rehabilitation relieves dyspnea and fatigue, optimizes emotional function, and the sense of control that individuals have over their condition. It may be indicated for patients with a life expectancy of months to years, and is not advised for patients with a life expectancy of weeks to a few months.

Cough is a symptom present in more than 65% of lung cancer patients. Approximately 38% of patients with advanced cancer suffer from cough. Initially, it has a protective function, i.e. to clear the upper tracheobronchial tree of mucus and foreign bodies. Nevertheless, chronic cough becomes physically exhausting, affects social relationships, and worsens other symptoms such as pain, dyspnea, incontinence, and sleep disturbances (PARSHALL et al, 2012).

Pupim et al (2018) state that cough in advanced lung cancer can be derived from tumor mass, pleural effusion, pericardial effusion, atelectasis, infection, esophago-respiratory fistula, carcinomatous lymphangitis, superior vena cava syndrome, complications of radiotherapy and chemotherapy. One must evaluate the presence or absence of expectoration, frequency, moments in which it predominates, what triggers it, and its relationship with decubitus.

Allied to pharmacological interventions, the physical therapist can use the proper positioning and secretion removal techniques, recognizing which patient can benefit from each of these techniques and the exact moment to use them, which is still one of the challenges in the palliation of respiratory symptoms (CARVALHO, 2012).

5 METHODOLOGY

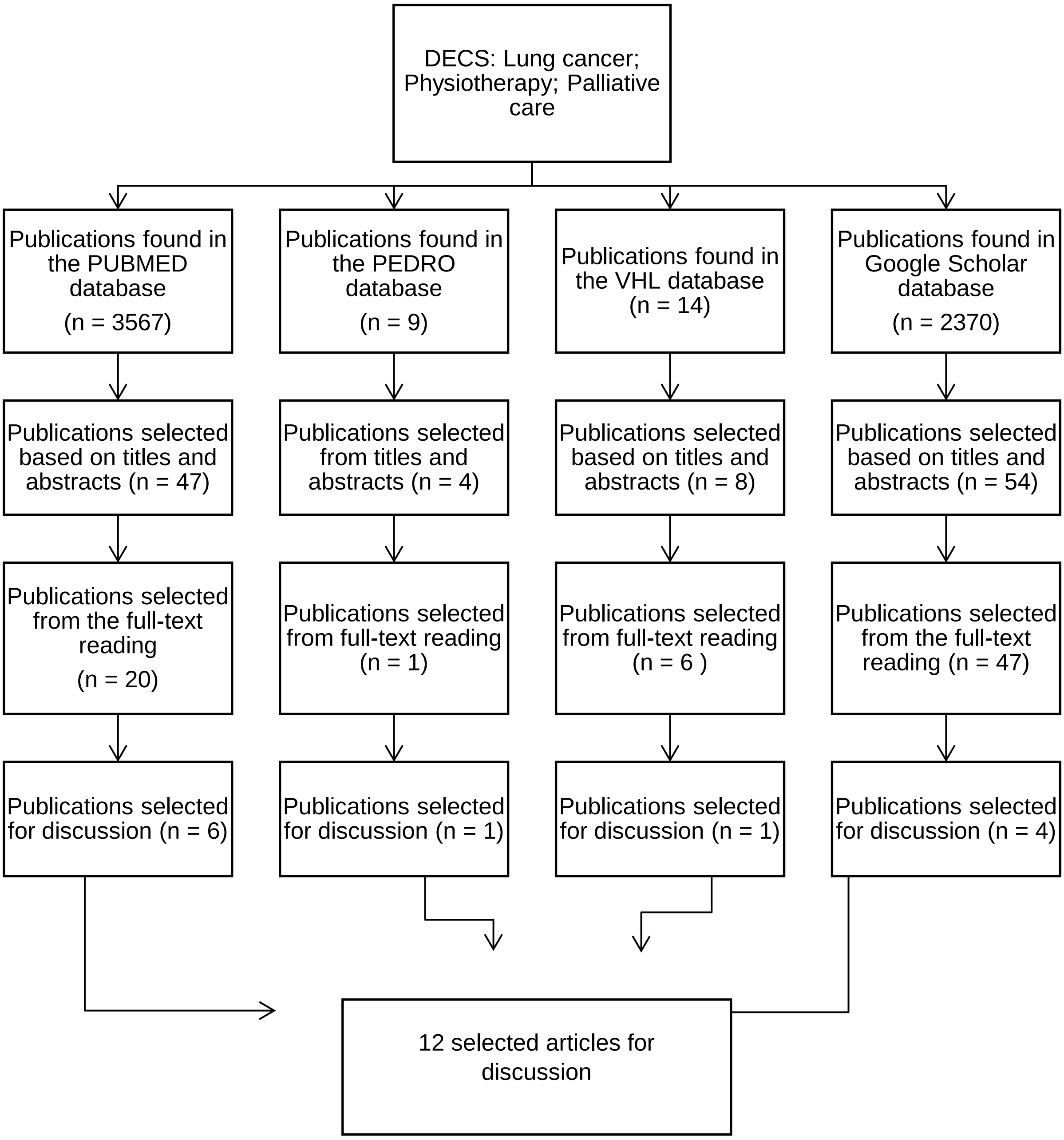
This is an integrative literature review of publications on physiotherapeutic intervention in palliative care of patients with lung cancer. Thus, data collection took place in the period from July to November 2022, being analyzed the articles in Portuguese and English in the electronic databases PubMed, *Physiotherapy Evidence Database* (PEDro) Virtual Health Library (VHL) and Google Scholar, through consultation by the descriptors lung *cancer*, *physiotherapy* and *palliative care*.

