

Prevalence of xerostomia in women during breast cancer chemotherapy

Prevalência da xerostomia em mulheres durante a quimioterapia por câncer de mama

Prevalencia de la xerostomía en mujeres durante la quimioterapia por cáncer de mama

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ABSTRACT

Objective: To identify the prevalence of xerostomia in women undergoing chemotherapy for breast cancer. **Method:** Prospective cohort with 27 women who underwent up to 16 sessions of intravenous chemotherapy. Data collection was performed at the outpatient clinic of a university hospital in the city of São Paulo, where two forms were applied before the start of treatment and the Xerostomia Inventory before and after each chemotherapy session. **Results:** Complaints of dry mouth were present in 48.1% of women before chemotherapy, and they were approximately 28 times more likely to develop dry mouth during treatment. It was observed that the use of antiemetics contributed to the occurrence of xerostomia, and the anti-ulcerous were presented as a protective factor. **Conclusion:** The study identified both a high prevalence of xerostomia regardless of the chemotherapy used and the need to create protocols to improve the quality of life of these patients.

Descriptors: Xerostomia; Breast Neoplasms; Drug Therapy; Women; Antineoplastic Agents.

RESUMO

Objetivo: Identificar a prevalência da xerostomia nas mulheres em tratamento quimioterápico por câncer de mama. **Método:** Coorte prospectiva com 27 mulheres que realizaram até 16 sessões de quimioterapia endovenosa. A coleta de dados foi realizada no ambulatório de um hospital universitário na cidade de São Paulo, onde foram aplicados dois formulários antes do início do tratamento e o Xerostomia Inventory antes e após cada sessão de quimioterapia. **Resultados:** A queixa de boca seca esteve presente em 48,1% das mulheres antes da quimioterapia, e elas tiveram aproximadamente 28 vezes mais chance de desenvolver a xerostomia durante o tratamento. Observou-se que o uso de antieméticos contribuiu para a ocorrência de xerostomia, e os antiulcerosos se apresentaram como fator de proteção. **Conclusão:** O estudo identificou tanto uma alta prevalência de xerostomia independentemente da quimioterapia empregada quanto a necessidade da criação de protocolos visando à melhoria da qualidade de vida dessas pacientes.

Descritores: Xerostomia; Neoplasias da Mama; Tratamento Farmacológico; Mulheres; Antineoplásicos.

RESUMEN

Objetivo: Identificar la prevalencia de la xerostomía en las mujeres en tratamiento quimioterápico por cáncer de mama. **Método:** Cohorte prospectiva con 27 mujeres que realizaron hasta 16 sesiones de quimioterapia endovenosa. La recogida de datos ha sido realizada en el ambulatorio de un hospital universitario en la ciudad São Paulo, donde han sido aplicados dos formularios antes del inicio del tratamiento y el Xerostomia Inventory antes y después de cada sesión de quimioterapia. **Resultados:** La queja de boca seca estuvo presente en 48,1% de las mujeres antes de la quimioterapia, y ellas tuvieron aproximadamente 28 veces más chance de desarrollar la xerostomía durante el tratamiento. Se observó que el uso de antieméticos contribuyó para la ocurrencia de xerostomía, y los antiulcerosos se presentaron como factor de protección. **Conclusión:** El estudio identificó tanto una alta prevalencia de xerostomía independentemente de la quimioterapia empleada cuanto la necesidad de la creación de protocolos visando a la mejoría de la calidad de vida de esas pacientes.

Descriptor: Xerostomía; Neoplasias de la Mama; Quimioterapia; Mujeres; Antineoplásicos.

INTRODUCTION

Breast cancer is the most common cancer among women in the world. In 2020, the world estimate is 2,179,457 new cases, with an increase of 880,372 cases in the projection made by the International Agency for Research on Cancer for the year 2040⁽¹⁾.

The disease ranks first in all Brazilian regions⁽²⁾, and the triennium estimate (2020-2022) published by the National Cancer Institute (INCA) is 66,280 new cases, with an increase of 6,580 cases compared to the 2018-2019 estimate⁽²⁻³⁾.

