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Quality of Life of Oncological Patients in Palliative Care Submitted to Physiotherapeutic Treatment: A Systematic Review

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Abstract

Introduction: Palliative Care (PC) is the provision of specific attention to a patient with a chronic degenerative disease of multifactorial etiology and aims to reduce the patient's and family's pain and sorrow. The physiotherapist integrates the multidisciplinary team that deals with this goal.

Objectives: Through a systematic review, the objective of this work is to analyze the quality of life of oncological patients in palliative care submitted to physiotherapeutic treatment.

Methods: This study applies the PRISMA methodology, using the following scientific databases: MEDLINE, LILACS, SCIELO, and PEDRO. It addresses the following intervention studies: controlled clinical trials, and randomized controlled clinical trials. The keywords used are "Palliative Care", "Physical therapy", and "Quality of life", and the inclusion criterion when analyzing the clinical outcomes are functionality, fatigue, and quality of life.

Results: Improvements in functionality and fatigue are promising. However, results related to the quality of life are not favorable when isolated, only in the domains that complete it.

Conclusion: According to the exposed, this review work indicates that the improvement on the quality of life of oncological patients in PC does not occur isolated, but in several domains, mainly related to fatigue and functionality, highlighting the importance of physiotherapy. The development of more research in this area is necessary, to supplement scientific and practical limitations since it was observed that the evaluation of functional performance and quality of life are considered a measure of the effectiveness of palliative care.

Keywords: Palliative care; Physical therapy; Quality of life

Abbreviations: PT: Patient; IG: Intervention Group; CG: Control Group; CA: cancer; EORTC QLQ-C30: European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core 30; FACT-G: Functional Assessment of Cancer Therapy - General; ESAS: Edmonton Symptom Assessment System; BFI: Brief Fatigue Inventory; SPPB: Short Physical Performance Battery; SD: Standard Deviation; =: Without Significant Improvement; ↑ With Significant Improvement; ↓: With a Significant Reduction.

Introduction

Cicely Saunders, in 1967, when founding St. Christopher´s Hospice, instituted the first comprehensive care offer to the patient, which provided care ranging from the control of symptoms and pain to the relief of psychological suffering [1]. In 2002, the World Health Organization [2] named it Palliative Care (PC). It consists of taking care of the patient and his family through approaches that guarantee the relief of pain and the prevention of suffering. This care is especially intended for chronic non-communicable diseases, such as cancer. According [3] cancer is characterized by the uncontrolled and disordered growth of cells, making them atypical, therefore a chronic degenerative disease of multifactorial etiology. To provide quality in the end-of-life process, there was a

transition from the objective, which previously aimed at healing and now aims at comprehensive care, which is a continuous and individualized process [4].

Death is the destiny of every living being. However, one is never prepared to accept it. For this reason, it is difficult to deal with patients at the end-of-life process. Therefore, in addition to physically caring for patients, it is necessary to offer them and their families spiritual and psychological support, so that they can express their feelings and emotions, make the decisions of their treatment, fulfill their final desires, provide comfort at the end life, and continue providing support to family members after death [5]. Consequently, an approach taken by a multi-professional team composed of doctors, nurses, nutritionists, physiotherapists, social workers, speech therapists, pharmacists, chaplains, and even volunteers willing to offer care to patients is essential [4].

The physiotherapist integrates this team providing a set of useful techniques. For instance, manual therapy and massage therapy, which reduces pain, stress, and anxiety; breathing exercises, to improve lung function; kinesiotherapy, to reduce osteomioarticular system disorders; postural changes, to prevent pressure ulcers; among other techniques that positively advance the care, improve the symptomatology, and quality of life of the patient [5,6]. This assistance is provided by the physiotherapy code of ethics, resolution number 424, article 4 [7]. For [8] physiotherapy aims to provide quality of life (QOL) to patients, presented in a wide concept, which encompasses several domains that have been damaged in the course of life, harming their physical, emotional, social, functional and spiritual state. The main interventions proposed for these patients are based on active exercises, providing as much independence as it is possible [9,10]. According to [11] it is believed that in patients with terminal cancer, rehabilitation is ineffective, as they approach death; however, recent studies contest this claim, showing that patients who experienced active exercise had a better quality of life, reduced fatigue, improved well-being, and physical function. These achievements may be acquired when performed individually, with personalized exercises, and even in groups [9,10]. However, the physiotherapeutic intervention presents continence due to several factors, such as the limited approach in most physiotherapy graduations [6], and the quantitative and qualitative restriction of scientific evidence on the topic [12]. Given this, the questioning regarding the effectiveness of physiotherapy in this area was aroused, leading to the execution of the present study.

