

A Comprehensive Review of Prescription Patteren in Breast Cancer Patients

D. Hanuma Nayak^{1*}, Dr. D. Rama Brahma Reddy², Dr. T. J. Mohan Rao³.

¹Doctor of Pharmacy (PharmD) V year, Department of Pharmacy Practice,

²Professor and Principal, Department of Pharmacognosy and Phytochemistry,

³Associate Professor, Department of Pharmacology,

Nalanda Institute of Pharmaceutical Sciences. Kantepudi (Village), Sattenapalli (Mandal), Dist. Guntur-522438 Andra Pradesh, India.

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ABSTRACT:

We go into the topic of breast cancer and examine the intriguing world of prescription patterns in this review paper. We give a general review of breast cancer, covering its incidence and effects on women globally. Furthermore, we examine the many aspects of breast cancer therapy prescription patterns. We seek to shed light on current prescribing practices and pinpoint areas for improvement by thoroughly examining the literature. We can improve patient care and treatment outcomes by comprehending the subtleties of prescription patterns. The purpose of this evaluation is to support further efforts to enhance treatment approaches for breast cancer.

Studies on medication prescriptions help in observing the typical anticancer medication prescribing trend. For this reason, the purpose of this review is to track medication prescription patterns for breast cancer. Any of the several cell types in the body might proliferate abnormally and result in cancer. A tumour or mass of cells made up of these aberrant cells may stay contained in the original tissue, or it may start to spread to neighbouring tissues. An invasive tumour is considered malignant, and tumour cells released into the bloodstream or lymphatic system have the potential to spread to other parts of the body and form new tumours. When a tumour's growth interferes with the function of other tissues and organs, it can be fatal. Studies on medication prescriptions aid in observing the typical anticancer medication prescribing trend. Therefore, the purpose of this review is to track medication prescription trends for breast cancer.

Keywords: Prescription medications, breast cancer, anti-cancer drugs, breast cancer therapy.

I. INTRODUCTION

Any of the several cell types in the body might proliferate abnormally and result in cancer.

A tumour or mass of cells made up of these aberrant cells may stay contained in the original tissue, or it may start to spread to neighbouring tissues. Worldwide, breast cancer is the most common malignancy in women to receive a diagnosis. In 2020, there were 22,61,419 new instances of breast cancer reported and 6,84,996 deaths from the disease. The incidence of breast cancer is fewer than 200 cases per million in underdeveloped nations, while it exceeds 1000 cases per million in industrialized nations. Because of late-stage detection, a lack of knowledge about breast cancer signs and symptoms, and poor health care facilities, the death rate from breast cancer is higher in low- and middle-income nations.

Normally, a mass known as a tumour form when healthy breast cells undergo uncontrollable growth and alteration, leading to breast cancer. With the exception of skin cancer, breast cancer is the most prevalent cancer diagnosed in women in the US. Breast cancer is the most common type of cancer worldwide. Genetic and inherited predispositions are among the several risk factors linked to the development of breast cancer. One percent of cases of breast cancer are in males. Male breast cancer may be related to genetic predisposition and family history, hormonal imbalances brought on by clinical illnesses (such as cirrhosis and gynecomastia), and radiation exposure.

The most frequent type of cancer in women and the second leading cause of cancer-related deaths in women is breast cancer. In actuality, 15% of female cancer fatalities and 22% of all female malignancies are caused by breast cancer.

The primary factors contributing to increased BC-related morbidity among Indians are inadequate access to competent medical treatment and a lack of information regarding BC screening.

Thus, it's critical to comprehend how anti-neoplastic and supportive treatments are now used. Over the past 20 years, there has been an increase in breast cancer incidence with an overall slight decline in mortality in the United States, which today accounts for around 20% of the one million cases happening worldwide. Thus, much more work has to be done in the areas of primary breast cancer prevention and prevention of breast cancer recurrence in breast cancer survivors, even though treatment and early diagnosis have made some little progress in these areas. Breast cancer is largely caused by gene-nutrient interactions, and little is known about the genetic and environmental factors that affect a person's susceptibility to breast cancer.

PRESCRIPTION PATTERN

Analysing how prescribed drugs are used is part of the process of creating a prescription pattern. Periodically assessing prescribing patterns is necessary to give prescribers feedback and raise their understanding of appropriate drug use. As a result, it's essential to assess and track the prescription patterns for supporting and anticancer medications. The pattern of drug prescriptions in healthcare facilities is assessed using standardized prescribing indicators. As of yet, there isn't a single, widely recognized protocol for improving the therapeutic care of breast cancer.

One way to analyse prescription drug use is to look at prescription patterns. It is employed to examine the anticancer medications and pharmacological classes being administered for treatment. It is employed to gauge the continuous treatment's effectiveness and safety. Compared to all other drug classes, antineoplastic medications appear to be responsible for the majority of adverse drug reactions. By substituting the target drug with an appropriate substitute or altering the drug dose schedule, the identification of ADRs may aid in limiting the harm.

One possible method for determining the place of drugs in society is to look at prescription patterns. It is quite beneficial for creating healthcare budgets. Analysing prescription drug use is the technique of prescribing pattern analysis. Inappropriate drug use is the main cause of potential patient hazards. One method of preventing such risks for patients and ensuring the security and efficacy of treatment is to conduct periodic reviews of drug usage. When it comes to healthcare-related decision-making, including how best to use resources, doctors are essential. But when it comes to medications, pharmacists serve as a link between patients and how they take them.