Among the main treatments used to fight breast cancer are conservative or radical surgery, chemotherapy, endocrinotherapy, target therapy and radiotherapy⁽⁴⁾. All can cause side effects, but chemotherapy is what most acutely affects quality of life. Commonly associated symptoms are pain, inflammation, fatigue, nausea and vomiting, diarrhea, febrile neutropenia, skin changes, mucositis and dry mouth⁽⁴⁾.

Xerostomia is defined by some authors as a subjective sensation of dry mouth, usually associated with decreased salivary flow, which may arise during chemotherapy, when radiotherapy is applied in or near the oral cavity⁽⁵⁻⁶⁾.

Chemotherapy acts on the destruction or inhibition of cell growth, not differentiating neoplastic cells from normal ones, which can lead to myelosuppression. This fact, when observed in the oral cavity, on average from the 7th to the 10th day after the administration of chemotherapy, presents a predisposition to the appearance of dry mouth and oral infections such as candidiasis, in addition to halitosis, the appearance of lesions, burning mouth, difficulties in chewing, swallowing and speech, as well as decreased taste. All of this has consequences for general health, such as poor nutrition, problems in social relationships and sleep, compromising quality of life^(5,7-9).

Studies describing the prevalence of xerostomia in the general population are rare. One carried out in Sweden, in 2009, with both sexes and age from 50 years old, presented an estimated rate of 13%⁽¹⁰⁾. In 2019, these same authors investigated the same problem in the population aged 50 to 80 years and concluded that there is a high prevalence of xerostomia among the elderly, especially in women, which needs to be taken into account when assessing their oral health and in providing dental care by age group⁽¹¹⁾.

In Brazil, the most current xerostomia prevalence is described in the city of Piracicaba, with a rate of 17%⁽¹²⁾; and in the systematic review of 2018, in which the percentage was 22%, with high heterogeneity between studies⁽⁵⁾.

In cancer patients undergoing chemotherapy, the prevalence of this complaint was analyzed in a descriptive study conducted in the southern region of the state of Ceará, in 2015, with men (39.7%) and women (60.3%). Xerostomia has been shown to be the most common oral pathological condition among these patients, with an estimated frequency of 77.3%⁽¹³⁾.

Among the studies that address breast cancer, chemotherapy and the presence of xerostomia, we highlight one carried out in India, in 2017, with 52 women, in which xerostomia was evaluated before (0%), during chemotherapy (65.4%) and after treatment (44.2%)⁽¹⁴⁾.

Given the above, we seek to answer the guiding question: "What is the prevalence of xerostomia in women with breast cancer undergoing chemotherapy?". There are few publications on this

prevalence, the theme is little explored in the field of nursing, and most studies focus on the area of dentistry, being a problem of clinical relevance for all patients undergoing chemotherapy.

We hope that the study will contribute to the performance of the nursing team directly involved in the care of these patients, creating protocols to reduce xerostomia and quality of life for this population.

OBJECTIVE

Identify the prevalence of dry mouth in women diagnosed with breast cancer and undergoing chemotherapy.

METHODS

Ethical aspects

The study was developed in accordance with Resolution No. 466 of 2012 of the National Research Ethics Commission (CONEP) and with the rules of the Research Ethics Committee of the Federal University of São Paulo / UNIFESP, which regulate research involving human beings; and the research project was approved by the ethics committee.

The participants signed the Free and Informed Consent Term (FICT) in two copies: one for themselves and the other for the researcher.

Study design, period and location

This is a prospective longitudinal cohort study carried out between October 2016 and January 2018 at the Mastology Clinic of the Department of Gynecology of the Hospital São Paulo / University Hospital of the Federal University of São Paulo - UNIFESP.

Study population; inclusion and exclusion criteria

For the calculation of the sample size, the formula for finite populations and qualitative variable was used, considering the 95% confidence level, the unknown prevalence of the event in the studied population of 50%, the average number of women who are submitted to chemotherapy treatment for breast cancer in the service where the research was carried out (143 women / year) and an initial sample error of 15%, which was corrected for 17%.

