RESEARCH ARTICLE

PRESCRIPTION PATTERN OF ANTICANCER MEDICATIONS IN BREAST CANCER TREATMENT AT KOMFO ANOKYE TEACHING HOSPITAL (KATH)

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ABSTRACT

This paper aims to assess the prescription trends of anticancer drugs for breast cancer management among clients attending the prestigious Komfo Anokye Teaching Hospital (KATH) in Ghana. In this study, the types of anticancer drugs, the frequency of prescription, and the distribution of prescribed anticancer medications at different stages of breast cancer were assessed using a cross-sectional retrospective study conducted over six months in 2021. Information was carefully extracted from KATH's e-computerized medical records on the backs of 69 clientele diagnosed with breast cancer. The mode of chemotherapeutic agents outlined in the work included Cyclophosphamide, Adriamycin, Paclitaxel, and the targeted therapy, Herceptin, in concordance with recent recommended trends in the management of oncological conditions. The frequency and regularity of these prescriptions and their correlations with demographic variables in patients, their cancer staging, and general details of treatments' side effects were established. It was further shown that local treatment adheres to international protocols, whereby standard drugs for breast cancer therapy were used significantly throughout the stages. However, one of the research findings was that many patients were diagnosed at a late stage- stages IB and IV which affect treatment outcomes and was confirmed as an important area to be addressed. Furthermore, the research found high proportions of side effects, which include fatigue, hair loss, and gastrointestinal complications; hence, there is a need to incorporate better methods of managing supportive care. In conclusion, it can be said that KATH partially complies with EB Guidelines in the treatment of breast cancer through chemotherapy. Though the data strengthens the policy of compliance with EB guidelines in the treatment of breast cancer, there is an increased focus on early detection and education to reduce the number of patients diagnosed at an advanced stage. Another is patient education and side effect management, which forms further crucial economic interventions in promoting favourable treatment results and better patient quality of life. This research provides the groundwork for subsequent intervention studies that target improvement of the quality of breast cancer care at KATH and other comparable centers.

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INTRODUCTION

Breast cancer is the most diagnosed cancer among women globally and also one of the top killers of cancer diseases(1). As published by the World Health Organization, it has a prevalence rate that cuts across millions of females annually and becomes a major health concern in different populations.

According to the statistics, in 2020, an estimated 2.3 million women were diagnosed with breast cancer, which is the highest reported rate even compared to lung cancer. The disease was responsible for approximately 685,000 deaths and remains the number one cancer killer of women and the fifth most frequent cancer killer in general. Such statistic not only accounts for the reality of the disease and its fatality but also

put light on the fact that there is a dire call for efficient management of Cancer, chemotherapy-inclusive (2). Researchers reveal that in Ghana, breast cancer is the leading cancer threat to women, as the Ghana Health Service indicates that breast cancer is the number one cause of cancer-related deaths among women. Ghanaian data indicated that the trends of breast cancer are increasing, and the majority of patients present at the late stage, which leads to poor treatment outcomes and low survival rates. According to research, more than half of Ghanaian women, approximately 60%, diagnosed with breast cancer present for treatment late or delayed because of inadequate knowledge of the disease, poor screening services, and healthcare accessibility (3). Breast cancer treatment often requires cooperation between surgeons, radiation therapists, hormone therapists, oncologists, and/or medical oncology(4)Within these, chemotherapy has a significant responsibility and is used while surgery is ineffective or unavailable in the advanced stage of the disease or in adjuvant settings to avoid recurrence. Deciding the type of chemotherapeutic agents to use is one way of developing a treatment plan. It has undergone some changes over the years because of developments in the field of oncology.

Chemotherapy and its Use in Breast Cancer: Chemotherapy works with chemicals, which are developed to destroy or stop the growth of cancer cells.(5). Breast cancer, in particular, can be treated through neoadjuvant chemotherapy, where two or all cycles are given before surgery to reduce the tumour size; adjuvant chemotherapy, which is given after surgery to remove all cancer cells, and where the cancer has reached an advanced stage chemotherapy can be prescribed as a palliative therapy where its main aim is to reduce pain or to improve the patient's overall wellbeing. Chemotherapy response varies with the type of breast cancer, the stage when diagnosed, and the chemo drugs that are prescribed. Examples of chemotherapeutic agents include anthracycline antibiotics, taxanes, and alkylating agents, of which doxorubicin, paclitaxel, docetaxel, and cyclophosphamide are examples (6, 7).