The inclusion criteria consisted of quantitative and qualitative studies, in Portuguese and English languages, published in the period from 2012 to 2022 and that addressed patients in palliative care with a diagnosis of lung cancer.

Studies of the literature review type, case reports, those with a publication date prior to 2012, and those that dealt only with patients with other types of cancer were excluded.

In the initial search 5,960 articles were found, being 3,567 in PubMed, 2,370 in Google Scholar, 9 in PEDro, and 14 in BVS. After a first choice by title, 5,847 articles were excluded, being analyzed the abstracts of 74 articles, and, for discussion, 12 articles were selected that contemplated the pre-defined objectives. For data systematization, the Microsoft Word 2019 version was used, represented by the flowchart below (Figure 3):

Figure 2 - Flowchart of search and selection of articles



6 RESULTS

Twelve articles were included at the end of the search (10 in English and 1 in Portuguese). Chart 2 presents a summary of the selected articles, including their authors, titles, year, methodology used, and the results obtained.

Chart 2 - Description of the selected articles

Author, title, year	Type of study	Results
WISKEMANN et al, Positive study: physical exercise program in patients with inoperable lung cancer in palliative care, 2016.	Randomized controlled trial (Part III).	The findings show, an improvement in quality of life and fatigue after 12 weeks of intervention.
QUIST et al, Effects of an exercise intervention for patients with advanced inoperable lung cancer on chemotherapy:a randomized clinical trial, 2020.	Prospective randomized controlled intervention study.	There was no significant difference in aerobic capacity. There was a significant difference in anxiety and depression levels in muscle strength.
RUTKOWSKA et al, Exercise training in patients with non-small cell lung cancer during in-hospital chemotherapy treatment A randomized controlled trial, 2019.	Randomized study.	In GI there was improvement in 6MWT, Timed Up and Go Test, Fullerton test. Improvement in FEV_1 %, in FVC % and FEV_1 /FVC. Dyspnea showed significant improvement.
QUIST et al, Safety and feasibility of a combined exercise intervention for inoperable lung cancer patients undergoing chemotherapy: a pilot study, 2012.	Prospective single-arm intervention study.	Only 2 patients completed home training monitoring diaries. There was significant improvement in aerobic capacity, muscle strength.
HENKE et al, Strength and resistance training in the treatment of patients with stage IIIA/IIIB/IV lung cancer, 2013.	Randomized controlled trial.	The control group showed a worsening of the Barthel Index. The intervention group showed improvement in functional capacity as well as in the level of dyspnea.
JENSEN et al, Effects of an exercise intervention for patients with advanced inoperable lung cancer on chemotherapy:a randomized clinical trial, 2014.	Randomized study.	There were improvements in health-related quality of life, physical and psychological symptoms, and the effectiveness of cancer treatment.
MELO et al, The perception of patients with advanced lung neoplasia facing palliative care from physical therapy, 2013	Descriptive, qualitative, and investigative study.	The physiotherapy treatment minimized the symptoms and functional independence. It was shown that the patients obtained a sense of improvement and stabilization of the clinical picture.
EDBROOKE et al, Home rehabilitation in inoperable non-small cell lung cancer - the patient experience, 2019.	Randomized controlled trial.	Most of the participants reported benefits such as improvement in muscle strength, physical conditioning.
USTER et al, Effects of nutritional intervention and physical exercise in patients with palliative cancer: a randomized controlled trial, 2017.	Randomized controlled trial.	The global health status scores improved by 4.5 and 2.7 points in the intervention. In physical performance all physical parameters improved in the intervention group, but without statistical relevance
GOLDSMITH et al, Optimizing pretreatment with pulmonary rehabilitation in lung cancer making inoperable patients operable, 2021.	Prospective, observational study.	There was clinical and statistically significant improvement in dyspnea MRC scores after Prehab.