Therefore, the objective of this study is to analyze, through a systematic review, the quality of life of cancer patients in palliative care who experienced physiotherapeutic treatment.

Methodology

This work proposes a systematic review based on the PRISMA guidelines. Studies published with greater scientific relevance, in English, from January 2015 to April 2020, were investigated. For searching in MEDLINE database (National Library of Medicine) and LILACS database (Latin American and Caribbean Center on Health Sciences Information), the combination of keywords were used: "Palliative care", "Physical therapy", "Quality of Life" and "Neoplasms". The "Palliative Care Physical Therapy Quality of life" arrangement was used in the SCIELO database (Scientific Electronic Library Online) and the PEDRO platform (Physiotherapy Evidence Database). Intervention studies were addressed to obtain larger scientific evidence: controlled clinical trials and randomized controlled clinical trials. Through the application of the terms: five years, human and English, it was possible to discern the outline of the studies.

Data collection was carried out from July 7, 2020, to March 22, 2021. To select the relevant studies, two researchers read the titles and abstracts of the studies, individually and independently. The relevant and appropriate abstracts for the preparation of the study were selected and the articles were reviewed completely and individually. After this selection, five articles were selected. Then, the inclusion and exclusion criteria were determined, analyzing the following outcomes: quality of life, fatigue, and functionality [Table 1].

Table 1: Criteria for inclusion and exclusion of articles and main outcomes.

	Inclusion Criteria
Outline	Controlled clinical trials
	Controlled and randomized clinical trial
	Evidence A1 to B3
Patients	Human only
	Above 18 years old
Interventions	Physical exercise
Idiom	English language
	Exclusion Criteria
Intervention	Unclear, poorly described, inadequate
	Main Outcomes
	Quality of Life
	Fatigue
	Functionality

Results

The research initially identified 75 studies related to palliative care in cancer patients who underwent physiotherapeutic treatment. Of these studies, only five were selected to form the

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scope of this systematic review after applying the inclusion and exclusion criteria. Among them, four Randomized controlled Trials (RCT) and one controlled clinical trial. Researchers individually analyzed each study and the level of relevance of the articles was classified according to the Sucupira Platform. The articles that were included in this study have levels varying from A1 to B3.

The investigated studies involved 428 patients, [1] 99 of whom were female and aged between 30 and 81 years. The main types of cancer contemplated in the studies covered were lung, gastrointestinal, urogenital, breast, pancreatic, hematological, cervical, and mouth cancer. The studies showed promising results in terms of improving the fatigue and functionality of cancer patients in palliative care. Strictly speaking, concerning the quality of life, the results are not so favorable isolated, but in the domains that contemplate it [Table 2]. The duration of the interventions performed ranged from two to twenty-four weeks, including physical exercises and telephone consultations.

Table 2: Summary of studies and their main results for quality of life, fatigue and functionality.