Current chemotherapeutic drugs used alongside trastuzumab are determined and informed by other cancer features such as hormone receptor status and HER2/neu expression, as well as the patient's medical status and history(8)Research and clinical studies are being conducted to explain how these drugs can be appropriately employed for effective disease management. Therefore, it is essential to look into the prescription practices that occur in such anchored centers as the Komfo Anokye Teaching Hospital (KATH) to understand how all the theory is put into practice, particularly in settings where there are so many constraints in terms of resources.

Prescription Patterns and their Significance: The prescription strategies of chemotherapy reflect a protocol-compliant model based onscientific research and clinical trials.(9). The dynamics of these patterns can also reflect the particularities of treatment within the region and the array of resources. Studying these patterns in Ghana presents an understanding of these broad issues and their profound effect on an outstanding hospital like KATH due to presented economic limitations to efficient health care delivery. Fromthe perspective of the treatment, healthcare systems should adjust the treatment to international standards for better patient outcomes. Moreover, studying the distribution of prescriptions allows us to define weaknesses of existing approaches to managing the disease, where there is potential for improving

patients' treatment, and which specialists need to receive information concerning the disease. It also helps in the analysis of complications, such as the effect of health system features on treatment effectiveness and patients' survival.

Study Aims: This research seeks to determine the advanced-stage prescription practice of anti-cancer medicines in KATH and identify their compliance with standards and sufficiency in managing different stages of breast cancer. Therefore, this research aims to make conclusions about the standard of care of the patients with breast cancer at KATH using the type and frequency of the medications that have been prescribed for the patients and give recommendations for improving treatment and results.

METHODOLOGY

Study Design: A hospital-based retrospective cross-sectional study was conducted using a data collection sheet at the surgical/oncology outpatient Departments of the Komfo Anokye Teaching Hospital (KATH).

Study Site: KATH is ranked among Ghana's six (6) teaching focal hospitals. The hospital was established in 1954. It is in Kumasi, Ashanti Region, and the regional capital occupies a total population of 4,780,380. The hospital is the second largest in Ghana because it serves as a referral hospital for the northern half of the region geographically. Access to this hospital is very easy since the country has a vertically woven network of roads, and the commercial nature of Kumasi opens up the hospital to all the areas that border the Ashanti Region and those in further remote areas. This is a sixteen (16) supervised Teaching Hospital with 1200 beds connected to the Kwame Nkrumah University of Science and Technology, School of Medical Sciences. The hospital also uses post-graduate training accreditation by the West African College of Surgeons in surgery, obstetrics and gynecology, otorhinolaryngology, radiology, and ophthalmology. The hospital is divided into 16 directorates, including 14 clinical directorates and two nonclinical directorates supported clinically and non-clinically by other clinical and non-clinical units. The clinical directorates are named as follows: Emergency Medicine, Surgery; Trauma & Orthopedics; Medicine, Obstetrics & Gynecology, Child Health; Pharmacy & Support Services; Family Medicine; Oncology; Eye, Ear, Nose, Throat (EENT); Laboratories; Radiology; Oral Health; and Anesthesia & Intensive Care. The non-clinical directorates are Domestics Services and Technical Services.

Study Period: This study was conducted from 1st January 2021 to 30th June 2021.

Sample Size and Population: Consecutive breast cancer patients admitted to the Department of Surgery who met the inclusion criteria throughout the study were enrolled.

$$n = \frac{(z)^2 * (p)(q)}{(d)^2}$$

$$n = \frac{(1.96)^2(0.187)(0.813)}{(0.05)^2}$$

n = 69
where
n = sample size (69)
z = 95% confidence level (1.96)

p = proportion of cancer patients who have breast cancer in Ghana (0.187)

q = proportion of cancer patients who do not have breast cancer in Ghana (0.813)

d = accepted margin of error (0.05)

A study conducted by Bray et al. (2018) showed that 18.7% of cancer patients had breast cancer in Ghana.

Inclusion Criteria: Only breast cancer patients receiving anticancer medications who attended the Surgical department /OPD oncology unit/breast cancer clinic during the study period were included.