58 women with a diagnosis of breast cancer and indication for neoadjuvant or outpatient adjuvant chemotherapy were invited to participate in the study. Of these, 33 accepted the invitation. The exclusion criteria were: the change from chemotherapy treatment to another such as radiotherapy or endocrinotherapy (one participant), abandonment of treatment (one participant), interruption of chemotherapy due to clinical conditions that required hospitalization (one participant) and the withdrawal from participating in the (three participants), with 27 women remaining until the end of the study.

Study protocol

Two forms constructed by the researchers were used, applied only before chemotherapy: one for recording sociodemographic data and the other for anamnesis related to the oral cavity.

The oral assessment was self-reported by the participants when asked about the presence of oral sores, changes in taste, problems with swallowing, bleeding gums, dry mouth, bad breath, problems with chewing, sensitivity, pain in teeth, teething failures, discomfort prosthesis and others. The answers were dichotomous (yes or no) and in relation to the last week.

We also used the Xerostomia Inventory, original version, created by Thomson in 1999, in the USA, validated and cross-culturally adapted in Portuguese to assess xerostomia. This inventory consists of 11 items designed to assess various situations of dry mouth sensation (feels dry mouth; dry lips; wakes up at night to drink water; feels dry mouth during meals; consumes a little liquid to help swallow food; sucks candy or chewing gum to relieve cough and / or dry mouth; feels dry face; dry eyes; has difficulty swallowing certain foods; feels the inside of the nose dry; have difficulty eating dry foods), with five response options, with scores ranging from 1 to 5. The sum result can vary from 11 to 55 points, and the closer to 55, the greater the degree of xerostomia⁽¹⁵⁻¹⁶⁾.

We call "zero time" the moment before chemotherapy in which the two forms and the Xerostomia Inventory were applied. This was done by the same researcher during the entire data collection period, in person, referring to the last week.

Through face-to-face action, the participant would already be familiar with what would be asked by phone between the 7th and 10th day after each chemotherapy session. This moment of the research, we call "follow-up". We opted for the application via telephone to avoid the displacement of the participant and, thus, minimize losses during this phase of the research.

The Xerostomia Inventory was applied at follow-up at least 4 times and at most 16 times per participant during treatment, as the chemotherapy sessions varied according to the chemotherapy scheme defined for each one.

Data analysis and statistics

The data was compiled and analyzed using the SPSS statistical program, version 23.

For the descriptive analysis of continuous variables, mean, standard deviation, median, minimum and maximum were calculated; and, for categorical variables, frequency and percentage were calculated.

Fisher's exact test or likelihood ratio test was used to compare xerostomia before chemotherapy with the variables of interest. To compare them with xerostomia taking into account the sessions performed, the generalized estimation equation model (GEE) and the logistic regression model were used, with a significance level of 5% ($p < 0.05$).

RESULTS

All women in the study were from the state of São Paulo and users of the Unified Health Service (SUS), aged between 35 and 77 years, with an average of 53 years, standard deviation of 9 years and median of 53 years. Still, 14.8% were smokers; 22.2%, alcoholics; 25.9% were overweight; and 22.2% in grade 1 obesity.

Among pre-existing diseases, systemic arterial hypertension was present in 48.1% of women, followed by hypercholesterolemia (18.5%), depression (14.8%) and diabetes (11.1%). Gastritis was reported by 7.4%, and other diseases had a percentage of

3.7%, such as hyperuricemia, asthma, anxiety, dermatomyositis, schizophrenia, stomatitis, gastric hernia and varicose ulcer.

Among the medications used before chemotherapy, anti-dyslipidemics are used, used by 48.1% of women, analgesics (25.9%), anti-hypertensives (22.2%), anti-inflammatory drugs (18.5%), antidepressants (14.8%), anti-ulcer (14.8%) and oral antidiabetics (11.1%).

