

Therapy with Dog Assistant for treatment of anxiety in oncology patients

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ABSTRACT

Introduction: Cancer treatment and its side effects can be exhausting and painful. Animal-assisted therapy (AAT) aims to reduce the stress and anxiety caused by cancer treatment. Interaction with the dog helps to increase the production of endorphins and serotonin, which act as a natural analgesic, a mood, sleep and appetite regulator, in addition to reducing cortisol levels, which are related to stress. **Objectives:** To evaluate the impact of Animal-Assisted Therapy on cancer patients, with an emphasis on mental health, including psychological benefits and adverse effects. **Methodology:** This is a narrative review on Animal-Assisted Therapy, Mental Health, and Cancer. We use comprehensive descriptors and databases. The inclusion criteria required articles in English or Portuguese, published in full, primary studies and systematic reviews on the relationship between the themes, as well as reports of interventions with animals in cancer patients. Articles in other languages or unrelated articles were excluded. **Conclusion:** It was concluded that Animal Assisted Therapy is a promising approach in the treatment of cancer, aiming at the emotional well-being of patients. The need for more research and implementation of these complementary practices in healthcare stands out.

Keywords: Therapy, Dog Assistant, Anxiety, Chemotherapy.

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INTRODUCTION

Cancer is a disease of uncontrolled gene expression, so it is a genetic disease. The overgrowth of cells takes over tissues and organs and can spread throughout the body (metastasis). The etiology of cancer may have factors related to intrinsic or extrinsic causes, these conditions exceed the conserved genomic capacity. The extrinsic ones are related to the external environment, such as lifestyle habits and exposure to mutagens and/or carcinogens, and the intrinsic ones are related to genetic factors (HOFF, 2013).

Among cancer treatments, chemotherapy is one of the most used, it consists of the administration of drugs orally, topically or intravenously. These extremely potent drugs, when mixed with the blood, are carried throughout the body with the aim of destroying, controlling, or inhibiting the growth of diseased cells. Chemotherapy treatment can have physical and psychic effects, such as nausea, vomiting, sensitive skin, hair loss, insomnia, anxiety, among others. Pain is also a notable symptom in cancer patients, interfering with quality of life. (SIMÕES *et al.*, 2021).

The diagnosis and treatment of cancer are impactful for both the patient and the family. The word cancer is usually taboo because it is related to an incurable disease, difficult treatment, and poor prognosis, thus generating an emotional shock between patient and family members (CORDEIRO *et al.*, 2021).

The waiting period for treatment generates psychological symptoms among patients. Of these symptoms, the most common is anxiety, characterized by an unpleasant vague feeling related to fear, apprehension or even distrust felt by tension. In addition, there is discomfort and, especially, anticipation of the feeling of continuous danger of something strange or unknown are other frequent symptoms. (D'ÁVILA *et al.*, 2020).

Animal-assisted therapy (AAT) aims to reduce the stress and anxiety caused by cancer treatment, since animals, such as dogs, bring back memories of home, a safe and cozy place. The interaction with the dog helps in increasing the production of endorphins and serotonin which act as a natural analgesic, regulator of mood, sleep and appetite, in addition to reducing the levels of cortisol, related to stress. Cancer treatment and its side effects can be exhausting and painful, and animals help divert the focus from the disease. (INCA, 2016).

Inside and outside Brazil, especially in the United States, animal therapy in cancer centers has become increasingly common. Health professionals, who want to work with AAT, seek training aimed at its physical, emotional and physiological benefits with the patient. The University of Okland in California is one example that has a Center for Human Animal Intervention. The practice has international guidelines, such as the recommendations of the Guidelines for Animal--Assisted Interventions in Health Care Facilities and the HealthcareInfectionControlPracticesAdvisoryCommittee (HICPAC), presenting recommendations



applied to both the animal and the patient, as well as to the coordination of the health service that wishes to receive the program. (Moreira RL, *et al.* 2016).

In Italy, at the Carrara municipal hospital, the impact of AAT on cancer patients undergoing chemotherapy was evaluated, resulting in a reduction in patients' depression and an increase in arterial oxygen saturation. Pets have the natural ability to offer love and protection, reducing loneliness by giving comfort and encouragement, as well as favoring socialization. During the 25 weeks of the study, there were no problems due to the presence of the dogs, such as infections or allergic reactions. Nursing activity was not affected, with no perception of an increase in waiting time or duration of chemotherapy. (Orlandi, *et al.*, 2007).

OBJECTIVES

The aim of this review is to examine and evaluate the impact of Animal-Assisted Therapy on cancer patients, with a focus on mental health. The positive and negative effects of this therapy on anxiety, depression, and psychological well-being of individuals facing cancer will be investigated.

In addition, to identify and synthesize the psychological benefits reported in studies involving the interaction between animals and cancer patients. This includes analyzing outcomes that highlight improved quality of life, reduced anxiety, and relief from depression provided by Animal Assisted Therapy.