Exclusion Criteria: Breast cancer patients who were admitted and operated on false diagnosis of breast cancer.

Data Collection Technique: From the LHIMS, a well-designed data collection sheet was used to extract data from all the breast cancer patients who visited the breast cancer chemotherapy suite of the oncology department of the Komfo Anokye Teaching for Clinical Care over the period under study.

Data and Statistical Analysis: The information from the patient records was copied on Microsoft Excel 2016; the entries were checked for completeness and accuracy of the information. Cleaning the data involved identifying all wrong entries in the form and correcting them using the codes on the data collection sheet. The data was exported to STATA version 15.0 for data analysis. All the socio-demographic characteristics of all respondents were summarized using descriptive statistics. Medications prescribed for breast cancer were depicted in bar charts only. Descriptive statistic tools such as frequencies, frequency tables, and graphs were employed to describe the data underlying the extent of hospitalizations with one or more medications prescribed, the mean number of drugs per encounter, the mean duration of prescribed medications; the proportion of medications prescribed by generic name and medication prescribing consistent with Treatment Guidelines. Quantitative patient care indicators such as the frequency at which medications were dispensed by the Surgical Pharmacy and the percentage of patients who experienced a missed dose of prescribed medication while on admission were described using frequencies, frequency tables, and graphs.

Dissemination of results: The study's findings were replicated and shared with the departments of surgery/oncology, pharmacy, and KATH administration.

Ethical Issues: Participation identification was done using specially generated participation IDs. When data was extracted, other identifiers, such as names, were not used. Approval for this study was obtained from the Ethics and Protocol Review Committee (EPRC) of the KATH Institutional Review Board (IRB). The aim and methodology of the research were outlined to the staff who first had access to the source data under analysis. Pseudonyms were used throughout the process, and the participants' identitieswere never revealed. No one's identity was published in the reports arising from the study, and the hard copy and digital data collected were retained solely for analytical purposes.

Data storage and usage: Management and staff with source data were informed that all the information gathered was kept in files and securely locked up for safekeeping. At the end of the study, all samples collected during the study shall also be neutralized beyond recognition by anybody else.

RESULTS

The respondents are predominantly women, which is logical since the disease under discussion affects women far more frequently than men. According to the data given in Table 1 below, 95.7% of them are females; this is not surprising when it comes to breast cancer patients.

Table 1. Demographic characteristics of patients

Variable	Number	Percentage (%)
Sex		
Male	3	4.3
Female	66	95.7
Age		
31 – 40	12	17.2
41 – 50	26	37.5
51 – 60	19	27.3
61 – 70	7	10.5
> 70	5	7.5
Diagnosis		
Right breast cancer	38	55.1
Left breast cancer	31	44.9
Stage of cancer		
IIA	2	2.9
IIB	11	15.9
IIIA	7	10.1
IIIB	23	33.3
IIIC	6	8.7
IV	20	29.0

The age distribution also shows that 37.5% of the patients are between 41 and 50 years old, followed by patients aged between 51 and 60. From this, it could be deduced that middle-aged women are the most affected by breast cancer in this specific study population. The data is consistent with average statistics, where the incidence rate is higher in middle age but increases as age advances. The table also captures the dispersion of cancer by which the breast was affected. A more significant proportion, 55.1%, affects the right breast, as opposed to the left breast, 44.9%. This split, in a way, points to which breast is affected, but it in no way conveys any inherent semi-biological tendency to have cancerous growth on one breast than the other.

Co-morbidities of patients: Thirty-two patients had at least one co-morbidity. The two commonest co-morbidities were hypertension (28, 16.67%) and diabetes (9, 5.36%). A few had depression (1, 0.60%), peptic ulcer disease (1, 0.60%), and anxiety (1, 0.60%) as co-morbidities.

