



BREAST CANCER & ITS RELATED FATIGUE: A NARRATIVE REVIEW

Lakshita	Research Scholar, 4th Year BSC Psychology Hons. Chitkara University, Rajpura, Punjab
Hunny Ohlan	MBBS Student (PIMS)
Dr. Sunny Ohlan	M.O, DCH Sonipat
Dr. Seema Singh	M.O, DCH Sonipat
Divjot Kaur	Research Scholar, 1st Year MSC Psychology Department of Psychology, Du

ABSTRACT Breast cancer is the commonest malignancy among women globally and also main cause of morbidity and mortality. India ranked third after China and the United States of America. Yet research shows that cancer patients want their oncologists to initiate discussions about their both physical and mental health. The study focuses on Breast Cancer and CRF (Cancer Related Fatigue) linkages form the past few decades by analyzing the already published articles related to our study content.

KEYWORDS : Cancer Breast, Cancer Related Fatigue and Exercise

INTRODUCTION

Breast cancer is the commonest malignancy among women globally and also main cause of morbidity and mortality. According to the Global Cancer Observatory (GLOBOCAN) estimates, there were 19.3 million incident cancer cases worldwide for the year 2020. ⁽¹⁾ Epidemiological studies have shown that the global burden of Breast Cancer is expected to cross almost 26 million new cancer cases and 17 million cancer deaths per year million by the year 2030. ⁽²⁾

As looking after current trends, increased longevity in developing countries will nearly triple the number of people who survive to age 65 by 2050. India ranked third after China and the United States of America. ⁽³⁾ In India as per the GLOBOCAN data 2020, Breast Cancer accounted for 13.5% (178361) of all cancer cases and 10.6% (90408) of all deaths with a cumulative risk of 2.81. ⁽⁴⁾ In 2018, approximately 2550 men will have invasive breast cancer. Approximately 1 in 1000 men will have breast cancer during their lifetime. Cancer related fatigue has been operationally defined by the National Comprehensive Cancer Network (NCCN) as a "persistent, subjective sense of tiredness related to cancer or cancer treatment that interferes with usual functioning. One of the most common side effects of cancer receiving increased recognition is cancer-related fatigue (CRF), now acknowledged as one of the most distressing symptoms of cancer. CRF impacts on all dimensions of quality of life with reduced activities of daily living. ^(5,6)

Musculoskeletal nociceptive pain arises from the fact that treatments for breast cancer directly involve the neuromusculoskeletal tissues causing shoulder pain, joint limitation and hyposthenia. ⁽⁷⁾ In spite of the prevalence and impact of CRF, its exact etiology remains to be fully explicated. Genesis of fatigue and exacerbation thought to be multifactorial in origin includes anemia, hypothyroidism, cytokines, sleep problems, psychological factors such as anxiety and depression and loss of functional status. ^(8,9) The Rationale of this study is to reveal the Breast Cancer and CRF linkages from the past few decades by analyzing the already published articles related to our study content. This study is based on a collected literature from already published articles of Cancer Breast, Cancer related Fatigue and its impact. There were no restrictions on date, language, participant age or type of publication.

Early Detection and Screening Programme

Anatomically, the breast has milk-producing glands in front of the chest wall. They lie on the pectoralis major muscle, and there are ligaments which support the breast and attach it to the chest wall. 15 to 20 lobes circularly arranged to form the breast. The fat that covers the lobes determines the breast size and shape. Each lobe is formed by lobules containing the glands responsible for milk production in response to hormone stimulation. Breast cancer always evolves silently. Most of the patients discover their disease during their routine screening. Others may present with an accidentally discovered breast lump, change of breast shape or size, or nipple discharge. The survival

rate improves with early diagnosis. The tumor spreads leading to distant metastasis and poor prognosis. This explains and emphasizes the importance of breast cancer screening programme. ^(10,11,12)

A population-based initiative for prevention, control and early screening for common NCDs (Non- Communicable Diseases) i.e., diabetes, hypertension and common cancers has been rolled out in the country under NHM (National Health Mission) and also as a part of Comprehensive Primary Health Care (CPHC) under National Health Program i.e. NP-NCD (National Programme for Prevention & Control of NonCommunicable Diseases), government updated data on Prevention and control of Non-Communicable Diseases (NCDs) which consists of 724 District NCD Clinics, 210 Cardiac Care Centres, 326 District Day Care Centres and 6110 Community Health Centres NCD Clinics set up. ⁽¹³⁾