Study	Patients	Intervention and Method	Quality of life	Fatigue Outcomes	Functionality
[15]	44 patients	IG: nutrition and physical exercise for 3 months, twice a week; warm-up, strengthening, and balance exercise. CG: usual standard service Randomized 1:1 Follow up: 3 months	EORTC QLQ-C30: IG ↑ 4,5 points	IG = P= 0,75	IG = P= 0,34
	IG 24		CG ↑ 2,7 points		
	CG 20				
[19]	178 patients	Initial assessment, understanding of care, discussion of the objectives of care, and telephone consulting; for 24 weeks divided into two phases. CG: They had the same interventions after 12 weeks of study in only one phase. Randomized	FACT-G: IG e CG ↑ 77,6 (± 15,1)	IG e CG= 2,1 ± 1,2	IG e CG = 2,2 ± 1,2.
	IG 90				
	CG 88				
[9]	58 patients IG 29	IG: Six therapy sessions for 2 weeks, with active exercises of upper and lower limbs, myofascial release, proprioceptive neuromuscular facilitation. CG: without exercise Randomized 1:1	ESAS: IG = P<0,01	BFI: IG e CG ↓ P<0,01	NA
	CG 29				
[18]	41 patients	IG: daily protein supplementation and 25 kcal/kg calorie intake; Light, dynamic, and easy physical exercises with electrical muscle stimulation with bipolar impulses at a frequency of 85Hz and pulse amplitude of 350 μs, for 6 seconds and 4 seconds of rest; for 12 weeks. CG: without physical exercise intervention.	EORTC QLQ-C30: IG ↑ P=0,017	NA	IG ↑ P=0,043 gait speed EORTC QLQ-C30: IG = P=0,067
	IG 15				
	CG 26				
[16]	52 patients	IG: whey protein supplementation with high-formulated leucine content combined with a physical exercise program, 3 training sessions: 2 performed in the physiotherapy department of the hospital and 1 at home, with the duration of 90 minutes, in a group; for 12 weeks. CG: usual care according to standard medical therapy	EORTC QLQ-C30:	BFI: IG ↓ P=0,013	SPPB: IG = P=0,184
	IG 18		IG e CG =		
	CG 23				

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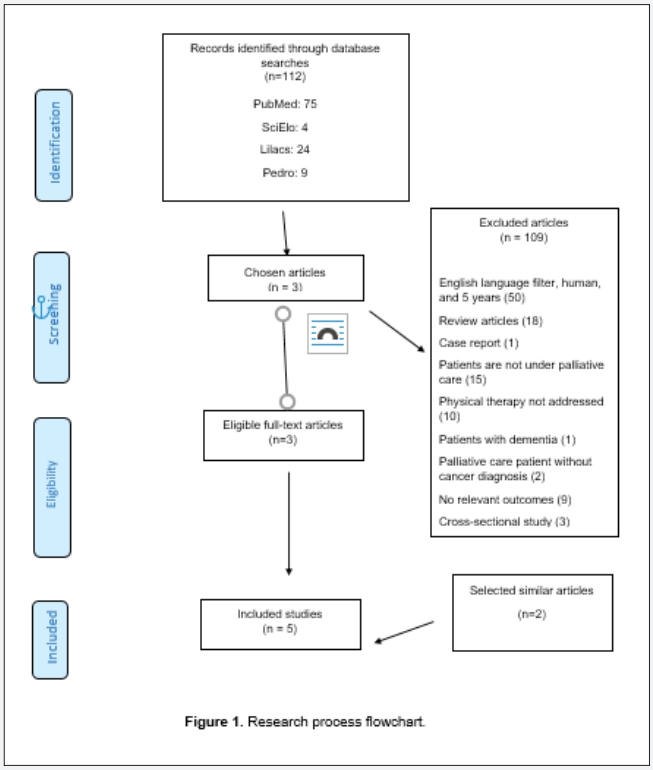

Figure 1: Research process flowchart.

Discussion

The results corroborate the initial idea that physiotherapy improves the quality of life of cancer patients in palliative care, especially concerning functionality and reduction of fatigue. The fatigue has a complex etiology, being the most complex and common symptom in patients, resulting from the reduction of physical activity and the cancer treatment itself [9]. Physical therapy in these patients aims to reduce the harmful effects caused by the invasive treatment of the disease [13].