Pattern of prescription of anticancer medications: Figure 1 explains the bar chart; the number of patients taking different anticancer drugs is illustrated. The drug adriamycin is the most commonly used one, with 49 patients being prescribed this drug, suggesting its significant place in the treatment within this therapeutic class. A much smaller number of patients take the other medications listed above. Cyclophosphamide and docetaxel (taxol) are given to 3 patients, and paclitaxel (taxol), xeloda, and tamoxifen are given to 4 patients each. Now, the second on the chart, 'Arimidex,' is taken by one patient. As reflected by this distribution, adriamycin stands out as the drug used most often, while the indicated drugs have a significantly lower usage in this particular subpopulation of patients.
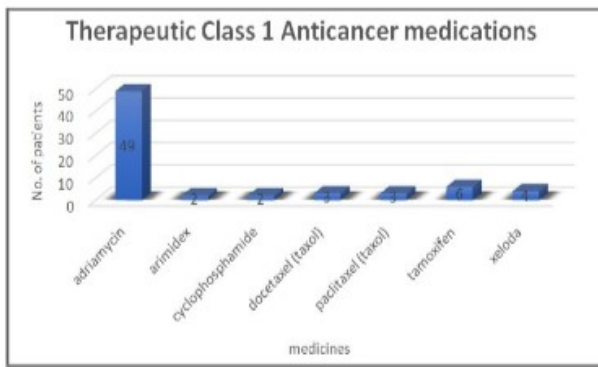
Figure 1. Therapeutic Class 1Anticancer medications prescribed for the management of breast cancer at KATH

Frequency of the anticancer agents used according to the therapeutic group. The alkylating agent used most often from its class is Cyclophosphamide, administered to 68 patients, with low frequencies of Cisplatin and Carboplatin in one and two individuals, respectively. Of the anthracyline antibiotics, the one widely used is Adriamycin, which has a prevalence of 49 patients. The patients treated with antimetabolite identified 5-fluorouracil as being used in 13 patients, Capecitabine in 8, Gemcitabine in only 1, and Methotrexate in 2. The antimicrotubule agents are more evenly divided between Paclitaxel and Docetaxel, given to 13 and 16 patients, respectively. Of the patients, 12 were taking tamoxifen, an estrogen receptor antagonist. Goserelin, a luteinizing hormone-releasing hormone agonist, and Anastrozole, a nonsteroidal aromatase inhibitor, have been used in only 2 and 9 patients, respectively. The monoclonal antibody Herceptin is shown to be widely used, as it is administered to 59 patients. Thus, it occupies a special place in targeted cancer treatment. This distribution is linked to the use of different classes of drugs for cancer treatment; some drug classes are more popular than others due to their therapeutic performance and the characteristics of the various cancers in the patients.

Anticancer medications prescribed at various stages of breast cancer: Figure 2 shows the adherence to different classes of anticancer agents based on breast cancer stage, including stage IIA, stage IIIB, stage IIIA, stage IIIB, stage IIIC, and stage IV. Each bar belongs to the stage of breast cancer with a segmented colour that represents the percentage of patients who use the respective medication. As can be seen from the chart response, all the medications are taken at every stage, though with different incidences.

Table 2. Therapeutic classes of anticancer medications

Therapeutic class	Anticancer agent	Frequency
Alkylating agent	Cyclophosphamide	68
	Cisplatin	1
	Carboplatin	2
Anthracycline antibiotic	Adriamycin	49
Antimetabolite	Capecitabine	8
	Gemcitabine	1
	5-fluorouracil	13
	Methotrexate	2
Antimicrotubule agent	Paclitaxel	13
	Docetaxel	16
Estrogen receptor antagonist	Tamoxifen	12
Luteinizing hormone-releasing hormone agonist	Goserelin	2
Monoclonal antibody	Herceptin	59
Nonsteroidal aromatase inhibitor	Anastrozole	9