Breast cancer can be invasive or non-invasive according to its relation to the basement membrane. Noninvasive neoplasms of the breast are broadly divided into two major types, lobular carcinoma in situ (LCIS) and ductal carcinoma in situ (DCIS). LCIS is regarded as a risk factor for the development of breast cancer. LCIS is recognized by its conformity to the outline of the normal lobule, with expanded and filled acini. DCIS is more morphologically heterogeneous than LCIS, and pathologists recognize four broad types of DCIS: papillary, cribriform, solid, and comedo. ⁽¹⁴⁾

Exercise and Cancer Related Fatigue

CRF may be an early symptom of malignant disease and is reported by as many as 40% of patients at diagnosis. Cancer-related fatigue (CRF) is characterized by feelings of tiredness, weakness, and lack of energy, and is distinct from the "normal" drowsiness experienced by healthy individuals in that it is not relieved by rest or sleep. Fatigue Occurs from Before Diagnosis to Beyond Treatment Completion.

How can Cancer related Fatigue be Measured

As a subjective state the most appropriate way to measure fatigue is to use self-report measures. At the simplest level fatigue can be measured by using a single item or a single visual analogue scale, either alone or as part of a broader quality of life assessment tool. ^(15,16)

A single-item, 11, point numerical rating scale has been advocated as a screening tool for CRF by the National Comprehensive Cancer Network (NCCN). ⁽¹⁷⁾ In a multi-centric survey of heterogeneous cancer patients, 58% reported that fatigue had affected them. The NCCN guidelines recommend that patients with a score of 0-3 i.e. 'somewhat', 'quite a bit' or 'very much' in the past month.

Mechanism of Cancer Related Fatigue:

The basic mechanisms of fatigue have been broadly categorized into two main components: peripheral and central. Peripheral fatigue, which occurs in the neuromuscular junctions and muscle tissues, results in the inability of the peripheral neuromuscular apparatus to

perform a task in response to central stimulation. Mechanisms include a lack of ATP and the buildup of metabolic byproducts. Central fatigue which develops in the central nervous system (CNS) arises from the progressive failure to transmit motor neuron impulses.⁽¹⁸⁾ It has difficulty in the initiation or maintenance of voluntary activities⁽¹⁹⁾. The etiology of CRF is multifactorial thus various considerable challenges for patients, psychologists, and clinicians have significant impact on the quality of life. Management strategies include the use of psycho-educational interventions and pharmacological treatments.

A study published in 2017 in which multimodal treatment involving psychoeducation, aerobic training and combination therapy. Patients were asked to carry out home-based endurance training.⁽²⁰⁾ Surgical treatment of breast cancer can cause undesirable changes in the upper limb on the operated side such as: mobility deficits of shoulder joint, impaired rotator cuff function, joint pain, post-mastectomy pain syndrome (PMPS), paresthesia, lymphedema. The Haryana government announced a monthly financial grant of INR 2,750 and INR 2500 for patients suffering from 55 rare diseases and 4,000 stage-III and IV cancer patients respectively who are receiving the benefits and also free travelling bus passes for cancer patients in Haryana Roadways.⁽²¹⁾

Limitations of the Study

We only included the Breast Cancer for the CRF review but there are many other types of cancers which are prevalent globally and at National level, so this is the Limitation of our study. However, this review provides a valuable overview of Breast cancer related fatigue over the past decades.

CONCLUSION

The review suggests that there are many symptoms of Cancer as like fever, weight loss, lump in Breast, change in Bowel habits and many more but fatigue is such a most common and woeful symptom which affects the patients with cancer from the time of diagnosis, throughout treatment and into advanced disease. Psychological support and aerobic exercises are very effective in treating complications many times patients are in refusal mode to accept the cancer, they deny the facts and tell their care takers or guardians that the fatigue may be due to excessive work done by them in an over enthusiastic manner and inadequate nutritional intake by them but timely we suggest to accept the reality and do the timely care and adequate management for the cancer.

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