

Effect of Dance Movement Therapy on Physical Well-Being of Cancer Patients

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ABSTRACT

Cancer treatment often poses significant physical, emotional, and psychological challenges, leaving patients struggling with pain, fatigue, anxiety, depression, and a disconnect from their bodies. Dance Movement Therapy (DMT) provides an innovative, body-centred approach that helps cancer patients navigate these challenges by fostering emotional expression, enhancing physical well-being, and promoting psychological resilience.

DMT uses movement as a therapeutic tool to help patients reconnect with their bodies, improve their emotional health, and alleviate treatment-related stress. It encourages patients to explore feelings and experiences non-verbally, offering a safe space for emotional release and creative self-expression. By focusing on the mind-body connection, DMT aids in restoring a positive body image, enhancing mobility, and reducing physical discomfort.

Research suggests that DMT can improve the quality of life for cancer patients by reducing anxiety, depression, and emotional distress. Additionally, the group nature of many DMT sessions fosters social support and combats the isolation often felt during cancer treatment.

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Introduction

Cancer is a disease of uncontrolled proliferation by transformed cells subject to evolution by natural selection [1]. Cancer is a complex group of diseases characterized by the uncontrolled growth and spread of abnormal cells in the body. Under normal circumstances, cells grow, divide, and die in a regulated manner. However, cancer arises when this process breaks down due to genetic mutations, leading to the formation of a mass of abnormal cells, or a tumour. Not all tumors are cancerous; benign tumors do not spread, while malignant tumours invade surrounding tissues and can metastasize, or spread, to distant parts of the body. Cancer can affect nearly any part of the body and is not a single disease but a collection of related conditions, each with distinct biological behaviours and treatment responses. The origin of cancer is typically linked to a combination of factors, including genetic predisposition, environmental exposures (like radiation or carcinogens), lifestyle choices (such as smoking or diet), and sometimes infections. Though once considered incurable, advancements in medical science have significantly improved cancer detection, treatment, and outcomes. Modern treatments include surgery, radiation therapy, chemotherapy, immunotherapy, and targeted therapies designed to attack cancer cells specifically. Early detection and personalized treatment strategies play a crucial role in improving survival rates and quality of life for cancer patients.

Causes of Cancer

- Genetic Mutations

Cancer originates when the DNA in cells becomes damaged or

altered, leading to mutations. These genetic mutations can be Inherited or Acquired.

• Environmental Factors

Several environmental factors are known to increase the risk of developing cancer by damaging DNA such as radiation exposure (UV radiation), Chemical carcinogens (tobacco smoke, asbestos).

• Lifestyle Choices

Certain behaviours and lifestyle choices significantly increase cancer risk like tobacco use, Diet and obesity, Alcohol consumption, physical inactivity.

• Infections

Certain viruses, bacteria, and parasites are known to cause or contribute to cancer for example Human Papillomavirus (HPV), Hepatitis B and C, Epstein Barr Virus and Helicobacter Pylori.

• Hormonal Factors

Hormones can play a role in certain cancers. For example: increased lifetime exposure to estrogen and progesterone can increase the risk of breast cancer. Higher levels of Insulin Like Growth factor can promote cancer development by stimulating cell proliferation.

• Immune System Dysfunction

A weakened immune system, either due to genetic conditions, immunosuppressive drugs, or diseases like HIV/AIDS, can increase the risk of cancer. The immune system normally helps to identify and eliminate abnormal cells, including cancerous ones.

• Aging

As people age, the likelihood of accumulating DNA damage increases, making older individuals more prone to developing cancer. Additionally, the body's ability to repair genetic mutations decreases over time, further contributing to cancer risk.

Types of Cancer

There are more than 100 different types of cancers, which are generally classified based on the organ or tissue they originate from, or the type of cell involved. Here's a list of the most common and well-known types of cancer, categorized by their general classification:

- **Carcinomas**

Carcinomas are cancers that start in the epithelial cells, which line the inside and outside surfaces of the body. This is the most common type of cancer. Carcinomas can further be sub categorised as Adenocarcinoma, Basal Cell Carcinoma, Squamous Cell Carcinoma, Transitional Cell Carcinoma depending upon their tissue origin.

- **Sarcomas**

Sarcomas are cancers that arise from the connective tissues, such as bone(osteosarcoma) cartilage (Chondrosarcoma), fat (liposarcoma), muscle (leiomyosarcoma), blood vessels (Angiosarcoma).

- **Leukaemia**

Leukaemia is cancer of the blood or bone marrow, characterized by the uncontrolled production of abnormal white blood cells. Leukaemia can be either Lymphocytic or myeloid in nature.

- **Lymphomas**

Lymphomas are cancers of the lymphatic system, which is part of the immune system categorising further into Hodgkin Lymphoma and Non Hodgkin Lymphoma.

- **Myelomas**

Myeloma is a cancer that starts in the plasma cells of the bone marrow leading to bone pain, kidney damage, and weakened immunity.