When asked, through the anamnesis form referring to the oral cavity, about complaints in the mouth region in the last week before the start of chemotherapy, 48.1% reported dry mouth; bad breath, problems with chewing, tenderness or pain in the teeth, flaws or soft teeth were reported in 18.5% of women; oral wounds, in 14.8%; and bleeding gums, in 11.1%. Prosthesis discomfort, altered taste and swallowing problems occurred in 7.4%; and general discomfort, in 3.7%.

By associating the complaints referred in the anamnesis of the oral cavity with the presence of xerostomia in the follow-up by the Xerostomia Inventory, women who reported dry mouth before chemotherapy had approximately 28 times more (adjusted) chance of developing xerostomia than those who did not this complaint, according to Table 1.

There was no significance in the association of xerostomia with the variables age, family income, education, habits (tobacco, alcohol), diseases, use of previous medications, body mass index (BMI)⁽¹⁷⁾ and oral complaints (except dry mouth) before chemotherapy.

Table 2 shows the chemotherapy regimens performed in the study population, with the one with doxorubicin hydrochloride and cyclophosphamide (AC) followed by paclitaxel (T) being the most used.

After evaluating all 394 inventories (total number of Xerostomia Inventory applied before and following the 27 participants), the prevalence of xerostomia was observed at 75.4%, with an average score of 18.8 points on the Xerostomia score Inventory.

Of the 21 participants who underwent 16 chemotherapy sessions, two who used paclitaxel (taxol) reported xerostomia in only four sessions. The four with doxorubicin hydrochloride and cyclophosphamide (AC) followed by taxol and trastuzumab (TH) reported xerostomia in all sessions, with a frequency of 100% in three sessions with the drug AC and one session with the drug TH.

Xerostomia was also present in all sessions of the 15 women who received AC + T, in which 93.3% presented it in the 3rd (AC) and 14th session (T).

All four women with docetaxel and cyclophosphamide (CT) regimen reported xerostomia in the first three sessions, and the woman who received cyclophosphamide, methotrexate and fluorouracil (CMF) presented it only in the first session.

The use of anti-hypertensives, analgesics, oral antidiabetics and corticosteroids did not contribute to the onset of xerostomia before or during chemotherapy.

All women who used antidepressants reported xerostomia before and during follow-up, however, as well as those using anti-inflammatory and anti-lipid drugs, there was no significance in the association with the complaint.

The prevalence of xerostomia before and during chemotherapy in users of anti-ulcer agents was lower than in those who did not use this medication, a fact observed after the last session in which women who did not use it presented a 22-fold chance for the occurrence of xerostomia, as observed in Table 3.

Table 1 – Xerostomia for variables of interest (before chemotherapy), São Paulo, Brazil, 2019

