

A Non pharmacological approach to Manage Neuromuscular complications induced by Cancer Conventional Therapy

Professor K. K. Pandey

Abstract – Cancer-related neuromuscular complications are sometimes simply called “cancer fatigue” which is one of the most common side effects of cancer and its conventional treatment. It is often described as “paralyzing”. Fatigue is one of the most common adverse effects of cancer that can persist for years after completion of treatment in otherwise healthy survivors. Usually it comes on suddenly, does not result from activity of exertion, and is not relieved by rest or sleep. Feeling overtired, with low energy and a strong desire to sleep that interferes with normal daily activities. Since cancer patients experience fatigue as a side effect after taking cancer conventional therapy. Cancer-related fatigue is a serious clinical problem and is one of the most common symptoms experienced by cancer patients. cancer related fatigue has deleterious effects on many aspects of patient quality of life including their physical, psychological and social well-being. It may not end-even when Cancer conventional therapy complete. Cause is unknown. Cancer related fatigue may be related to both the disease process and cancer conventional therapy. Other considerations: Medication, hydration, nutrition, emotional state of mind stress, imbalance of sleep and pain. Cancer-related fatigue causes disruption in all aspects of quality of life and may be a risk factor for reduced survival. The prevalence and course of fatigue in cancer patients has been well characterized. Yoga has been proven to be effective in supportive better quality of life and improving energetic levels and supportive mitochondrial function. Yoga has a solid effect on Cancer-related fatigue in patients. Most effective is supervised practices of yoga the practice of gentle hatha based, with pranayama, meditation as like MSRT and restorative poses. So, the Yoga therapy not only deals with the treatment of disease but it also mentions the quality of life even in curable condition of disease. The approach of Yoga therapy towards health and disease is based on its unique principle of Satya (psychophysical strength), Eternal Soul, Body, Tridoshas, Seven Dhatus (basis anatomical constituents of body), and Malas (excretory materials).

Keywords – Yoga therapy, Cancer-related fatigue, Nadishodhan, bhastrika, pranayama, mind sound resonance technique.

**Professor & Head, Department of Sangyahan, Faculty of Ayurveda, Institute of Medical Sciences, Banaras Hindu University, Varanasi-221005, Uttar-Pradesh. [Email-
pandeykk@bhu.ac.in](mailto:pandeykk@bhu.ac.in), Mobile Number – 9415251556**

Introduction–

Fatigue means feeling very tired, exhausted and lacking energy. It can be a symptom of the cancer itself or a side effect of treatment. Fatigue is a prevalent and serious problem for a person with cancer that can have a negative impact on a person's quality of life. Little is known about the prevalence of clinical fatigue in cancer patients.ⁱ

Fatigue is the most common symptom experienced by patients during the cancer trajectory from diagnosis to end of life.ⁱⁱ

Fatigue is defined as a disturbing, persistent, subjective feeling of physical, emotional or cognitive fatigue or exhaustion related to cancer or cancer treatment that has been done, which is not proportional to recent physical activity and which interferes with normal functioning.ⁱⁱⁱ

Cancer-related fatigue has a significant effect on a patient's ability to function; Therefore, this symptom is the most distressing component of all that is reported by patients.^{iv} Cancer-related fatigue can persist for months or even years after cancer treatment has been completed. As the life expectancy of people with cancer increases, the burden of cancer-related fatigue increases.^v

Cancer-related fatigue also affects cancer treatment, with fatigue being a dose-limiting adverse effect because it reduces the patient's willingness to adhere to treatment.^{vi}

Fatigue has a negative impact on patient-reported quality of life and is frequently responsible for impaired activity and functional dependence in the elderly cancer patients.^{vii}

Physicians, patients, family members and researchers are increasingly recognizing that Cancer-related fatigue represents an important outcome of cancer and its treatment that requires clinical attention and intervention.^{viii}

Cancer-related fatigue It has been accepted as a diagnosis in the International Classification of Diseases, Tenth Revision.^{ix} and clinical practice guidelines for Cancer-related fatigue management have been prepared by the National Institutes of Health and the National Comprehensive Cancer Network.^x

Thus cancer-related fatigue is the most commonly reported symptom in cancer patients with a prevalence of up to 100%. This has a significant negative impact on quality of life. Effective management of CRF can substantially reduce the disease burden associated with cancer and its treatment.^{xi}

Symptoms of fatigue in Cancer patient –

Symptoms of cancer related fatigue are very common. Here is a list of some of the symptoms that may occur when there is cancer related fatigue –

1. Feeling lack of energy.
2. The feeling that you can't be bothered to do much.
3. Inability to sleep or lack of sleep.
4. Not getting up on time in the morning.
5. Feeling anxious, sad.
6. Having pain in the muscles.
7. Feeling breathless after doing small things.
8. Difficulty concentrating, not even just watching TV or talking to anyone.
9. Difficulty thinking clearly or making decisions easily.
10. Lack of interest in doing things one always likes.^{xii, xiii}

Diagnosis of fatigue in Cancer patient –Over the past two decades, progress has been made in the understanding of Cancer-related fatigue, including its measurement in adults and children, but a specific diagnostic algorithm is not yet well defined.^{xiv}

In an effort to constitute the Cancer-related fatigue, specific diagnostic criteria were developed and proposed for inclusion in the International Statistical Classification of Diseases and Related Health Problems 10th Edition.^{xv}

