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DRUGS USED IN THE TREATMENT OF WOMEN WITH BREAST CANCER TREATED AT A BRAZILIAN REFERENCE HOSPITAL

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ABSTRACT

The aim of this study was to identify the main symptomatic and chemotherapy medications used to treat women with breast cancer at Hospital do Cancer de Pernambuco; state of Pernambuco, Brazil. This was a descriptive, cross-sectional study, with a quantitative approach. Three hundred and seventeen women participated in the survey, who were interviewed in an outpatient clinic unit specialized in Mammary Pathology at Hospital do Cancer de Pernambuco, where, after consenting, they answered a questionnaire related to their clinical treatment. The data were described through the analysis (absolute numbers), isolated percentages, and intervals; then these data were demonstrated through tables. The results identified the medications that are part of participants' chemotherapy regimen, the main ones being Paclitaxel, Cyclophosphamide, and Doxorubicin.It was possible to notice that women used medications before chemotherapy, where the main ones are: Dexamethasone and Ondansetron.It was also observed that 107 women use other medications, in addition to those already mentioned, such as antihypertensives and antidiabetics.

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INTRODUCTION

Cancer occurs when there are changes in cell division, generating cells with disordered multiplication capacity, due to external and internal factors, ranging from everyday habits to genetic factors.Therefore, these changes in the organism favor a high incidence in the population (Santana *et al*., 2017; Reis *et al*., 2016), becoming a universal public health problem (Elias, 2014).Among all malignancies, except non-melanoma skin cancer, breast cancer is the most prevalent in women and has been the highest mortality rate worldwide (Trufelli *et al*., 2008; Leite *et al*., 2011). Although breast cancer is identified as cancer with a satisfactory prognosis, when diagnosed and treated properly, mortality rates are still high in Brazil, confirming the probability that the disease continues to be diagnosed in advanced stages (Silva; Albuquerque; Leite, 2010; Souza *et al*., 2017). Among the treatments available for breast cancer, there is radiotherapy, hormone therapy, immunotherapy, and chemotherapy, the center of the present study, which shows progress in the control and cure of cancer, whether in the neoadjuvant or adjuvant modality.It works with a combination of several agents with differentiated mechanisms of action; this combination produces a potentiated biological effect, aiming at a more effective response, delay in cellular mutations, and a lower incidence of side effects (Melo *et al*., 2002; Silva; Albuquerque; Leite, 2010; Silva; Carlotto; Rotta, 2018).The most used drugs in the treatment of breast cancer are anthracyclines (e.g., epirubicin and doxorubicin), and taxanes (e.g., paclitaxel and docetaxel).Administered intravenously or orally, with a duration that varies from three to six months (Gabriel *et al*., 2017; Dagnoni *et al*., 2016).

Many agents have specific actions in the cell cycle, affecting not only malignant cells, but also healthy ones, favoring the appearance of side effects, such as nausea, vomiting, anemia, alopecia, leukopenia, loss of appetite, among others (Brateibach *et al*., 2013; Ferreira; Franco, 2017).Therefore, clinical support treatment is important in the treatment of cancer, where it lists several medications to prevent side effects.Enabling greater adherence to cancer treatment and improving quality of life (Franca *et al*., 2015). In Pernambuco, the Hospital do Cancer de Pernambuco (HCP) is one of the reference hospitals to diagnose and provide oncology necessary assistance, enabling services in order to meet the demand of women for early diagnosis and adequate treatment, aiming to promote mortality reduction (Gurgel, 2011). Therefore, the study aims to identify the main symptomatic and chemotherapy medications used to treat women with breast cancer at Hospital do Cancer de Pernambuco.

MATERIALS AND METHODS

This is a descriptive, cross-sectional study with a quantitative approach. This study was carried out in the Ambulatory Unit of a specialized clinic in Mammary Pathology of the Hospital do Câncer de Pernambuco (HCP), from September to November 2015. The sample was calculated based on the proportion estimate since it was intended to identify it for the number of women with breast cancer undergoing chemotherapy. Considering that the monthly average of patients with breast cancer undergoing chemotherapy at HCP was 1800 (N) and some constant statistical values, such as the 95% confidence level (z = 1.96) and the error (e) or (d) of 5%, a sample (n) of 317 patients was obtained, using a finite population as a reference.

$$n = \frac{Z^2.p.q.N}{d^2 (N-1) + Z^2.p.q}$$

As inclusion criteria, female patients with breast cancer, undergoing outpatient chemotherapy at HCP, aged 18 years and over, and with communication skills for reading and writing comprehension were considered. As exclusion criteria, there were female patients undergoing treatment different from chemotherapy.