	n	p value	Gross		Adjusted		
			OR	95%CI	p value	OR	95%CI
<i>BLOCK A</i>							
Age group							
35 to 49	08	0.4482	2.80	[0.2: 40.06]	-	-	-
50 to 59	12	0.8647	1.20	[0.15: 9.77]	-	-	-
60 to 77	07	-	-	-	-	-	-
<i>BLOCK B</i>							
Family income							
R\$ 800.00 to R\$ 1,800.00	08	0.9116	1.12	[0.14: 8.99]	0.8938	0.84	[0.07: 10.03]
Over R\$ 3,000.00	07	0.5247	2.25	[0.18: 27.37]	0.4795	2.55	[0.19: 34.39]
R\$ 2,000.00 a R\$ 3,000.00	11	-	-	-	-	-	-
Could not inform	01	-	-	-	-	-	-
Education							
0 to 8	15	0.5377	0.55	[0.08: 3.68]	0.5835	0.58	[0.08: 4.08]
12 to 16	12	-	-	-	-	-	-
<i>BLOCK C</i>							
Do you smoke?	04	0.9992	-	-	0.9992	-	-
Do you drink alcohol?	06	0.7121	1.56	[0.15: 16.72]	0.7607	1.47	[0.13: 17.18]
Do you have or have you had hypertension?	13	0.9180	0.91	[0.15: 5.58]	0.8055	0.79	[0.11: 5.39]
Do you have or have you had diabetes?	03	0.0861	0.10	[0.01: 1.39]	0.9989	-	-
Do you have or have you had depression?	03	0.9993	-	-	0.9994	-	-
Colesterol	05	0.3033	0.33	[0.04: 2.7]	0.1916	0.13	[0.01: 2.78]
Medication							
Antihypertensive	13	0.9180	0.91	[0.15: 5.58]	0.8055	0.79	[0.11: 5.39]
Antidepressant	04	0.9992	-	-	0.9993	-	-
Antiulcerous	04	0.1722	0.21	[0.02: 1.97]	0.1371	0.12	[0.01: 1.95]
Painkiller	07	0.5626	2.00	[0.19: 20.9]	0.7269	1.56	[0.13: 18.88]
Anti-lipidic	06	0.0812	0.17	[0.02: 1.25]	0.0641	0.05	[0: 1.19]
Anti-inflammatory	05	0.8947	1.18	[0.11: 13.07]	0.8322	1.40	[0.06: 30.51]
Oral antidiabetic	03	0.0861	0.10	[0.01: 1.39]	0.9989	-	-
BMI Classification							
Overweight / Excessive weight	08	0.8928	0.86	[0.09: 8.07]	0.7537	0.69	[0.07: 7.1]
Obesity	10	0.9056	1.14	[0.13: 10.39]	0.9781	0.97	[0.1: 9.64]
Normal weight	09	-	-	-	-	-	-
Complaints in the oral cavity							
Mouth sores (thrush, herpes etc.)	04	0.9992	-	-	0.9992	-	-
Altered taste	02	0.9994	-	-	0.9994	-	-
Swallowing problems	05	0.9994	-	-	0.9994	-	-
Bleeding gums	03	0.6278	0.53	[0.04: 7.05]	0.5302	0.41	[0.03: 6.51]
Dry mouth	13	0.1082	6.67	[0.66: 67.46]	0.0430*	28.61	[1.11: 735.71]
Bad breath	05	0.9991	-	-	0.9992	-	-
Chewing problems	05	0.8947	1.18	[0.11: 13.07]	0.5790	2.07	[0.16: 27.2]
Teeth sensitivity or pain	05	0.3033	0.33	[0.04: 2.7]	0.3615	0.37	[0.04: 3.17]

Note: Logistic regression; OR = odds ratio; * P value less than 0.05

Table 2 – Distribution of the studied population according to the chemotherapy regimen applied, São Paulo, Brazil, 2019

Chemotherapy scheme	n (%)	Number of sessions	Interval between sessions
Paclitaxel (Taxol)	03 (11.1)	8 and 16	7 days
Doxorubicin hydrochloride and cyclophosphamide followed by trastuzumab / Herceptin® (AC+TH)	04 (14.8)	16	21 days in the first four doses and weekly in the posterior doses
Doxorubicin hydrochloride and cyclophosphamide followed by Taxol (AC+T)	15 (55.6)	16	21 days in the first four doses and weekly in the posterior doses
Docetaxel and cyclophosphamide (TC)	04 (14.8)	4 and 5	21 days
Cyclophosphamide, methotrexate and fluorouracil (CMF)	01 (3.7)	6	20 days
Total of patients	27		

The use of antiemetics during chemotherapy contributed to the occurrence of xerostomia in the third and last session, since all women complained.

DISCUSSION

In this study, we identified the sensation of dry mouth before chemotherapy, which may occur due to climate change⁽¹⁸⁾, such as low humidity in some regions in Brazil, especially in the city of São Paulo, as well as due to the adverse effects of some medications⁽¹⁹⁾.

However, our results were not significant in this relationship between xerostomia and the use of previous medications. In contrast, in a study conducted in Brazil in 2018, with women undergoing treatment for breast cancer, the use of antihypertensive agents showed a xerostomia rate of 40.5%. Still, in such a study, the xerostomia rate before the start of chemotherapy was 20.2%, and the evaluation of this complaint was performed through sialometry⁽²⁰⁾.