The analyzed studies show that physical therapy is beneficial to fatigue [9,14,15]. Nevertheless, the number of cancer patients in PC who present this symptom and are referred to physiotherapy or encouraged to practice physical exercise is very low [9,14]. According to [9] fatigue is one of the most common and complex symptoms experienced by cancer patients. The authors assessed the effects of an authorial physiotherapy program on Cancer-related fatigue and patient satisfaction with this treatment. Physiotherapy is said to have provided a statistically significant decrease in fatigue in these patients, improving QoL and reducing the severity of symptoms that are more prevalent in cancer patients such as drowsiness, pain, and depression [9]. Patients evaluated the physiotherapy program through a satisfaction score, reporting a good level of satisfaction with the applied conducts and the results they provided to them, reinforcing that physiotherapy plays a positive role in these people's lives [8]. Complementing [9], the authors [14] sought to identify the limitations that these patients found to perform physical exercise. They have identified that 54% of patients have fatigue as the main barrier to physical exercise. In addition, due to the decline in the physical fitness of the participants, 68% reported preferring performing the exercises with the guidance of the physiotherapist, thus being motivated and encouraged to practice the exercise [3]. In contrast [15] associated nutrition and physical exercise in patients with metastatic cancer in the gastrointestinal and lung tract. They concluded that there was an improvement in all physical parameters, including fatigue, however without statistical variance. In turn, [16] showed a statistically significant result with symptom reduction when comparing two groups. One is the group submitted to the association of physical exercise and whey protein supplementation with a high content of formulated leucine, the other one is the group that received only the usual care.

PC patients experience severe changes in functionality, which is understood as the ability to perform simple daily tasks and/or perform a certain activity [17]. The gait is an important marker that determines the mobility and independence of people, and it becomes even more important for cancer patients. When impaired, the gait compromises functionality in simple tasks, such as coming and going autonomously [18]. About that, [18] used Full-body electro stimulation combined with nutrition in their 41 participants with advanced cancer, aiming to improve gait and, consequently, functionality. At the end of the study, there was a significant improvement concerning the gait speed.

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However, through the evaluation of functionality using the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core 30 (EORTC QLQ-C30), there was no improvement significant effect on physical functioning. According to [14], 86% of the participants in their study reported having some type of physical limitation that made it impossible for them to practice physical exercise. The main complaints were muscle pain (29%), dyspnea (29%), not being able to stand for a long period (55%), handling heavy objects (24%), and doing housework (32%). To evaluate the functional performance of cancer patients, [15] used the hydraulic dynamometer, sit-to-stand test, Six-minute walk test, and 1 maximum repetition. After the physical therapy intervention, the patients showed an improvement in functional performance according to the parameters of the tests used. However, the test did not reach a statistically significant level, possibly because there was an early interruption of the study and the target number of patients could not be reached, generating a low statistical power and reducing the possibility of detecting small effects that would be relevant. With the same intention, [19] used the Functional Assessment of Cancer Therapy - General (FACT-G), which has functional Well-being as one of its domains to assess the functionality of the participants. After an intervention based on the Clinical Practice Guidelines of the National Consensus Project (NCP), they also did not achieve a statistically significant improvement in functionality. A study performed by [13] observed that about activities of daily living, the main limitations presented by patients were with personal hygiene, dressing, shopping at the supermarket, and making transfers. All of these tasks were improved after the physical therapy intervention.

The physiotherapist's main function is to provide functionality and quality of life to these patients with treatments aimed, helping them to readapt themselves with simple and attainable goals, such as going shopping [20,21].

Most of the studies presented in this review showed an improvement in the quality of life of patients in PC who underwent a physiotherapy program. This improvement was observed mainly in studies in which the interventions were personalized according to the profile of each patient, significantly contemplating the improvement of pain, fatigue, depression, anxiety, drowsiness, well-being, and appetite, domains that make up the QOL [13,14]. showed that [13] the implementation of individual treatment plans has more promising results in the patient's life when the physiotherapist follows the International Classification of Functionality, Disability, and Health (ICF). Thus, the patient's treatment is developed in a way to cover his problems and his physical, social, emotional, and, mainly, psychological needs. These are the ones with the most negative incidences, generating greater weakness in the patient's clinical condition. In the authors' study, all patients had severe or mild depression and had a significant improvement in this condition after physical therapy intervention, which positively interferes with the improvement of QOL [13]. One of the most used qualities of life assessments in the articles that were addressed in this work is the EORTC QLQC-30 questionnaire. It is available in several languages, and it addresses specific items about cancer, such as the different domains that integrate quality of life, with scales of functions, symptoms, disease impact, being able to more skillfully assess this outcome. Through this tool, [18] observed a significant improvement in the quality of life of their patients after being submitted to their proposed interventions. In contrast, Storck [16] and [15] could not obtain significant improvement in their participants evaluated with the questionnaire.