For instance, Doxorubicin is applied at all stages but is most common at stages III and IV. Cyclophosphamide has a similar genomic pattern, and it is used as a standard adjuvant treatment at various stages of breast cancer. At the same time, drugs like Docetaxel and Paclitaxel are used relatively frequently—this can be explained by their tendency to be used in stages III and IV, in connection with their use to treat more severe forms of the disease. Hormone receptor-targeted agents such as Xeloda were found to have a fairly normalized distribution in the stages; hence, they can be used in equal treatments for any stage of cancer. This distribution of medication usage by stage shows that chemotherapy adapts the kind of drugs used depending on the particular stage of the disease. Such information is particularly important for assessing treatment approaches and guaranteeing that patients are provided with the optimal therapy depending on the stage of their disease.
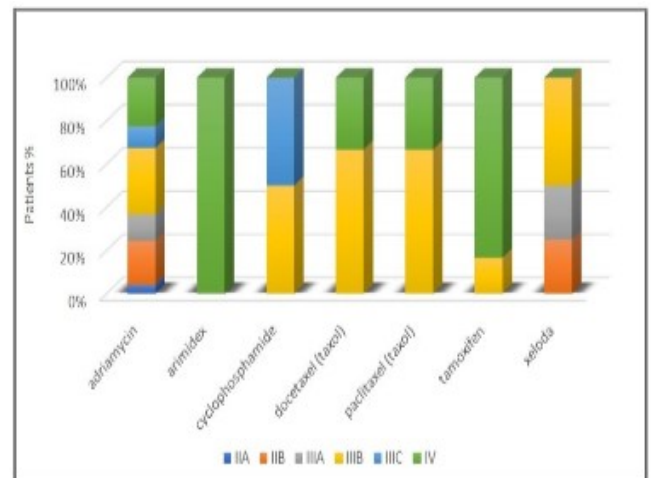

Figure 2. Anticancer medication prescribed at various stages of breast cancer at KATH

Stages and anticancer medications prescribed at KATH: Out of the 69 records from KATH, a third of the patients (23/69, 33.33%) had stage IB breast cancer. The frequency of prescription of anticancer medication for breast cancer patients at KATH was 195, showing an average of 3 medications per patient in each hospital. The commonly prescribed medication at KATH was cyclophosphamide (51/195, 26.15%) and Adriamycin (49/195, 25.13%) explained in Table 3.

Side effects of medications: IN FIGURE 3, the pattern of different side effects as noticed by the patients receiving anticancer treatment is revealed.t. The vertical line in each graphical bar highlights the percentage of the patients who complained of the side effects while comparing the most common adverse effects caused by these medications. Given the chart, fatigue, hair loss, and pain are among the most common side effects, which were present in 69 patients. These side effects are well known in connection with many types of chemotherapy, and this situation is evidence of the social impact of these treatments on patients. Other symptoms, such as nausea and diarrhea, also rate high, with as many as 63 out of the 100 patients complaining of nausea and 69 patients complaining of diarrhea when taking these drugs. Other significant side effects were infection in 54 patients and anemia in 64 patients. Such effects can be so severe that they highlight the need to control and treat any treatment's effects on the patient's well-being.

Bleeding in 48 patients and loss of appetite in 52 patients are less frequent but also necessary, improving patients' quality of suffering and might hinder the treatment process. In this case, the visual representation of these data enhances the understanding of the complex nature of the difficulties experienced by patients trying to cope with the side effects of cancer treatment.

Table 3. Stages and anticancer medications prescribed at KBTH for breast cancer patients

| Variables	Hospital (n, %)
Stage of Cancer	
IIa	2 (2.90)
IIb	11 (15.94)
In	7 (10.14)
IIIb	23 (33.33)
IIIc	6 (8.70)
IV	20 (28.99)
Anticancer medications	
Adriamycin	49 (25.13)
Cyclophosphamide	51 (26.15)
Paclitaxel	31 (15.90)
Herceptin	19 (9.74)
Docetaxel	16 (8.21)
5-fluorouracil	2 (1.03)
Tamoxifen	9 (4.62)
Anastrozole	6 (3.08)
Capecitabine	6 (3.08)
Methotrexate	2 (1.03)
Goserelin	2 (1.03)
Carboplatin	2 (1.03)
Cisplatin	0 (0.00)
Gemcitabine	0 (0.00)
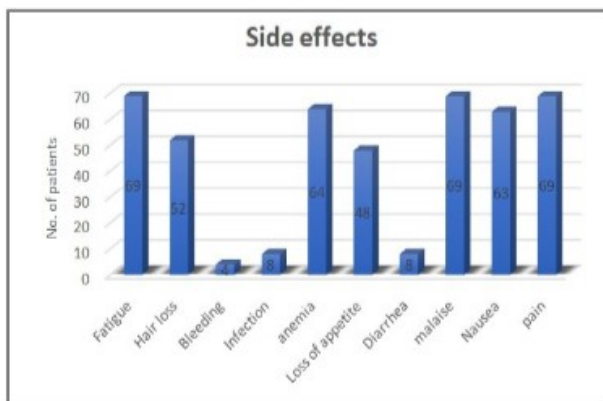
Figure 3. Side effects experienced by patients from anticancer medications