- **Melanomas**

Melanoma is a type of cancer that arises from melanocytes, the cells that produce pigment (melanin) in the skin like Cutaneous (skin affecting) and Ocular(affecting eye).

- **Brain and Spinal Cord Cancers**

These cancers are called central nervous system (CNS) tumors such as Gliomas, Meningiomas, Medulloblastomas.

- **Germ Cell Tumors**

These cancers begin in the cells that give rise to sperm (testicular) or eggs (Ovarian)

- **Neuroendocrine Tumors**

These cancers start in cells that release hormones into the blood in response to signals from the nervous system.

Effects of cancer on physical wellbeing of an individual

Cancer not only destroys a person's body but also profoundly affects a person's mental health and negatively impacts the people around them, disrupting families and friendships [1]. Cancer can have profound effects on both the physical and mental health of a person. The impact can vary widely depending on the type of cancer, its stage, the treatments involved, and the individual's overall health and support systems. Cancer as a disease kills 10 million people per year globally, reflecting how common and lethal it remains. The economic impact of cancer is immense, including direct medical costs, lost productivity due to illness and premature death, and the emotional and psychologic effects on patients and their families. The cost of cancer to the world exceeds 1 trillion dollars per year [2]. Here's a detailed look at how cancer affects physical and mental health:

Physical Effects of Cancer

- **Cancer-Related Fatigue:** Many cancer patients experience significant fatigue, which is not always alleviated by rest. This can affect daily activities and overall quality of life.

- **Pain and Discomfort:** Cancer can cause pain due to the tumor pressing on nerves, bones, or organs. Pain management is a crucial part of cancer care.
- **Weight Changes:** Patients may experience weight loss or gain due to cancer itself, side effects of treatment, or changes in appetite. Cachexia (muscle wasting) can occur in advanced cancer.
- **Digestive Issues:** Treatment may lead to nausea, vomiting, constipation, diarrhoea, and changes in taste and appetite, impacting nutrition and hydration.
- **Weakened Immune System:** Cancer and its treatments (like chemotherapy) can suppress the immune system, making patients more susceptible to infections.
- **Physical Functioning:** Depending on the location and type of cancer, physical functioning can be affected. This may include limitations in mobility, strength, and endurance.
- **Hair Loss and Skin Changes:** Certain treatments can cause hair loss, skin rashes, or other dermatological issues, impacting self-esteem and body image.
- **Hormonal Changes:** Some cancers (e.g., breast, prostate) can affect hormone levels, leading to a variety of symptoms, including hot flashes and mood swings.

What is Dance Movement Therapy?

Dance Movement Therapy (DMT) is a form of expressive therapy that uses movement and dance to promote emotional, cognitive, physical, and social integration in individuals. Here's how DMT works, including its theoretical foundations, techniques used, and the therapeutic process:

Theoretical Foundations

- **Mind-Body Connection:** DMT is based on the principle that there is a strong connection between movement and emotional expression. Movements can reflect inner feelings and thoughts, and exploring these movements can facilitate emotional healing and self-discovery.
- **Psychological Theories:** DMT incorporates concepts from various psychological frameworks includes-Psychodynamic Theory: Exploring unconscious processes and emotional conflicts through movement. Humanistic Psychology: Emphasizing self-expression, authenticity, and personal growth. Somatic Psychology: Focusing on body awareness and the physical manifestation of emotions.
- **Developmental Theories:** The therapy often draws on developmental theories that suggest movement patterns change with emotional and cognitive development. Movement can be used to explore developmental themes and resolve past experiences.

Physical Benefits of Dance Movement Therapy

- **Increased Mobility and Physical Function:** Gentle movement and dance exercises help maintain or enhance flexibility, strength, and coordination, countering the physical decline that may accompany treatment.
- **Pain Management:** Movement promotes the release of endorphins, which can alleviate pain. The focus on rhythm and movement can also distract from pain, providing a holistic approach to pain management.
- **Enhanced Social Connection:** Participants benefit from mutual support and understanding, facilitating emotional bonding. Sharing movement experiences can enhance social interactions and create lasting connections. This shared experience can strengthen relationships and create a supportive environment for personal exploration and healing.

- **Stress Reduction and Relaxation:** The focus on breath, movement, and body awareness helps activate the relaxation response, countering the effects of stress hormones and promoting a sense of calm.
- **Regulation of the Nervous System:** Engaging in rhythmic, mindful movement can enhance vagal tone, contributing to improved emotional regulation and overall well-being.
- **Improved Quality of Life:** By addressing emotional, physical, and social aspects of health, DMT promotes holistic well-being, enhancing the overall quality of life for cancer patients. Participants learn techniques for emotional expression and stress management that can be applied beyond therapy sessions, equipping them with tools for resilience.

Conclusion

Dance Movement Therapy offers a multifaceted approach to support cancer patients, addressing the emotional, physical, and social challenges associated with the disease. By fostering emotional expression, improving body awareness, enhancing social connections, and facilitating stress reduction, DMT can play a vital role in the holistic care of individuals [3-8].

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