The studies addressed in this work demonstrate that physiotherapy has a great influence on improving the QoL of cancer patients extensively, covering all aspects that comprise it, such as physical, functional, social, emotional, and spiritual Well-being [9,13]. However, there are scientific and practical limitations to performing physical therapy interventions with these patients. Particularly, due to the little scientific evidence on the role of physiotherapy in palliative care [12], as well as the patient's lack of knowledge about this treatment. This lack of knowledge was reported in a study in which patients exposed the desire to be referred and advised about the possibility of undergoing physical therapy treatment only after going through an exercise program guided by a physical therapist [13,14].

When assisting the patient in palliative care, it is necessary to respect him as a biographical being, provide a better quality of life, as well as seeing him as an individual who has dreams, wants, and desires, that is, not only aiming to treat the disease [2]. This procedure needs to be respected and included in the physiotherapeutic treatment plan, aiming that the patient may readapt himself actively [20,21]. In addition, it is necessary to have sensitivity and discernment to act promptly, offering dignity and comfort, and being able to prepare the patient and family for the end of life, as well as for mourning. After all, the death process is a very significant experience for the patient, for the family, and the whole team, since even the team was trained to always heal, thus making death a consequence seen as a failure in performance [5]. The professional needs to know the definition of mourning, which is established as a set of reactions to a significant loss, usually due to the death of another being. This event will cause several changes in family members and the patient himself since the mourning begins at the moment of the diagnosis of the incurable disease and each individual will deal with the mourning differently. After all, the process is individual and dynamic, related to the meaning of the relationship and bond [5,20]. The multidisciplinary team needs to carry out a totally clear and sincere communication with the family regarding this process so that they feel supported and palliative care can be done effectively. In addition, these professionals aim to increase the reality of the loss, to help the person to deal with manifest and latent affections,

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to help the person to overcome obstacles to readjust after death, to encourage the person to say goodbye properly, and to feel comfortable when reinvesting in life without forgetting the person [5,20,21] Spirituality is a factor that helps a lot at this time because faith is an important instrument for the recovery of those who face the process of mourning by bringing to the mourner the possibility of approaching the sacred, comforting, and mitigating feelings of helplessness [5].

It is of great importance for professionals working in palliative care to be clear that there is a limit for cure and treatment, but there is no limit for care, and it needs to be offered in the best possible way to patients and their families.

The main limitation of the present study was concerning the availability of scientific relevance, mainly level A evidence, and meta-analysis. In addition, few studies present the performance and benefits of the presence of the physiotherapist in the multidisciplinary palliative care team. The performance of physiotherapy in this area is not a topic frequently addressed during graduation; this contributes to the lack of specialized professionals in the area.

Conclusion

Based on what has been presented, this review work clarifies that physiotherapy provides the renewal of the quality of life of cancer patients in palliative care. However, this improvement does not occur isolated, but in several domains that include quality of life, especially about fatigue and functionality. Thus, the importance of the presence of the physiotherapist in the multidisciplinary team of the PCs should be highlighted, contemplating the patient as a whole.

Therefore, our results showed that the physical therapy treatment carried out in an individual and personalized way, according to the limitations and complaints of each one, and with objectives that can be achieved and that generate motivation in these patients, present significant results. However, it is necessary to carry out more research in this area, to overcome the scientific and practical limitations found, since it was observed that the assessment of functional performance and quality of life are considered a measure of the effectiveness of palliative care.

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