Sialometry is a method that consists of measuring salivary flow, which can be stimulated or not; the diagnosis of dry mouth is associated with hyposalivation⁽²⁰⁾. However, the predictive value of this method is not well established, a fact demonstrated in the 2018 study in which 70% of patients complaining of previous dry mouth had normal salivary flow⁽²¹⁾.

Table 3 – Xerostomia for variables of interest (after the last chemotherapy session), São Paulo, Brazil, 2019

	Gross			Adjusted		
	p value	OR	95%CI	p value	OR	95%CI
BLOCK A						
Age group						
35 to 49	0.6087	0.50	[0.04: 7.1]	-	-	-
50 to 59	0.9987	-	-	-	-	-
60 to 77	-	-	-	-	-	-
BLOCK B						
Family income						
R\$ 800,00 to R\$ 1.800,00	0.9989	-	-	0.9987	-	-
Over R\$ 3.000,00	0.9989	-	-	0.9988	-	-
R\$ 2.000,00 to R\$ 3.000,00	-	-	-	-	-	-
Education						
0 to 8	0.4258	2.80	[0.22: 35.29]	0.3514	3.67	[0.24: 56.54]
12 to 16	-	-	-	-	-	-
BLOCK C						
Do you smoke?	0.9992	-	-	0.9991	-	-
Do you drink alcohol?	0.9991	-	-	0.9989	-	-
Do you have or have you had hypertension?	0.5913	2.00	[0.16: 25.11]	0.7043	1.74	[0.1: 30.66]
Do you have or have you had diabetes?	0.2333	0.18	[0.01: 3]	0.9982	-	-
Do you have or have you had depression?	0.9993	-	-	0.9994	-	-
Colesterol	0.9991	-	-	0.9989	-	-
Medications (in use before chemotherapy)						
Antihypertensive	0.5913	2.00	[0.16: 25.11]	0.7043	1.74	[0.1: 30.66]
Antidepressant	0.9992	-	-	0.9992	-	-
Antiulcerous	0.0307	0.05*	[0: 0.75]	0.9978	-	-
Painkiller	0.1255	0.13	[0.01: 1.76]	0.9982	-	-
Anti-lipidic	0.6278	0.53	[0.04: 7.05]	0.8381	0.74	[0.04: 13.9]
Anti-inflammatory	0.9991	-	-	1.0000	-	-
Oral antidiabetic	0.2333	0.18	[0.01: 3]	0.9982	-	-
Medications (in use during all chemotherapy administrations)						
Antihypertensive	0.5054	2.36	[0.19: 29.71]	0.4827	3.08	[0.13: 70.86]
Antidepressant	0.9991	-	-	0.9991	-	-
Antiulcerous	0.4258	0.36	[0.03: 4.5]	0.4234	0.26	[0.01: 7.01]
Painkiller	0.9986	-	-	0.9983	-	-
Anti-lipidic	0.2859	4.00	[0.31: 51.03]	0.4184	3.20	[0.19: 53.68]
Anti-inflammatory	0.6278	0.53	[0.04: 7.05]	0.8381	0.74	[0.04: 13.9]
Oral antidiabetic	0.9991	-	-	0.9989	-	-
Antihypertensive	0.3610	0.29	[0.02: 4.2]	0.9981	-	-
BMI Classification						
Overweight / Excessive weight	0.9989	-	-	0.9988	-	-
Obesity	0.6003	0.50	[0.04: 6.68]	0.9980	-	-
Normal weight	-	-	-	-	-	-
Complaints in the oral cavity						
Mouth sores (thrush, herpes etc.)	0.3610	0.29	[0.02: 4.2]	0.6674	0.51	[0.02: 11.31]
Altered taste	0.9995	-	-	0.9994	-	-
Swallowing problems	0.1257	0.09	[0.004: 1.98]	0.9986	-	-
Bleeding gums	0.9993	-	-	0.9992	-	-
Dry mouth	0.5913	2.00	[0.16: 25.11]	0.7043	1.74	[0.1: 30.66]
Bad breath	0.9991	-	-	0.9991	-	-
Chewing problems	0.9991	-	-	0.9990	-	-
Teeth sensitivity or pain	0.4946	0.40	[0.03: 5.55]	0.4230	0.26	[0.01: 6.95]

Nota: Regressão logística; *OR = odds ratio (1/0,05 ~ 22).