Pharmacists communicate with their patients regarding their prescriptions by performing prescription analysis.

Understanding the ever-changing landscape of treatment options is made possible in large part by the prescription pattern analysis of breast cancer. Breast cancer is the most common cancer in women worldwide; hence, prescribing treatment approaches needs to be thoroughly examined. Higher death rates are a result of late-stage discovery, a lack of knowledge, and inadequate healthcare facilities, especially in low- and middle-income countries.

The context for examining the prescription patterns used in breast cancer treatment is established by this introduction. In order to assess the efficacy and safety of ongoing treatment, it is crucial to examine the use of anticancer drugs and comprehend the pharmacological classes that are recommended. As the study progresses, it seeks to offer insightful information about present procedures, prospective advancements, and how prescription patterns affect patient care optimization in the context of breast cancer.

This study of drug use evaluation can be helpful because improper prescriptions are a major issue in developing nations like India. The majority of drug use evaluation research has employed efficient techniques to ascertain its results.

There aren't many studies on prescription drugs for cancer in India. Additionally, no research has been done on the off-label use of anticancer medications and other medications used to treat cancer patients in India, despite the fact that this practice is well-known to exist and is particularly common among those with breast cancer.

Using the terms "breast cancer," "prescription medication," and "treatment" in the title field, we searched the Google Scholar and PubMed databases for relevant literature for this study. The search was conducted between 2015 and 2023. For this review, we carefully chose the pertinent publications after reading the abstracts. This review looks at several prescription treatments for breast cancer and looks into current practices as well as potential developments in the field of breast cancer medications.

II. DISCUSSION

Study 1: Basini J et al., (2023): The study assessed the prescription pattern of chemotherapeutic agents in 75 breast cancer patients in a tertiary care hospital. The most prescribed combinational regimen was Adriamycin, Cyclophosphamide, and

Taxanes (ACT) in 29.33% of patients, while Trastuzumab was the most prescribed monotherapeutic agent in 10.6%. Promethazine and PEG filgrastim were used in 53.3% and 44% of patients, respectively. Neoadjuvant chemotherapy was used in 13 patients, adjuvant chemotherapy in 30 patients, and chemotherapy alone in 32 patients.

Study 2: Gurung S et al., (2022):Breast cancer is a significant issue in Nepal, with socioeconomic disparities, insufficient financial resources, and lack of awareness hindering prevention and treatment. A study assessing drug prescription patterns among breast cancer patients at Bhaktapur Cancer Hospital found that the majority were aged 40-59, with 51% in stage II and 29% in stage III. Anticancer drugs like Cyclophosphamide, Doxorubicin, Taxane, and 5-fluorouracil were prescribed from the national essential medicine list 2016 and WHO essential drug list 2019 with brand names.

Study 3: Adhikari et al., (2018):The study aimed to evaluate the drug prescription pattern of breast cancer patients in a tertiary care hospital in West Bengal. The study involved 28 female patients diagnosed with breast cancer, with the majority found in the middle age group. The most prevalent type was invasive ductal carcinoma, accounting for 75% of the population. The most common chemotherapeutic agents used were 5-fluorouracil, epirubicin, doxorubicin, cyclophosphamide, docetaxel/paclitaxel, and carboplatin.

Study 4: Manichavasagam M, et al., (2017):The study examines the prescribing pattern of anticancer drugs in a tertiary care hospital's medical oncology department. It reveals that the majority of cancer cases are in the age group of 55-65 years, with breast cancer being the most prevalent. The majority of drugs prescribed are alkylating agents, antimetabolites, plant derivatives, cytotoxic antibiotics, and glucocorticoids. The study concludes that the utilization of anticancer drugs is rational, with over 70% prescribed from the National Essential Drug List.

Study 5: Renuka L. Kadam et al., (2017): The study analysed the prescription patterns of drugs and adverse drug reactions (ADRs) in breast cancer patients. It found that Cyclophosphamide was the most commonly prescribed drug, followed by Doxorubicin and 5-FU. Nausea was the most common ADR, followed by alopecia, vomiting, and nail blackening. The most common combination was Cyclophosphamide + Doxorubicin + 5 FU. Out of the total ADRs, 60.11% were considered "definitely preventable," while 74.15% were mild level 1 severity.

III. CONCLUSION

The worldwide effect of breast cancer and the critical role that prescribing practices play in enhancing treatment results are both highlighted by this study. The study that has been emphasized highlights persistent problems and indicates that more research is necessary to improve the treatment of breast cancer. The paper highlights the importance of prescription pattern analysis, covering both monotherapeutic and combination regimens, and offers informative data on drug utilization trends. The conversations are deepened by the inclusion of demographic information and drug-related side effects. The review emphasizes the ongoing need for research and development in primary prevention and recurrence prevention, despite improvements in breast cancer detection and treatment over the past 20 years. The prudent use of anticancer drugs is ultimately critical to the safe and successful treatment of breast cancer, as evidenced by prescription trends.

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Conflicts of interest:

The authors confirm that this article's conflict has no conflict of interest.

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