

Prevalence and Clinical Profile of Breast Cancer at Anoalite Hospital in Mungbere

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Abstract

Introduction: Breast cancer is a global threat that mainly affects women. This study was conducted to assess the prevalence and clinical profile of breast cancer at Anoalite Hospital in Mungbere. **Materials and Methods:** This study was conducted at the Anoalite Hospital in Mungere, in the extreme northeast of the Democratic Republic of the Congo. It was a cross-sectional descriptive study with retrospective collection data carried out from 1 January 2019 to 31 December 2023, *i.e.* over a period of 5 years. The study population consisted of all patients who visited the hospital during our study period. We used exhaustive sampling. Data collection was retrospective and based on documentary techniques. Data were entered using Microsoft Office 365 Excel 2024 and analysed using Epi-Info CDC version 7.5.2.0. **Results:** The prevalence of breast cancer was 18.2%. Many patients were overweight (45.6%) and 26.3% were obese. Most of our patients discovered their breast cancer during medical consultations (92.6%); almost all had a breast nodule/mass and mastodynia (95.9 and 96.8%); 75.1% had an ulceration; 94.5% had an orange peel; 13.4% had an ecchymosis; 3.7% had an eczematous Paget's lesion. About the characteristics of breast discharge, we observed that 22.6% of patients had a lactescent and colostral discharge. As for nipple abnormalities, 75.6% of patients had breast retraction. For most patients, the manoeuvre Tillaux was positive in 97.2% of cases; most patients were at TNM clinical stage III in 94% of cases. **Conclusion:** The prevalence of breast cancer is high in our community. Several measures are needed to make early detection more accessible.

Keywords

Breast Cancer, Prevalence, Clinical, Women, Mungbere

1. Introduction

Breast cancer is a global threat that mainly affects women, accounting for almost 12% of all cancer cases worldwide [1].

According to WHO statistics, its prevalence in 2020 was 2.3 million cases and its incidence was 58.5 per 100,000 population [2]-[7].

The African continent is one of the regions that pays a heavy price. Several studies describing the prevalence and anatomopathological aspects of breast cancer have been carried out in different countries. A study conducted in Morocco in 2023 showed that the prevalence of breast cancer was 17% [8]. It should be noted that breast cancer almost doubled during this period, rising from 417 to 887 cases in 2023 [9].

A study carried out in the People's Republic of the Congo showed that the prevalence of breast cancer was estimated at 32.3% in 2023 [10].

Our country, the Democratic Republic of the Congo (DRC), is not spared: in 2019, a study revealed a prevalence of 13.7% [11].

This study was carried out to assess the prevalence and clinical profile of breast cancers diagnosed in a health facility located in the bush in the Haut-Uélé province, which has an anatomopathology laboratory.

2. Patients and Methods

2.1. Study Framework

The study was carried out at the Anoalite Hospital in Mungere, in the far northeast of the Democratic Republic of the Congo.

The choice of this hospital as our study site was motivated by the fact that it has a laboratory for histopathological analysis of results, which means that it receives a number of cancer cases transferred from other nearby facilities, and even from other provinces.

2.2. Study Population

The study population consisted of all patients who consulted the Mungbere Hospital, specifically its Gynaecology Department, during the period of our study.

2.3. Types of Study and Duration

This was a cross-sectional descriptive study with retrospective data collection from 1 January 2019 to 31 December 2023, *i.e.* over a 5-year period.

2.4. Sampling

We carried out an exhaustive sampling and included a total of 217 patients who

met our inclusion criteria.

Inclusion Criteria

All patients with a histologically proven diagnosis of breast cancer had a medical file, complete, *i.e.* containing all the parameters sought in our study (socio-demographic and clinical characteristics of the patients).

2.5. Data Collection

Data collection was retrospective and based on a documentary technique. The consultation form, the patient's file, the laboratory register, the analysis vouchers and the results of the histopathological and immunohistochemical examinations, the ultrasound registers, the protocol registers operating and the follow-up sheets were used as sources of data.

2.6. Data Processing and Analysis

The data was entered using Excel 2024 from Microsoft Office 365 to create a database that could be analysed using specialised software.

We used Epi-Info CDC software version 7.5.2.0 to analyse the data. For the qualitative variables, we calculated the numbers and percentages, while the quantitative variables were grouped into classes (brackets) in order to determine the numbers and percentages.

2.7. Ethical Considerations

This work was carried out in strict compliance with the principles of the Declaration of Helsinki [12], namely the protection of patients, autonomy, privacy and confidentiality. We also obtained the approval of the Research Ethics Committee of the Université de l'Uélé.

3. Results

3.1. Prevalence of Breast Cancer

During our study, we received 1186 patients who consulted the gynaecology department for various conditions, 217 of whom had histologically diagnosed breast cancer, representing a prevalence of 18.2%.

3.2. Distribution of Patients According to History Data

3.2.1. Medical History and Intoxications

Analysis of **Table 1** shows that many patients were overweight, with 99 cases out of 217, or 45.6%. Obesity was observed in 57 cases out of 217, *i.e.* 26.3%. Most of the patients consumed alcoholic beverages (171 cases, or 78.8%). Only 6.0% of patients smoked, 35.7% of whom smoked more than 15 cigarettes a day. Finally, in terms of socio-economic status, the majority of patients had a low socio-economic level (172 cases, or 79.3%).

Table 1. Breakdown of data according to medical history and poisoning.