On the other hand, in a study of Indian women diagnosed early with breast cancer, there was an absence of xerostomia before chemotherapy, but this condition appeared during treatment and persisted even after 12 weeks⁽¹⁴⁾.

In our study, a high prevalence of xerostomia during chemotherapy was identified regardless of the chemotherapy regimen used and in any session. This corroborates other works already done to reinforce the idea that chemotherapeutic agents have an important action on the cells of the oral mucosa epithelium, contributing to the appearance of xerostomia and other oral manifestations^(13,22).

A study carried out in 2017 showed a higher prevalence of xerostomia during chemotherapy in patients who used continuous medication (17.92%) than in those who did not use it (5.52%)⁽²¹⁾. This association was demonstrated by our results only with the use of antiemetics; the other drugs had no significance in relation to xerostomia.

Antiemetics are widely prescribed during chemotherapy in hospitals, outpatient clinics and at home, especially serotonin receptor antagonists such as ondansetron, however there are few studies that describe their action and side effects in this scenario⁽²³⁾.

In 2014, a study was carried out to assess the impact of antiemetics on the control of emesis in patients with breast cancer undergoing chemotherapy, and concluded that they are not effective in preventing or treating chemotherapy-induced nausea and vomiting⁽²³⁾.

In this study, the side effects of these drugs were not described; in contrast, a study carried out in 2018 showed that antiemetics are effective in the treatment of vomiting in children and that they have a reduced number of side effects⁽²⁴⁾.

Another work, carried out in 2006, highlighted the side effect that some drugs have depending on their action in the body, such as the anti-cholinergic of antiemetics, confirming our results; the sympathomimetics of antidepressants, with no significance in our analysis; and that of anti-ulcers, which can lead to xerostomia⁽¹⁹⁾, whose use we show to present itself as a protective factor.

According to the 2017 World Health Organization (WHO) report, there was an 18% worldwide increase in the number of people with depression (2005 to 2015), reaching 11.5 million people in Brazil, which corresponds to 5.8% of the population⁽²⁵⁾.

A bibliographic study carried out in 2017 described the main drugs with potential for side effects in the oral cavity, including tricyclic antidepressants and selective serotonin reuptake inhibitors, which act on the oral mucosa reducing salivary flow, which can cause discomfort and others consequences such as gingivitis, glossitis and dry mouth⁽²⁶⁾. Thus, once again, the evaluation of xerostomia was correlated with the decrease in salivary flow, contrary to what was presented in a 2018 study⁽²¹⁾.

To date, we have not identified studies similar to ours regarding the evaluation of xerostomia in women with breast cancer undergoing chemotherapy.

Study limitations

This study has some limitations regarding both the sample size resulting from the time of treatment and the discussion of

results due to the scarcity of publications with the same method of xerostomia evaluation.

Contributions to the area of Nursing, Health or Public Policy

Our study contributes to the nursing team that serves this population by informing the high prevalence of xerostomia not only during chemotherapy and by stimulating the development of protocols aimed at reducing this complaint even before the start of therapy.

CONCLUSION

We identified a high prevalence of xerostomia in women with breast cancer regardless of the chemotherapy regimen employed.

Variables such as age, tobacco use, alcoholic beverages, anti-hypertensives, analgesics, oral antidiabetics and corticosteroids did not influence this prevalence; on the other hand, antiemetics contributed to its appearance in the third and last session.

Anti-ulcers were presented as a protective factor, but this result requires further studies, as the group of patients who used this medication was small.

The report of dry mouth before the start of therapy alerts us to the importance of creating protocols that reduce this complaint and all other problems related to it, contributing to the quality of life of these patients.

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