METHODOLOGY

This article is a literature review study, at the narrative level. To comprehensively encompass research on Animal-Assisted Therapy, Mental Health, and Cancer, we have selected descriptors that address key topics of interest, including "Animal-Assisted Therapy," "Mental Health and Animals," "Cancer and Animals," "Animal Benefits," "Cancer Treatment," "Animal-Human Interaction," "Quality of Life," "Anxiety and Depression," and "Animal Welfare."

In order to ensure a comprehensive and diversified search in the academic literature, we chose to use the PubMed, Scopus, Web of Science, SciELO (Scientific Electronic Library Online) and Google Scholar databases. These databases were chosen because of their broad coverage across multiple disciplines, ensuring that research is comprehensive and inclusive.

Inclusion criteria were established for articles published in English or Portuguese, published in full to capture up-to-date information, primary studies, and systematic reviews that addressed the relationship between Animal-Assisted Therapy, Mental Health, and Cancer, as well as articles that reported outcomes and benefits of animal interventions in cancer patients. Exclusion criteria were applied to articles in languages other than English or Portuguese, studies not directly related to



Animal-Assisted Therapy, Mental Health and Cancer, as well as duplicate studies or studies that did not contribute relevant information.

RESULT AND DISCOURSE

CANCER AND CHEMOTHERAPY

Cancer treatment can be done through surgery, radiation therapy, and chemotherapy, which can be used together for malignant neoplasms. Chemotherapy is a systemic cancer treatment that uses drugs to destroy neoplastic cells (whether chemotherapy, hormonal, biotherapeutics, immunotherapeutics, alvotherapeutics), its administration can be done continuously or at regular intervals, which vary according to the therapeutic regimens. The basic dose of chemotherapy drugs should be adjusted for each patient according to their body surface area to obtain the desired antiproliferative effect. (BRAZIL, 2021).

Chemotherapy, among the therapeutic modalities for the treatment of cancer, presents an advance in the cure, control, and survival of cancer patients. It is worth mentioning that there are several drugs with therapeutic purposes and to ensure the effectiveness of the treatment it is necessary to provide an adequate plan, know their pharmacological properties and adverse effects. (Martins *et al.*, 2015).

The main function of chemotherapy is to destroy malignant cells in the body, through drugs that act systemically, often without distinguishing between tumor cells and normal cells, resulting in very unpleasant adverse effects, which depend on the chemotherapy agents, dosages and duration of treatment. (Carlucci *et al.*, 2016).

During treatment, there are numerous adverse effects resulting from the chemotherapy drug used, including nausea, vomiting, alopecia, fatigue, phlebitis, dermatology toxicity, mucositis and emotional changes such as depression and anxiety. It is important to emphasize that such effects can compromise or even contribute to treatment withdrawal. Thus, it is necessary to be aware of such effects and to generate adequate care for the patient, in order to avoid treatment dropouts and interruptions. (Pear *et al.*, 2020).

CANCER AND ANXIETY

Neoplasms are diseases that cause changes at cellular levels, but above all, they exert a strong influence on the mental health status of patients and the entire family involved. It is known that cancer is a disease that in some stages can become limiting, in addition to changing the patient's lifestyle to a new, exhausting, worrisome and painful routine. This whole process, however, is directly related to the way the patient receives this diagnosis and the way he deals with his new reality.



Cancer affects the patient's life in a substantial way because, in addition to compromising the patient's physical and psychological well-being, it influences the family's emotional state, as the disease evolves to more advanced stages or even to minimal prospects of cure. In addition, family members feel responsible for the care of this patient and, through the accumulation of tasks, worries, responsibilities, feelings of guilt and fear, they end up favoring the development of anxious and depressive symptoms. Physical symptoms such as psychological distress, anxiety, depression, cognitive decline, insomnia, and fatigue can negatively impact the quality of life of cancer patients and their families, according to a study conducted in India. (LAMB *et al.*, 2021).

Some symptoms are present in the patient undergoing chemotherapy treatment, such as fatigue, pain, and insomnia. These symptoms can affect quality of life negatively and can aggravate symptoms of anxiety and depression. On the other hand, the symptoms of anxiety and depression can vary from person to person, from the stage of treatment and the evolution of the disease, affecting quality of life, adherence to therapy and self-care. In addition, the functionality of patients with anxiety/depression may also be impaired, as other symptoms may arise and the desire to live may be reduced (SALVETTI *et al.*, 2018).

Anxiety in chemotherapy treatment, in addition to compromising not only the patient's mental health, directly influences the healing process, as it results in delays in treatment and decreased quality of life for the patient. This happens through the relationship between the stressful effect that a cancer diagnosis can cause associated with the negative physiological impacts related to stress and the emergence of other symptoms. (OPPEGAARD *et al.*, 2021).