The data collection procedure was carried out as follows: the Informed Consent Form (ICF) was delivered, read, and explained to each of the 317 women at the time when they were undergoing chemotherapy at the HCP outpatient clinic. When a woman accepted to participate in the research, the form was signed, showing her agreement and, immediately afterwards, the collection instrument with information about her clinical treatment was responded.

The data collected from the clinical profile were described through the analysis of their frequencies (absolute numbers) and isolated and interval percentages in which they were present in the study population, and were demonstrated through tables. For some variables in these profiles, averages, standard deviation (SD), and minimum and maximum values were also presented. This study corresponds to an excerpt from a Master's dissertation authored by Cristina Albuquerque Douberin, which was submitted to and approved by the Research Ethics Committee of the Pernambucan Society for Combating Cancer under CAAE nº 45583415.0.3001.5205; and defended by the author by the Associate Nursing Graduate Program of UPE/UEPB, in May 2016.

RESULTS

Questionnaires referring to the clinical treatment of 317 women were evaluated, where it was possible to perceive that the use of medications administered in pre-chemotherapy was a common situation for all interviewees, with emphasis on Dexamethasone/ Decadron (99.7%) and Ondansetron/ Zofran (95.3%), shown in table 1. Table 2 shows the classes of drugs that are administered in the chemotherapy regimen itself, it is noted the prevalence of Taxol/Paclitaxel (50.2%), Cyclophosphamide (32.5%), and Doxorubicin (28.4%).

It was also possible to observe the usual use of other medications in addition to pre-chemotherapy and/or chemotherapy for other diseases or associated conditions, where it was shown that 107 (33.8%) women reported using it. Thus, the emphasis of the medications used was on antihypertensive drugs, indicated by 86.9% of the 107 who use other drugs and antidiabetics, indicated by 44.9% of those who claim to consume drugs in addition to pre-chemotherapy and/or chemotherapy. These results are shown in tables 3 and 4, respectively.

Table 1. Medications administered before chemotherapy. Recife PE Brazil, 2015. (n = 317)

Type of pre-chemotherapy medication	Frequency	Percentageof cases
Dexamethasone/Decadron	316	99,7
Ondansetron/Zofran	302	95,3
Ranitidine/Antak	170	53,6
Diphenhydramine	161	50,8

Source: Ownelaboration.
Note: Open question. Each woman can indicate more than one medication.

Table 2. Medications administered in chemotherapy. Recife, PE, Brazil, 2015. (n = 317)

Typeofchemotherapymedication	Frequency	Percentageof cases
Taxol/Paclitaxel	159	50,2
Cyclophosphamide	103	32,5
Doxorubicin	90	28,4
5-Fluorouracil	42	13,2
Docetaxel/Taxotere	33	10,4
Adriblastine	27	8,5
Enduxan	24	7,6
Carboplatin	07	2,2
Gemzar	06	1,9
Cisplatinum	06	1,9
Metrotexate	02	0,6

Source: Ownelaboration.
Note: Open question. Each woman can indicate more than one medication

Table 3. Frequency of women using other medications, Recife, PE, Brazil, 2015 (n. = 317)

Do you use any medication in addition to pre-chemo and chemo?	Frequence	Percentageof cases
Yes	107	33,8
No	210	66,2
Total	317	100%

Source: Ownelaboration.

Table 4. Frequencies of other classes of medications taken, Recife, PE, Brazil, 2015. (n. = 107)

Other medicationstaken	Frequency	Percentageof cases
Anti–hypertensive	93	86,9%
Anti-diabetics	48	44,9%
Antidepressants/Anxiolytics	28	26,2%
Antilipemic	6	5,6%
Variousmedications	52	48,6%

Source: Ownelaboration. Note: Open question. Each woman can indicate more than one medication.

