Animal-Assisted Intervention for People with Cancer

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Overview

Cancer is one of the most widespread diseases in the modern world, affecting millions of people per year. In the United States alone approximately 1.6 million people are diagnosed with cancer annually; almost 50% of men and close to 33% of women will develop some form of cancer during their lifetime (American Cancer Society, 2014). The type of cancer and extent to which it has developed before it is discovered inform the prognosis, or likely outcome of the disease. Regardless of prognosis, the diagnosis of cancer and the course of the disease make this a stressful time for patients and their families. Cancer itself and many of its treatments, such as chemotherapy, cause insomnia, poor appetite, and diminished energy. These symptoms coupled with the psychological effects of cancer often cause anxiety, depression, and aggression in people with cancer. Many complementary therapies focus on treating the physical and psychological side effects of cancer and its treatments. These complementary therapies include animal-assisted interventions (AAI).

Many anecdotes relate the use of AAI in cancer treatment, but few studies using scientific methodology have been published which evaluate the treatment effects. Consequently, the efficacy and role of AAI as an adjunct therapy for people with cancer is neither well-understood nor appreciated. This brief addresses the gap by first summarizing the current knowledge on cancer, including who gets cancer, cancer in children, and treatment options. Second, the role of AAI in treating people with cancer is discussed. Finally recommendations are made for future research, and key resources are identified.

State of Current Knowledge

WHAT IS CANCER?

The term cancer does not refer to a single disease, but to a group of diseases occurring when abnormal cells replicate uncontrollably. When this happens, cancer cells may destroy nearby healthy cells and spread through the body via the blood and lymphatic systems (National Cancer Institute, 2015). There are more than 100 different types of cancer, typically named for the organ or type of cell where the cancer began. The National Cancer Institute offers the following broader categories:
CARCINOMA
Cancer which begins in the skin or the tissues that line internal organs

SARCOMA
Cancer that begins in connective or supportive tissue, such as bone, fat, muscles or cartilage

LEUKEMIA
Cancer that starts in blood forming tissue such as bone marrow

LYMPHOMA
Cancer that begins in the cells of the immune system

CENTRAL NERVOUS SYSTEM CANCERS
Cancers that begin in the tissues of the brain and spinal cord

WHO GETS CANCER?
People of all ethnicities, ages, races, and gender are susceptible to cancer. Of the many risk factors for cancer, some can be controlled for, while others cannot. These risk factors include genetic makeup, ethnicity, diet, lifestyle, and environmental exposures. Cancer can happen at any stage of life, but it is most common with advancing age; 75% of cancers occur in people over 55 (American Cancer Society, 2014). It is important to note that, while cancer occurs at all ages, the characteristics of cancer in younger persons tend to be different. For this reason, cancers in children are frequently discussed separately from adult cancer.

CANCER IN CHILDREN
Children of all ethnicities, ages, races, and genders can get cancer. Although medical survival rates have increased dramatically for many types of childhood cancer over the last 40 years, the rate of new cancer diagnosis has remained more or less static. Each year more than 15,000 children are diagnosed with cancer, and at any point in time more than 40,000 children are undergoing treatment for cancer (Jenkins, Ruehrdanz, McCullough, Cassillas, & Fluke, 2012). The most common cancers in children are leukemia, brain tumors, lymphoma, and soft-tissue sarcoma. Most cancer in children is caused by random genetic mutation. While environmental and genetic factors contribute, the cause of most childhood cancers is still unknown (National Cancer Institute, 2014). These cancers tend to develop without warning, but they also tend to have a high rate of cure compared to adult cancers. Today, more than 80% of children with cancer will survive, but they require recurrent painful treatments with long-term effects from the process, such as infertility (American Cancer Society, 2015). The psychological duress of a cancer diagnosis and subsequent treatment may be more pronounced in children, particularly if they require hospitalization (Gagnon et al., 2003).

TREATMENT OPTIONS
Traditional treatment options vary based on the age of the patient and the type of cancer, but can include chemotherapy, radiation therapy, bone-marrow transplant, surgery, and immunotherapy. Other types of therapy are not aimed at curing the cancer, but rather at alleviating the symptoms of the treatment or psychological effects of the diagnosis, such as insomnia, weight loss, and depression. Many people with cancer may wish to incorporate complementary and alternative medicine (CAM) therapies into their treatment regimen (Coss, McGrath, & Caggiano, 1998; Jordan & Delunas, 2001). These treatments can include Reiki, acupuncture, yoga, and animal-assisted intervention (AAI).