DISCUSSION

The research done at KATH on prescription regimens of anticancer drugs provides information on the management strategies used for BC. Based on the foregoing discourses, this discussion provides a more profound understanding of the abovementioned findings. It henceforth relates to the existing literature to ascertain the similarities and differences between local practices and international norms. Inpatient demographics and new cases at KATH gave a higher proportion of breast cancer in female patients in line with global epidemiological trends. According to the National Cancer Institute, breast cancer is mainly a disease that affects women, although it does affect men too, albeit rarely.(10). The most vulnerable age is 41-50 years; this is in concordance with previous studies that put midlife as one of the risk points for breast cancer due to the hormonal changes associated with menopause (11).

As for the stage at diagnosis, many women entered the study with locally advanced breast cancer stages IIIb and IV. This is worrying because it may lead to a timely diagnosis or access to care and is a common complaint in environments with few resources (12). Many patients are diagnosed at advanced stages, requiring stepped-up publicity crusades and screening exercises since they have improved results greatly (13). Therefore, the prescription records at KATH reveal prestige on a standard palette of anticancer medicines such as Cyclophosphamide, Adriamycin, and Paclitaxel. These drugs are must-use agents in breast cancer chemotherapy because they demonstrate effectiveness in minimizing tumour size and preventing metastasis, according to Hodibrasen and Lipink (2007), as well as ASCO clinical practice guidelines (14). Adriamycin is commonly used in regimens at KATH. At the same time, there is evidence that its use in Cyclophosphamide also offers enhanced survival in early and locally advanced breast cancer, as shown by earlier authors such as Blum & Carter (2017). Nevertheless, the pattern of use of these novel agents, such as Herceptin, that act specifically on the HER2 protein, shows a combination of targeted therapy in their standard working at KATH. This comports with current approaches to oncology, where precision medicine is considered one of the most influential factors in enhancing therapeutic effectiveness through the treatment personalized according to genetic markers (15).

Effect control is significant when dealing with patients so that adverse reactions can be minimized to increase patient compliance and overall life quality. Fatigue, hair loss, and pain were the three significant side effects mentioned by respondents, concordant with authors who have identified such effects in chemotherapy(16). These side effects are best managed, and knowledge of this aspect has todo applied systematic care and management protocols such as antiemetics for nausea or management of pain through the provision of analgesics. In the following analysis, the mostly reported side effects included anemia and infection, which is suggestive of myelosuppression as an inherent function of chemotherapy, especially when using cyclophosphamide, whose administration warrants regular monitoring and support as recommended under current guidelines by the use of growth factors and iron (17). Mucosal irritation, burning sensation and pruritus, pyrexia, insomnia and anxiety, and altered liver function were other side effects that were reported; the most common side effects were fatigue, hair loss, and pain, which affected 69 patients each. As mentioned earlier, all these side effects are well reported in oncology literature. For example, the most strongly reported symptoms include fatigue, with the impact of fatigue interfering with direct quality of life, functionality, and overall compliance with treatment schedules.(18). Possible reasons for CAF include changes in cytokines, anemia, and abnormalities in metabolism (19). Hair loss, or alopecia, is another primary infringement of psychological patient comfort and quality of life, which appears in many cases (20). It mainly occurs due to chemotherapeutic agents' action on rapidly dividing hair follicle cells. Another common side effect is pain, possibly due to peripheral neuropathy or inflammation. Thus, The tumour's controlis vital for enhancing patient compliance with the treatment plan (21). Whilst broad-spectrum gastrointestinal symptoms, including nausea and diarrhea, were experienced by 63 and 69 patients, respectively, they impact patient nutrition and fluid repletion, which are critical to overall treatment outcomes.

