



# Association Of Immunity Boosters And Physiotherapy In Cancer: A Review

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## Abstract

Cancer is the disease with prolonged inflammation harming the immunity due to long term treatment. The immunity is the primary measure to prevent someone from the infection and upcoming inflammation. There are various methods followed nowadays to challenge the inflammation and boost immunity and overcome with the life measures towards affected immunity. The objective towards the study was to review literature and associate the relation between immunity boosters and Physiotherapy and their approach towards cancer in measure to enhance immunity. The relation between immunity boosters to immunity was associated with increase in immune response physiologically and an initiative towards the oncology rehabilitation. Moreover, physiotherapy relation came to be positive in increase in immunity with enhancement of all immune response with different exercise regimes initiating the better quality of life. Both the authors went through discussion process with the help of the literature review it came to the conclusion of the positive association between immunity boosters and Physiotherapy having a positive impact on the cancer to improve not only lifestyle but the immunity as an essential measure.

**Keywords:** Immunity Boosters; Physiotherapy; Cancer

## Introduction

Immunity has come across as the important measure since the pandemic arise due to Covid-19, so as the cancer was having earlier. Cancer is the long-term inflammatory condition that is variable according to its type, extent to of treatment affecting the immunity cells. Immunity can be affected due to many reasons in cancer, as studies says that ageing have a great impact on immunity so as the cancer is maximally approached in older population where already the degeneration of the immune cells are aggravated due to age and added by cancer and their treatments [1-2]. Physiology behind the action of cancer as reaction to body's immunity is quite complex paying a dual role, as immune system interaction with cancer leading to not only the death of tumor cells but by inhibiting there outgrowth leading to progression of cancer cells by fitting them into the microenvironment that is facilitating the tumor growth; as the antitumor response generated as spontaneous reaction by immune system expressing by infiltration of T cells in microenvironment of tumor and working as prognosis of cancer growth [3-5]. Survival of the cancer patient requires a bunch of treatments hand in hand, so as the rehabilitation to create the quality of life and patient well-being. Physiotherapy and nutrition play a great role in rehabilitation. Objective behind the study was to find the relation between the immunity boosters and immunity

in cancer, physiotherapy and immunity in cancer and combination of immunity boosters and physiotherapy in relation of immunity in cancer patients.

## Immunity Boosters and Immunity in Cancer

Cancer is the systemic and long-term inflammatory disease which destroys nutrition cycle leading to great weight loss, loss of functional abilities and loss of appetite leads to destruction of immunity as nutrition plays a primary role in working of immune system [6-7]. With upcoming treatments enhancement, there is the addition of complete oncology rehabilitation team that is associated with the nutritionist [8]. The correct nutrition is the key to immune system regeneration. The nutrition is itself an immunity booster, but on the contrary during rehabilitation the immunity boosters are either provided in the natural means as usage herbs and medicines plant-oriented immunity boosters [9]. But there can be addition of the immunotherapy a treatment measure during cancer, this provides the medicine to be provided which forces the natural immunity to work [10]. Both the immunity boosters are provided in the supervision due to lots of changes observed during cancer treatment [11]. A study presented the relation of honey as immunity booster in cancer treatment procuring the role of as

antioxidant, remove the toxic radicals, as natural antimicrobials, anti-inflammatory and potential of cancer therapy. On physiological means honey stimulating the cytokines from monocytes, increasing TNF alpha, release of human monocytes, stimulating the responses against thymus dependent and independent antigens. So as these natural immunity boosters present as God-gifted medicines [12].

## Physiotherapy and Immunity in Cancer

Cancer is the disease that leads to the systemic changes throughout the treatment and even post completion [13]. The cancer term itself is the term for patients not interrupting the anatomical or morphological changes but also the psychological changes that are devastating to undergo stress which began with the challenges to immune system [14]. Immune system after changes caused by the tumor presence altering the systemic bifurcations which is further added with the cancer treatments such as radiotherapy, target therapy, chemotherapy and hormone therapy [15]. Patient's alteration in the quality of life is the addition to immunity challenges which can be reduced according to the studies with addition to the physiotherapy regime allowing a patient to work and return to quality of life [16]. Physiotherapy is the tool to initiate the patient to return to life by exercising protocols. The type of training has various changes on the immunity, such as mostly followed training is the aerobic training as this creates body rush to remove toxins, suppress the effects of tumor treatment and cell growth and effects of inflammation caused by the tumor, as these all factors are immunity suppression factors [17]. Physiotherapy helps in healing of the patient in all means of the physical, psychological and physiological means. Physiotherapy regime acquires the patient easy absorbency of every nutrient and oxygen encouraging the patient to self-healing [18]. Physiological response of exercise on immune system components are such as cytokines releasing both pro-inflammatory and anti-inflammatory responses released by the muscle contraction and results are variable depending on the intensity and mode of exercise. The effect on neutrophils allows the release of calcium ions with due muscle fiber response and promoting the release of the pro-inflammatory cytokines. Effect on the leukocytes is in increase in its number and concentration and persisting up to 24 hours. Natural killer cells increased during the exercise in reaction to cellular stress and decrease in the catecholamines. The lymphocyte on moderate level of physical therapy enhances the vascular bed. Increase in concentration of lymphocytes leading to increase immunity mediated response [19-22].

## Conclusion

Cancer treatments are enhancing the life expectancy of the patient, but on the other hand there is the requirement to associate the immunity with the treatments allows the patient to enhance the quality of life and longer life expectancy from other infections and diseases. According to the literature above studied and defined led to the discussion conclusion with positive relation of immunity boosters and immunity, physiotherapy and immunity and both the

Immunity boosters and physiotherapy plays a wise role in addition to immunity in cancer rehabilitation tool.

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