AAI AND CANCER
The majority of reports on AAI with people with cancer are of scheduled visits with a therapy dog in a hospital or treatment facility. The concerns of staff members prior to implementing a program for people with cancer mirror concerns seen with other visitation programs: added responsibility of caring for the animal, disease transmission, damage to the facilities from the dogs, and the potential for allergic reactions (Geisler, 2004). These concerns are the same with most populations of patients, but they tend to be heightened due to the fragile nature of the immune systems of people with cancer. Precautions such as allergy testing of patients prior to visitations and setting up a visitation area away from other patients have been taken (Bouchard, Landry, Belles-Isles, & Gagnon, 2003). Generally staff member concerns did not come to fruition, and the majority of staff members reported positive experiences with the program (Caprilli & Messeri, 2006). Bouchard et al. (2003) reported that only one person was found to have an allergy that prohibited participation, and rates of infections have not increased during the timeframe of visitation programs (Caprilli & Messeri, 2006). Additionally there were no reports
Areas for Future Investigation

The majority of published literature on AAI and people with cancer is anecdotal, so more studies with rigorous study design are needed. Suggestions for study design include the use of a control group and the collection of objective measurements. One potential objective measure to include is venous blood oxygen saturation, which is often low in people with degenerative diseases, but increases with proper treatment.

Studies located for this review dealt with canines and cancer therapy programs. Future research could explore whether or not other animals, such as cats or fish could be beneficial for people with cancer.

Cancer and the needs of people with cancer may change based on their age. A study examining the differences in utilization of AAI for people with cancer of different ages could help illuminate whether or not the treatment effects differ between children and adults.

Future studies on the cultural differences of people with cancer could explore whether or not cultural differences influence the effects of AAI for people with cancer.

Conclusions

Cancer is a pervasive disease affecting millions of people each year. The psychological and social effects of cancer can be devastating. These effects can be lessened through AAI, which has been shown to reduce anxiety, depression, and aggression in people with cancer. AAI has also been shown to increase social interaction, appetite, oxygen saturation, and compliance with treatment. These effects may be more pronounced in children and hospice patients.

There is a body of published literature on the use of AAI and people with cancer, however, the majority of the studies are small and often lack appropriate controls or objective assessments. Regardless of whether or not the clinical effectiveness has been proven, any treatment that improves the quality of life of a person with cancer is valuable. Because AAI has been shown to improve the perceived quality of life of people with cancer, the current uncertainty of its clinical effectiveness should not represent a barrier to its use. Furthermore, since AAI seems to have a noticeable effect on how people with cancer are perceived, it is clear that more research is needed to fully understand the impact of AAI on people with cancer.
cancer handle their treatment, more work is warranted to develop the needed guidelines so AAI can be regularly considered as a treatment option for people with cancer. More studies utilizing scientific methodology to evaluate the effectiveness of AAI for people with cancer will provide a foundation for these guidelines. Future studies should consider employing a control group, pre-test/post-test design, studying the effects over a prolonged period of time, and collecting objective clinical measurements. Although AAI has been shown to improve the perceived quality of life of people with cancer, studies demonstrating its clinical effectiveness are important to encourage widespread acceptance of these programs by practitioners and patients alike.

**Key Resources**


Chur-Hansen, Zambrano, and Crawford review the peer-reviewed literature on palliative care and companion animals. The majority of published literature on AAI is either anecdotal or AAI is only addressed peripherally. There are only five studies which present empirical evidence on the use of companion animals in palliative care, each of which reports benefits to the patients. However, each of these studies has methodological weaknesses.


Gagnon et al. detail the institution of an animal therapy program in a hospital for children with cancer. Children who participate in the therapy dog program report reductions in anxiety, depression, and physical pain, while at the same time exhibiting increased social interactions and cooperation with treatment.


The authors synthesize the existing literature on the use of canines as a complementary therapy for childhood cancer. This review is exhaustive and divides the results by type of cancer as well the stage of treatment. The authors discuss myriad symptoms that children with cancer may experience, and give advice on how to integrate animal therapy into a treatment regimen.


Johnson et al. give an overview of complementary and alternative medicine (CAM) for people with cancer, as well as present the findings of their pilot study of animal-assisted therapy (AAT) with 30 adults with cancer. In the pilot study, researchers assign participants to one of three groups: a quiet reading group, a group that receives a human visitor, or a group that is visited by a dog. The group assigned to read quietly is statistically different from both visitation groups but, no differences are seen between the group who receive visits from a human and the group that receive visits from the dog. The relatively small sample sizes may explain the lack of significant differences between the two visitation groups. Johnson et al. contend that statistics may not show the true picture of the effect of the visits on the participants, as participants more frequently rated the dog as someone that they look forward to seeing and telling others about. Participants also speak very positively about having the dog visit and perceive that their health is improved.


Orlandi et al. evaluate the effects of a therapy dog on individuals receiving outpatient chemotherapy at a day hospital over a six month period. They use a control group and administer pre-tests and post-tests to both groups. They report improvements unique to the animal therapy group, including a reduction in depression symptoms and an improvement in arterial oxygen saturation.

**References**