A descriptive, cross-sectional, and observational study conducted at the Oncology outpatient clinic of Centro Universitário ABC in the state of São Paulo in 2020 observed a rate of 24.24% of the total number of patients who had borderline or high levels of anxiety. In this way, this research correlates the high levels of depression and anxiety among cancer patients. Through this study, it is possible to infer that there is a relationship between the anxiety levels of patients in the Oncology outpatient clinic. (TURKE *et al.*, 2020).

PETS AND QUALITY OF LIFE

The experience of owning a pet is, for some people, a determining factor in their well-being and quality of life. Pets, in addition to being part of family life, are able to regulate feelings and emotions in human life. They are also capable of providing intense relationships and interactions, responsible for increasing personal well-being and improving the human biopsychosocial system. In addition, living with pets can evoke different feelings, such as joy, love, and affection. The feeling of protection is also common in people who live with animals, as the owners of these animals are more likely to feel protected than those who do not live with pets. (ARAGUNDE-KOHL *et al.*, 2020)



The relationship between the pet and its owners results in greater comfort and safety. In other words, pets are able to elevate the mood of older adults, provide companionship and a sense of security to their owners. In addition, these animals have the ability to show unconditional love and care for their owners. (HUI GAN *et al.*, 2020).

The positive effect of pets on the life of human beings is not only related to the daily routine and quality of life of healthy people, but also to the recovery and maintenance of the health of people with diseases and patients in recovery. A study conducted in Australia showed that cancer survivors consider benefits in the presence of animals such as companionship, affection for their pet and well-being for physical and mental health, in addition to improved quality of life after treatment. They contribute to the patient's awareness of the present, in addition to being companions, possessing qualities such as loyalty and kindness, and knowing how to act intuitively to the owner's needs. (TRIGG, 2021).

In this sense, pets are able to provide emotional support to patients being treated for diseases in and during periods when symptoms are active. They are able to perceive and respond to their owner's needs intuitively. Another factor present in patients who have pets is the ability of physical contact with animals to reduce feelings of isolation and loneliness, by promoting companionship to that patient and allowing communication. (BROOKS *et al.*, 2018).

ANIMAL-ASSISTED THERAPY

Animal-assisted therapy (AAT) is the name given to a practice of interactions with animals, in which the animal is an integral part of the treatment process. physical, emotional, and cognitive. (WALNUT; NOBRE, 2015).

AAT uses the animal as part of the therapeutic treatment with individual or group application. The therapy can be used by several areas of medicine for the most varied purposes and is a formal procedure, with methodology and systematization, and must be documented, planned, tabulated and with measurements and evaluations of results. The entire therapy process must be verified in order to achieve the objectives set. (AGUIAR, 2018).

Animal-assisted therapy is seen as an innovation that contributes positively to the care of cancer patients, thus promoting socialization, cognition, self-care, self-esteem, interactions, and joyful moments. The introduction of dogs as therapists in the treatment of cancer patients, especially in children, has contributed positively to compensate for emotional and structural deficits, notably, this type of intervention was directly associated with an increase in plasma endorphin concentrations, improved feelings of well-being and decreased cortisol concentrations, a substance that acts on anxiety and stress. (MOREIRA *et al.*, 2016).



In addition, there is a psychosocial benefit, which includes the direct relationship of the animal with the members of the treatment team and with the members of the patient's social circle, with this there is an increase in the incentive to other occupational, recreational and self-care activities, which makes the cancer treatment environment less traumatic. (ZAMBIAZE, 2020)

Among the various domestic animals, the dog is the most used in this type of practice due to its characteristics of intelligence and perception, it becomes a link between patient and professional, acting as a facilitator of therapy that attracts, modifies and connects the two participants (professional and patient). By stimulating these relationships between man and animal through gestures or just observations, it is possible to achieve the goal of improving physical and mental pain and bringing moments of relaxation, with smiles and joy, transforming the hospital environment into a place of happiness. (SCHMITZ, 2017).

In Brazil, the Ministry of Health has been looking for ways to improve the humanization of the Unified Health System (SUS), these mechanisms must value respect for life. The National Hospital Care Program (PNHAH), which has already started and recognized activities with animals as a form of distraction and joy for patients with a long period of stay in the hospital. (ZAMBIAZI, 2020).

In addition, bill 4455/12, by Deputy Giovanni Cherini (PDT-RS), aims to implement Animal Assisted Therapy (AAT) in SUS hospitals, which must have trained professionals to develop this type of therapy. To make the treatment viable, the government can enter into agreements with veterinary hospitals and NGOs that work with animals. In this type of therapy, animals will be like instruments to facilitate the approach and establishment of therapy for patients. (BRAZIL, 2012).

CONCLUSION

This literature review underscores the importance of a holistic approach to cancer care, considering not only medical efficacy but also patients' emotional and psychological well-being. Animal-Assisted Therapy (AAT) emerges as a promising strategy to address anxiety and improve the quality of life of individuals undergoing cancer treatment, highlighting the ongoing need for research and implementation of these complementary therapeutic practices in healthcare settings.



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