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Short Communication

Physiotherapy Section

Impact of Physical Inactivity Following the COVID-19 Pandemic on the Overall Quality of Life among Cancer Patients

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ABSTRACT

The human population's health, economy, and way of life have been seriously threatened by the Coronavirus Disease (COVID-19) pandemic. Patients with cancer are one of the special patient groups who faced additional difficulties during COVID-19, with additional problems in their basket. To minimise the sufferings, regular physical activity of any intensity lowers the chance of cancer progression while enhancing survival rates and Quality of Life (QoL). The lengthy indoor stay during the COVID-19 lockdown prompted inactivity among cancer patients, reducing their overall QoL. The purpose of this article is to ascertain how COVID-19-related physical inactivity affected cancer patients and their QoL.

Keywords: Coronavirus disease, Immune, Physical fitness

INTRODUCTION

The first human case of COVID-19, named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), was reported in Wuhan City, China, in December 2019 [1]. On January 7, 2020, an identical case was identified in China, and within a span of less than 30 days, on January 30, 2020, a public health emergency of international concern was declared by the World Health Organisation (WHO). According to the WHO, by February 2nd, 2021, more than 100 million people worldwide had been infected with COVID-19 [2]. The pandemic came in waves and had several different stages, leading to a severe impact on society and human health. Due to the threats of the COVID-19 pandemic on society and healthcare systems, many countries implemented complete home confinement, which included health monitoring systems and smart lockdowns, in order to reduce the COVID-19 infection curve [3].

COVID-19 in the General Population

Global evidence showed that COVID-19 caused a severe impact on stress, anxiety, and depression levels among the general population during the lockdown period. Complete confinement and quarantine were the main stressors that lead to emotional distress and psychological consequences [4]. The nationwide implementation of lockdown policies generated several socio-psychological problems in every segment of people's lives. Prolonged home isolation lead to the development of cognitive decline, negative feelings, and discomfort, and people also faced personality disorders, which may be particularly vulnerable to the negative psychological impacts of the COVID-19 pandemic [5]. In China, during the early stage of COVID-19, a survey was conducted, revealing that 27.9% of the participants had symptoms of depression, while 31.65% experienced anxiety symptoms, leading to increased emotional sensitivity [6]. During these particular circumstances, emotional regulation plays an important role in maintaining healthy behaviour. Along with these socio-psychological problems during home confinement, sedentary sitting time and physical inactivity have also increased, hampering the health-related QoL of the people [6].

COVID in Cancer Patients

Concerns erupted worldwide regarding cancer patients following the COVID-19 outbreak. People suffering from cancer were more susceptible to contracting COVID-19, resulting in a higher mortality rate compared to the general population [7]. Researchers also found that cancer patients had a significantly higher median age than patients without cancer, indicating that advanced age is associated with poorer COVID-19 outcomes. The main challenge for cancer patients during the COVID-19 epidemic was the lack of access to critical medical services, both in terms of travelling to hospitals and receiving standard medical care once there [7]. Many cancer patients reported experiencing tiredness, fatigue, and restlessness during the COVID-19 lockdown, induced by stress and anxiety about their cancer treatment and the potential risk of COVID-19 infection. An analysis revealed that cancer patients living alone experienced severe restrictions on social contacts. Up to 87% of assessed cancer patients reported feeling less secure due to the COVID-19 pandemic, which had a major impact on their overall well-being [7].

Cancer patients constitute a unique population facing additional challenges on a routine basis. Firstly, their weakened immune systems and interruptions in treatment encouraged them to stay indoors and minimise travel. During the pandemic, patients faced a serious dilemma: staying at home could lead to tumour progression, while visiting the hospital for chemotherapy could increase the risk of COVID-19 infection [8]. This caused significant concerns among governments, physicians, and patients regarding the impact on healthcare delivery systems. Generally, cancer patients are always at a higher risk of acquiring infections compared to patients with other diseases or conditions. Even a minor introduction of microorganisms can be deadly for a cancer patient, as it can deplete their white blood cells and cause irreversible damage, ultimately leading to death. Furthermore, the COVID-19 pandemic disrupted chemotherapy schedules, resulting in delays in diagnosis and treatment.

Importance of Physical Activity among Cancer Patient

When performed on a daily basis, physical activity has always proven its mettle as a therapeutic strategy to directly address physical and psychological concerns emerging among cancer patients. It is an appealing intervention focused on reducing sequelae related to cancer and assisting patients in returning to their original health status after being afflicted with cancer.

The positive benefits of physical activity include reducing the risk and progression of cancer, establishing a positive effect on QoL after cancer diagnosis, including psychological and emotional well-being (self-esteem, mood states, personality functioning, and QoL), as well as functional and physical well-being (muscular strength,

body composition, functional capacity, fatigue, nausea, etc.) [9]. Additionally, studies also report a positive effect of physical activity on cardiovascular fitness among cancer patients. Experiments promising the effect of resistance exercise, aerobic exercise, and usual care on fitness, body composition, muscular strength, and QoL have been documented in patients in the early, middle, and late stages of cancer [10]. Patients in the late stage of cancer show a lower response than those in the early and middle stages, but as a therapist who aims to moderate and improve the activity level and QoL until the last breath, therapeutic interventions are a boon for cancer patients. Several advances have demonstrated that participating in moderate physical recreational activities improves the survival rate in women with breast cancer [10].

Impact of Physical Inactivityon QOL Following COVID-19 among Cancer Patient

The American College of Sports Medicine (ACSM) and the American Cancer Society (ACS) advise regular participation in Physical Activity (PA) and exercise. They consider it imperative for cancer patients to improve fitness, performance, and overall health [11]. Cancer patients at early, middle, and late stages are encouraged to minimise their sedentary lifestyle and resume a regular active lifestyle to the best of their ability. It is recommended that they engage in at least 150 minutes of aerobic exercise per week to experience significant health benefits. This encompasses a spectrum of advantages, including musculoskeletal, physiological, psychological, personal, and social benefits. If feasible and appropriate, cancer patients are also advised to engage in muscle-strengthening activities of moderate to high intensity, targeting all major muscle groups in the affected and healthy areas at least twice per week to acquire optimal health benefits [11].

Physical inactivity can lead to increased obesity, elevated circulating sex hormones, chronic inflammation, poor immunological regulation, impaired insulin regulation, and dysregulated adipokines. These factors are often associated with cancer mortality [12]. The literature reports high levels of distress and anxiety among cancer patients due to the COVID-19 epidemic, along with financial struggles resulting from loss of income, jobs, and/or health insurance. Additionally, social distancing measures and other limitations aimed at preventing COVID-19 have inadvertently led to increased physical inactivity among cancer patients, negatively impacting their QoL [13].

CONCLUSION(S)

Inactivity is known to be a curse for human health, and COVID-19 has further exacerbated this issue. For cancer patients, inactivity has become a significant threat. The outbreak of COVID-19 has worsened both present and future consequences, causing a delay in their gradual return to normal life. Since the COVID-19 outbreak, which occurred almost 70 years after the previous pandemic, the current generations, regardless of their age or health status, were unprepared to face and cope with the virus and its aftermath. With the accumulation of literature from the past two years and the present review, it is evident that physical activity should be prioritised by the population of various age groups, with a particular focus on cancer patients. Whether it's a matter of life or death, hospitals, nursing homes, and rehabilitation centers need to think outside the box and work together to incorporate and encourage physical activity in cancer patients.

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