7 DISCUSSION

After analyzing the selected papers, it was observed that the most studied patient profile was non-small cell cancer (considered the most aggressive type), individuals in advanced stages of the disease, and those disqualified for surgery.

There was variation in their samples, in the categories of intervention (strength, resistance, aerobic and electrical stimulation exercises, supervised and unsupervised), in the duration of the programs, and in the outcomes assessed (functional capacity, symptom control, quality of life).

Wiskemann et al (2016) analyzed the beneficial effects of an *endurance* and strength program. They used the Functional Assessment of Lung Cancer Therapy (FACT-L), the Patient Health Questionnaire-4 (PHQ-4) to detect extent of depression and anxiety, the Multidimensional Fatigue Inventory (MFI) for chronic fatigue, the Demoralization Scale (DS) for individual ability to cope with stressful situations, the *Locus of Control* Questionnaire for self-efficacy in illness and health, and lung function tests and the 6-minute Walk Test (6MWT).

Part III of the study by Wiskemann et al (2016) pointed out that there is limited evidence of effects of physical activity in patients with advanced non-operable lung cancer in palliative care. Thus, they emphasize that the target of this 24-week structured investigation is to follow and assist patients to maintain independent function for as long as possible.

To assess functional capacity, Kuehr et al (2014) used the 6MWT and dynamometry. Psychosocial aspects were measured with the FACT-L, *Multidimensional Fatigue Inventory* (MFI), and PHQ-9 questionnaires. They developed an 8-week strength and endurance exercise program and observed significant improvement in 6MWT distance, elbow extensor strength, knee extensor and flexor strength, and hip abductor strength. In addition, fatigue scores were reduced, reflecting improved quality of life, while PHQ-9 scores increased, indicating an increased level of depressed mood.

Similarly, the intervention group in the study by Henke et al (2013) followed a strength and endurance protocol, which consisted of walking in the corridor and stair exercises, with 55-70% of maximum HR and according to the Borg scale score, performed 5 days a week. On alternate days they associated strength exercises for the abdominal muscles, triceps and biceps, in addition to the active breathing cycle technique for bronchial clearance and secretion elimination.

To measure the independence of the patient in performing the activities of daily living, they applied the Barthel Index, the Core-30 Quality of Life Questionnaire (EORTC-QLQ-30) to record the quality of life, the 6MWT combined with the Modified Borg Scale to test functional capacity and the perception of dyspnea. Major improvement was found in the Barthel Index as well as in functional capacity, strength levels, dyspnea and, physical functioning, hemoptysis, arm or shoulder pain, peripheral neuropathy and cognitive functioning related to the quality of life questionnaire (HENKE et al, 2013).

In a study protocol, Jensen et al (2013) used the International Quality of Life Questionnaire, Physical Activity Questionnaire, Borg Scale, Memorial Symptom Assessment Scale, cardiorespiratory fitness, peak expiratory flow (PEF), vital capacity (VC), expiratory reserve volume (ERV) and expired volume (FEV1).