DISCUSSION

The discovery and previous initiation of cancer treatment are associated with an increase in the cure rate of patients with breast cancer (Reis *et al*., 3016), as the initiation of treatment late generates a harmful survival (Souza *et al*., 2017). The planning of therapeutic schemes considers the profile of the drugs, aiming to provide the optimization of the action of chemotherapy, improving the effectiveness, and reducing the appearance of adverse effects (Silva; Carlotto; Rotta, 2018). This study shows that all patients used chemotherapy drugs, as well as those administered before chemotherapy. The most commonly used drugs in the chemotherapy regimen of the hospital in question are Taxol/Paclitaxel (50.2%), Cyclophosphamide (32.5%), Doxorubicin (28.4%), 5-Fluorouracil (13.2%) and Docetaxel/Taxotere (10.4%) (Table 2). Ishikawa, Derchain, and Thuler (2005) found that Cyclophosphamide and 5-Fluorouracil were the most used drugs in chemotherapy in their study. Lôbo *et al*. (2014) identified increased use of Docetaxel, Doxorubicin, and Cyclophosphamide. Gozzo *et al*. (2013), Silva (2013), and Gonçalves (2013) also identified similar drugs of choice in their patients' chemotherapy regimen, such as Docetaxel, Cyclophosphamide, and 5-Fluorouracil.

It is clear, then, that the most used chemotherapy regimens for women with breast cancer, both in the present study and in those cited in the context, are in accordance with the drugs recommended by the current protocol of the National Comprehensive Cancer Network (NCCN) (2011); which is mainly composed of Doxorubicin, Cyclophosphamide and Paclitaxel/Taxol (Gonçalves, 2013). Chemotherapeutic drugs cause adverse effects, which are related due to their non-specificity by tumor cells and the cytotoxic actions in normal cells, which is more prevalent in hematopoietic tissue cells, germ tissue, hair follicle, and gastrointestinal lining (Gozzo *et al*., 2013). A study showed that the most frequent adverse effects are nausea and vomiting, (Franca *et al*., 2015), where about 50% of cancer patients will suffer from this effect during the treatment period.And chemotherapy drugs in their entirety have emetogenic potential, which varies in intensity.The potential of the most used drugs in breast cancer treatment protocols are: high (above 90%): cyclophosphamide (above 1500mg / m2) and cisplatin; moderate (around 30 to 90%): cyclophosphamide (below 1500mg / m2), epirubicin, doxorubicin; low (from 10 to 30%): 5-fluouracil, paclitaxel, docetaxel, methotrexate, liposomal doxorubicin, gemcitabine, trastuzumab and minimal (below 10%): vinorelbine (Gozzo *et al*., 2013). Thus, clinical support is necessary for the control of side effects, where patients are offered the available resources, with the purpose of ensuring the quality of life and ensuring the success of treatment (Franca *et al*., 2015).

This study presents the most used medications before chemotherapy, which are Dexamethasone/Decadron (99.7%), followed by Ondansetrone/Zofran (95.3%), and Ranitidine/Antak (53.6%).Including the presence of 107 women who reported using other medications, with predominance, in this case, for antihypertensive drugs (86.9%) and antidiabetics (44.9%). Gozzo *et al*. (2013) stated that, among the antiemetic drugs used before chemotherapy, Ondansetron and Dexamethasone were used in all cases, followed by Ranitidine (81.8%), which is in line with the results of this study.They also pointed out that Omeprazole was one of the most widely used medications by their patients (47.8%).Still, regarding other medications, Silva (2013) identified that the antihypertensive, antidiabetic and antidepressant classes were the most used by patients in his work, a fact that is similar to the findings of this study.

CONCLUSION

The chemotherapy regimen used in the reference hospital in Pernambuco is in line with what is found in the literature, where the main drugs are Paclitaxel, Cyclophosphamide, and Doxorubicin.It is also noted that all respondents were using antiemetic medications before chemotherapy, with Dexamethasone, Ondansetrone, and Ranitidine being the most used; as well as the use of other medications in a small portion of patients, with a predominance of antihypertensive and antidiabetics.

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