Nausea and vomiting are probably the most dreaded side effects of chemotherapy and can cause disastrous side effects if well-managed(22). The implementation of protective medicines before and after chemotherapy activities has been proven to minimize chemotherapy-related symptoms such as nausea and vomiting greatly (23). Diarrhea as well may cause dehydration, lack of nutrients, and severe cases of electrolyte imbalance. Hence, it is often attributed to the direct toxicity of chemotherapeutic agents on the mucosa of the gastrointestinal tract, resulting in poor absorption and increased secretion of fluids. The management measures that are employed entail a change of diet, fluid intake, and, at times, the administration of antidiarrhea medications (24). Infection, seen in 54 patients, and anemia, observed in 64 patients, are markers of myelosuppression, which renders the immune system inoperable as a result of chemotherapy. Anemia compromises the body's ability to transport oxygen. Bacterial and fungal infections are related to neutropenia that results from chemotherapy, making the human body less capable of countering pathogens.(25). This risk has to be closely monitored, and prophylactic/therapeutic use of granulocyte colony-stimulating factors has to be done (26).

Cancer anemia is common and generally heterogeneous, caused by the underlying malignancy, anticancer therapy, or a combination of the two. This results in fatigue and a decrease in physical function; both of these factors may influence the course of treatment (27). Management involves employing erythropoiesis-stimulating agents and iron when the cause is anemia, as shown by Rizzo et al. It is self-evident that the assessment of side effects that patients with anticancer treatment undergo, shown in the given chart, presents various difficulties in the medical management of the side effects of chemotherapy. The insights gathered through this discussion will include the observed data with the data existing literature in a bid to provide an enhanced understanding of the side effects and their occurrences; consequently, strategies for enhancement in the management and necessary patient care will be provided (28). Assessment of the side effects of chemotherapy is crucial to patient compliance and better quality of life. This means that coordination with other physicians, such as oncologists, nursing staff, dieticians, and indeed all categories of health-care workers, is crucial. Anticipating and then preventing or at least minimizing the side effects, informing patients about them, and supporting their psychological well-being are missing links in the traditional approach to cancer treatment.

CONCLUSION

The typical approach to the management of breast cancer through the use of anticancer medicines, as evidenced by the prescription patterns of drugs at Komfo Anokye Teaching Hospital (KATH), has been described in a research study that has significant implications for oncological care in a health facility in Ghana. These results corroborate the adherence of KATH to international treatment guidelines, demonstrate a problem within the Centre of late-stagecancer detection, and stress the need to mitigate side effects that may affect the patient's outcome. In the present study, the findings show that breast cancer treatments are mainly based on a list of standard chemotherapy drugs reported in KATH similar to the best practices across the developed world, such as Cyclophosphamide, Adriamycin, and Paclitaxel.

The administration of these medications in the early, middle, and late stages of breast cancer shows a systematic approach to increasing therapeutic yield using known treatment paradigms. Furthermore, the application of Herceptin, a selective method of targeting tumours, also demonstrates KATH's continued adoption of new treatment modalities that cater to the unique features of tumours. The high proportion of patients presenting with locally advanced or metastatic cancer at diagnosis requires an immediate reconsideration of the population-based interventions aimed at early screening and diagnosis. Raising public health consciousness is another factor that must be addressed to meet this challenge, as is improving access to screening programs and incorporating them into primary health care services. Early detection is essential because such cases are treated early, and the prognosis is better; treatments are more aggressive, and thus, costs decrease. The study also shows the significant burden of side effects on patients, including fatigue, hair loss, and gastrointestinal disturbances. Control of these side effects is critical to the quality of the patient's life and compliance with the scheduled treatment plans. These include not only the prophylactic and symptomatic drugs but also accurate teaching of the patient, support, and community services aimed at the control of the physical and psychological load in chemotherapy. The findings of this study should help enhance the clinical agendas and healthcarepolicies at KATH and other learning institutions. The results highlighted a need for continuing education and updating for cancer care practitioners because of fluidity and change in paradigms regarding cancer management. Also, policymakers should consider information obtained from this study while planning public health strategies or reforming health facilities. Superimposing and enhancing patient outcomes will be critical, specifically in managing side effects and enhancing the patient experience while on treatment. Overall, the study has shown that KATH entirely complies with evidence-based chemotherapy protocols, but some areas that require improvement are early symptom recognition for cancer and side effects of chemotherapy. These areas will, therefore, need intervention from healthcare practitioners, policymakers, and stakeholders. With educational programs to increase awareness of early symptoms and better care, KATH could improve breast cancer patients' survival as well as the quality of life of patients. This work provides insights into practice today andpleases for enhancing and developing modern management and comprehensive care of breast cancer patients in Ghana.

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