The intervention lasted 12 weeks and consisted of one group with aerobic and respiratory exercise training, another composed of resistance and respiratory exercise training, both compared to a group that performed only respiratory training. The authors believe that the study may provide information about the effects of exercise on the quality of life of patients diagnosed with advanced lung cancer and undergoing palliative chemotherapy (JENSEN et al, 2013).

Quist et al (2012) performed a pilot study applying warm-up, strength, fitness, and stretching exercises for 6 weeks. They implemented an at-home training comprising progressive walking and relaxation (week 1-2: 20 minutes; week 3-4: 30 minutes; week 5-6: 40 minutes), 3 times a week, coupled with 15 to 20 minutes of relaxation. To encourage compliance, patients filled out a training diary with all the activities performed in the program.

The outcomes evaluated were quality of life and cancer-related symptoms, using the FACT instrument composed of two parts, i.e., the general part (FACT-G) and the lung-specific part (FACT-L), functional capacity by the 6MWT, FEV1, and aerobic capacity (VO2peak). They observed improvement in emotional well-being and strength, increased aerobic capacity, and functional capacity, but no significant impacts on quality of life with regard to physical, functional, social/family well-being, and the lung cancer subscale (QUIST et al, 2012).

In another study by Quist et al (2020) the effects of a 12-week exercise intervention in patients with advanced inoperable lung cancer were analyzed, including supervised and structured training (aerobic, strength training and relaxation) versus a control group with only usual care.

The criteria assessed by these authors were cardiorespiratory fitness through VO2peak, functional capacity measured by the 6MWT, quality of life through the Functional Assessment of Lung Cancer Therapy (FACT-L) composed of a general (FACT-G) and a lung-specific (LCS) part, anxiety and depression measured by the Hospital Anxiety and Depression Scale (HADS), composed of two scales covering anxiety (HADS-A) and depression (HADS-D) (QUIST et al, 2020).

No significant difference was identified in aerobic capacity and functional capacity between the intervention and control group, but there was a significant difference in strength in the intervention group. Regarding social well-being in FACT-L, a decrease was noted in the control group. In addition, the intervention group was favored with reduced levels of anxiety and depression, and, no serious adverse events were reported in both groups (QUIST et al, 2020).

Uster et al (2017) conducted an intervention for three months including warm-up, strength and balance exercises in conjunction with a nutritional intervention. They assessed quality of life through the EORTC QLQ-C30 questionnaire, handgrip strength, 6MWT and timed sit and stand test. However, no considerable improvement was observed in the physical parameters.

The authors cited above argue that such a result may have been due to lack of statistical power and that the study needed to be stopped early, before the target number of patients could be included. As low statistical power reduces the chances of detecting small but important effects, the limited sample size may be one of the main reasons for the failure to find significant differences in physical and nutritional status as well as quality of life of the participants (USTER et al, 2017).

Rutkowska et al (2019) also used the 6MWT, as well as the Fullerton and *Timed Up and Go Test*. To analyze the level of dyspnea, they applied the modified *Medical Research Council (mMRC)* questionnaire, the *Baseline Dypnea Index* (BDI), and the Borg scale. In relation to lung capacity, spirometry was performed. The intervention consisted of an in-hospital exercise program for 4 weeks that included warm-up, respiratory muscle exercise, and aerobic training, interspersed with chemotherapy.

According to the aforementioned study, the intervention group showed improvement in 6MWT distance, in the time needed to complete the *Timed Up and Go Test*, in FEV1% predicted, in FVC % predicted and in FEV1/FVC. On the other hand, the level of dyspnea was not significantly changed in relation to the *mMRC* and the BDI scale, but by the Borg scale they obtained improvement of this symptom.

Edbrook et al (2020) conducted a home-based aerobic intervention with resistance training as well as exercise behavior change strategies. They qualitatively assessed via telephone interview the following aspects: sessions delivered by the study physiotherapists and nurses; home visits and telephone calls; participant confidence in safely carrying out the exercise program; symptom self-management; and use of study resources, including exercise adherence strategies.