The criteria define Cancer-related fatigue as a syndrome characterized by the presence of the following specific symptoms– Feeling overtired, with low energy and a strong desire to sleep that interferes with normal daily activities. Since cancer patients experience fatigue as a side effect after taking cancer conventional therapy. Cancer-related fatigue is a serious clinical

problem and is one of the most common symptoms experienced by cancer patients. cancer related fatigue has deleterious effects on many aspects of patient quality of life including their physical, psychological and social well-being.^{xvi}

Symptoms are believed to be the result of a deadly disease or its treatment. A major depressive disorder or disease requiring prophylactic medication that may explain the state of fatigue, such as the presence of an active psychiatric concomitant, is excluded from the classification of Cancer-relatedFatigue.However the findings of a systematic review support its reliability and validity. Diagnostic criteria for Cancer-relatedFatigue diagnosis,^{xvii}and rigorous validation are required.

Assessment of fatigue in Cancer patient –

As a subjective experience, CRF is most efficiently measured via Swire port, and a recent analysis suggests that a 10-point numerical rating scale is the best screening tool for fatigue.^{xviii}

Cancer-induced fatigue. Screening of symptoms requires the use of more specific questionnaires assessing the ability to perform daily activities, while the Brief Fatigue Inventory, which integrates assessment of fatigue severity and its impact on important functional domains.^{xix}

Fatigue Assessment Scale (FAS)Questionnaire -The FAS is a 10-item scale evaluating symptoms of chronic fatiguein order to ensure that the scale would evaluate all aspects of fatigue, developers choose items to represent both physical and mental symptoms in cancer patient.^{xx}

Use of Yoga therapy in themanagement of cancer-related fatigue –

Yoga therapy – Yoga is an ancient form of exercise for body and mind. It aims to improve strength, flexibility and breathing through a series of postures and movements. It is a whole-body philosophy that started over 5,000 years ago in India. Yoga aims to create harmony between your mind, body and spirit to help you feel calmer. It is promoted as a way of staying healthy and preventing illness.

^{xxi} “Yoga therapy is the process of empowering individuals to progress toward improved health and well-being through the application of the teachings and practices of Yoga.”

The modern term, ‘Yoga therapy’ was coined by Swami Kuvalayananda in the 1920s who believed the changes it would be possible to measure the physical and physiological changes that occurred through yoga practice.^{xxii}

Yoga is defined as the use of yoga therapy for the prevention and treatment of medical conditions. Beyond the physical, mental, social, spiritualelements of yoga, which are important and effective for strengthening the body and mind. Yoga therapy also includes proper breathing techniques, mindfulness techniques and meditation to achieve maximum benefits.^{xxiii}

In the management of the fatigue in cancer patient, we will dotwo pranayama and mind sound resonance technique, these are following–

Pranayama – Pranayama is generally defined as breath control; The Pranayama is comprised of two roots; Pran+Ayam.

Thus, the Pranayama means extension or expansion of the dimension of Prana or vital energy or life force.

Pranayama practices establish the healthy body by removing blockages in the Pranamaya Kosha, enabling increased absorption and retention of Prana.^{xxiv}

Thus, being established in Asana and having control (of the body), taking a balanced diet. Pranayamas should be practiced according to the instructions of Guru.^{xxv}

1.**Nadishodhan** –The word**Nadi** means ‘channel’ or ‘flow of energy’ and **Shoshana** means ‘purification’. **Nadi Shodhana**, therefore, means that practice which purifies the Nadies.^{xxvi}

Process of this technique -Close the right nostril with the right thumb and breathe through the left nostril. Close the left nostril and exhale from the right, after which inhale through the right nostril. Close the right nostril and exhale through the left nostril. This is a round. The process is repeated for the desired number of rounds. Psychic network purification, Alternate Nostril breathing.^{xxvii}

2. Bhastrika –One should inhale and exhale quickly and forcefully without straining. This should be practiced for up to above 100 strokes.^{xxviii}

Meditation – Meditation is a practice where a person uses a technique such as mindfulness or focusing the mind on a particular object. Here we will use Mind Sound Resonance Technique in meditation to relieve fatigue in cancer patients.

Mind sound resonance technique –Mindsound resonance technique that involves chanting and meditating on sound “a,” “u,” and “m,” and mantras have been shown to reduce fear, anxiety, fatigue and in still restful state of mind.^{xxix, xxx}

Conclusion –Thus, reviewing various research results, the results of the included studies suggest that yoga intervention may be beneficial for reducing cancer-related fatigue in cancer patients with cancer cells. Since adherence to intervention appears to be an important factor in successful fatigue reduction, it is important that cancer survivors choose yoga therapy.

In addition, each individual's cancer stage and treatment stage should be included in the analysis to determine whether improvements differ across subgroups. Furthermore, since several studies have reported greater reductions in fatigue in individuals attending higher numbers of classes, future studies should examine factors associated with adherence to interventions. In addition, comparative studies should be conducted to determine whether yoga therapy provides comparable fatigue reduction to physical activity interventions and other complementary and alternative therapies. Healthcare providers should be clear about the evidence if recommending yoga therapy as a complementary and alternative therapies for reducing fatigue in cancer patients or survivors.

So, the findings support the assumption that yoga therapy is useful to reduce cancer-related fatigue, for the physical, psychological aspects of fatigue.

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