Twelve of the 14 respondents chose home as the best location over the hospital for the intervention due to the time, cost, energy consumed for travel, and the possibility of a more flexible routine as they were feeling. Allied to this, individualized exercise prescription can promote improvements in strength, fitness, motivation, symptom management, and emotional factors (EDBROOK et al, 2020).

Melo et al (2013) formulated a qualitative research that evaluated the perception of patients facing the disease and the impact of physical therapy on their aggravations. Participants responded to a semi-structured interview after one week of physiotherapy treatment performed in the hospital. Thus, three representative categories of the research emerged, namely: the sadness and suffering caused by the disease; the limitations and physical disabilities in daily life; and the performance of physiotherapy in relation to palliative care.

Patients report that they noticed an improvement not only in physical symptoms such as fatigue, dyspnea, and cough, but also in their self-esteem, motivation, functional capacity, and social aspects. Such responses show that a humanized physical therapy practice with a systemic focus on the patient favors the quality of life of individuals with no possibility of cure (MELO et al, 2013).

From another perspective, Maddocks et al (2013) applied a protocol of bilateral neuromuscular electrical stimulation of the thigh for 30 minutes, minimally three times a week, with symmetrical biphasic square pulses at a frequency of 50Hz, pulse width of 350 microseconds, duty cycle increasing each week from 11% to 18% to 25%, amplitude (device output 0-120mA, tested at 1000Ω) provoking visible muscle contraction. They also assessed fatigue using the FIM, but only the mental subscale showed improvement. No improvement was identified in quadriceps muscle strength and mass.

Goldsmith et al (2021) did a two-year prospective, observational study consisting of a preoperative pulmonary rehabilitation protocol. The protocol was composed of respiratory muscle training, cardiorespiratory exercises, and health education, associated with pharmacological agents. As evaluation measures they used the MRC dyspnea score, Borg scale, 6MWT, activity level, and frailty before and after the program.

In this sense, it was detected that the average length of hospital stay was longer for those who did not receive the protocol, as well as a trend towards a higher rate of major postoperative complications. There was a statistically significant improvement in dyspnea, performance status, frailty index, and activity level in the high-risk patient group (GOLDSMITH et al, 2021).

8 CONCLUDING REMARKS

Among the patients who received palliative care in these studies, there was a predominance of advanced stages of lung cancer, the use of exercise programs and only one electrostimulation protocol was found. It was associated with the evaluation of outcomes through quality of life questionnaires, functional capacity tests, fatigue, as well as biopsychosocial aspects. It was possible to observe that this profile of patients has important alterations in pulmonary function, strength deficits, weight and muscle mass loss, as well as anxiety and depression.

The studies presented differ in their methodologies, since there are supervised and unsupervised approaches, at home and in the hospital environment. In addition, it was noted that it was difficult to sustain the initial sample until the end of some studies due to deaths or loss of motivation on the part of the patients to continue with the study protocols.

The objective of verifying the effects of the physiotherapeutic approach in lung cancer patients under palliative care was achieved, showing that most of the outcomes obtained benefits, such as reduction in fatigue scores, dyspnea, pain, improvement in performance status, in the fragility index, in the activity level, in self-esteem, in functional capacity and social aspects, reflecting in maintenance of quality of life. The resource most reported in the literature was kinesiotherapy - with emphasis on resistance and aerobic exercise programs.

However, it is worth emphasizing the importance of considering the individuality and integrality of the patient, respecting his clinical picture, his expectations regarding the treatment, his limitations and potential, emotional aspects, spiritual and socioeconomic issues. It is essential to consider the moment in which certain behaviors may become futile and obstinate, prolonging life without promoting functionality.

Therefore, the physical therapist urgently needs improvement in this field, since most studies show palliative intervention only in advanced or terminal stages of the disease, when patients have already evolved drastically to loss of function and quality of life. Even though in most cases the disease is diagnosed in this phase, palliative care is still postponed and erroneously interpreted as the exhaustion of alternatives and of life, while its implementation should occur early, based, ethical, and humanized.

It was noted that there is still a deficit of studies on the subject, which points to the need for more research involving early approaches and long-term follow-up of these patients, in light of new perspectives on physical therapy in palliative care.

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