Features	Workforce N = 217	Percentage (%)
Overweight		
Yes	99	45.6
No	118	54.4
Obesity		
Yes	57	26.3
No	160	73.7
Alcohol consumption		
Yes	171	78.8
No	46	21.2
Taking up smoking		
Yes	13	6.0
No	204	94.0
Number of cigarettes per day (n = 14)		
<15	9	64.3
≥15	5	35.7
Socio-economic status		
Low income	172	79.3
Moderate income	41	18.9
High income	4	1.8

3.2.2. Gynaecological and Obstetric History of Patients

Table 2 shows that 125 patients, or 57.6%, had menarche between the ages of 12 and 13. Most of our respondents had telarche between the ages of 9 and 10, with 193 cases, or 88.9%; 40.1% of the women were genitally active, of which 93.1% had an average duration of 3 to 5 days and 92.0% an average duration of 24 to 32 days. As regards gestation, 114 patients (53.9%) were nulliparous; as for parity, 117 cases (53.9%) were nulliparous.

Table 2. Breakdown of data according to gynaecological and obstetrical history.

Features	Workforce N = 217	Percentage (%)
Age at menarche (years)		
12 - 13	125	57.6
14 - 15	90	41.5
>15	25	11.5

Continued

Ignored	2	0.9
Age of telescope (years)		
9 - 10	193	88.9
≥1	22	10.2
Ignored	2	0.9
In genital activity		
Yes	87	40.1
No	130	59.9
Average length of menstruation (days) (n = 87)		
3 - 5	81	93.1
≥6	6	6.9
Length of menstrual cycles (days) (n = 87)		
24 - 32	80	92.0
>32	7	8.0
Gesture		
Nulligestes	114	52.5
Paucigestes	45	20.7
Multigest	27	12.4
Great	31	14.3
Parity		
Nulliparous	117	53.9
Paucipares	55	25.3
Multiparous	30	13.8
Large multiparous females	15	6.9

3.3. Distribution of Patients According to Clinical Data

Analysis of **Table 3** shows that most of our patients discovered their breast cancer during medical consultations (92.6%). Almost all patients had a breast nodule/mass and mastodynia (95.9 and 96.8%); 75.1% had an ulceration; 94.5% had an orange peel; 13.4% had ecchymosis; 3.7% had an eczematous Paget's lesion. As regards the characteristics of the breast discharge, we observed that 22.6% of patients had a lactescent and colostrual discharge. With regard to nipple abnormalities, 75.6% of patients had breast retraction. As for the presence of lymph nodes, we observed that 48.8% of patients had axillary lymph nodes. For most patients, the manoeuvre Tillaux was positive in 97.2%. The majority of patients were at TNM clinical stage III in 94% of cases, followed by those at T4d clinical stage in 6.0% of cases.

Table 3. Breakdown of data by clinical aspect of breast cancer.

Features	Workforce N = 217	Percentage (%)
How to find out		
Medical consultation	201	92.6
Consultation/mass	16	7.4
Breast cancer clinic		
Mastodynia	210	96.8
Nodule/mass	208	95.9
Skin changes		
Orange peel skin	205	94.5
Ulceration	163	75.1
Ecchymosis	29	13.4
Paget's eczematous lesion	8	3.7
Types of breast discharge		
Lactescent/colostral	49	22.6
Serous	35	16.1
Bloody	16	7.4
Purulent	10	4.6
Nipple abnormality		
Withdrawal	164	75.6
Umbilical	53	24.4
Presence of lymph nodes		
Axillary	203	93.5
Sus or subclavicular	97	44.7
Thoracic	1	0.5
Tillaux manoeuvre		
Positive	211	97.2
Negative	3	1.4
Not carried out	3	1.4
Clinical stage		
III B TNM	204	94.0
T4d	13	6.0

4. Discussion

4.1. Prevalence

In our study, we found that the hospital prevalence of breast cancer was 18.2%.

Looking at the literature, few studies have looked at the prevalence of this condition. The prevalence found in our study is higher than that reported in most studies conducted in Africa.

However, according to the literature, Nigeria, the most populous African country, has a high hospital prevalence, with 40% of cases diagnosed at advanced stages (stages III - IV) [12].

In metropolitan France, the incidence of breast cancer in women was 58.5 per 100,000 inhabitants, or 0.058% in 2018 [3]. In Mexico, the prevalence was 17.7% in 2022 [13]. In the United States, breast cancer alone is expected to account for 29% of all new cancers in women [13].

The prevalence of breast cancer in Africa shows regional variations and distinct molecular subtypes. In Sub-Saharan Africa, studies report an age-standardised incidence ranging from 25 to 38 per 100,000 women, with an estimated annual increase of 3% to 5% [14]. In North Africa, a meta-analysis combining data from Morocco, Algeria, Tunisia and Egypt indicates an average incidence of 34.5 per 100,000 women [15]. Triple-negative cancers, which are particularly aggressive, account for 20% - 30% of cases in Sub-Saharan Africa, compared with 10% - 15% in Western countries [16]. Registries from 12 African countries confirm the geographical disparities, with lower incidences in East Africa (22 per 100,000) than in Southern Africa (32 per 100,000) [17] [18]. These figures underline the urgent need to strengthen surveillance and early detection systems.

The high prevalence of breast cancer found in our study could be explained by the fact that the health facility which was the subject of our study is the only breast cancer screening and treatment centre in the region, given the anatomopathological laboratory facilities it has, which means that almost all patients with a clinical suspicion of breast cancer and/or diagnosed elsewhere are referred there.

4.2. The Patient's History

In this study, the prevalence of overweight (45.6%) in breast cancer patients was higher than the 30% - 40% reported by Lauby-Secretan *et al.* [19] in Western populations. This implies a probable increased exposure to local metabolic or nutritional factors, or to genetic predispositions in the population. Alcohol consumption in our study (78.8%) is significantly higher than the 25% - 35% trends observed in recent meta-analyses [20]. We believe that this difference could be explained by the cultural habits of the society. On the other hand, smoking (6.0%) is much lower than the 15% - 25% described by Gaudet *et al.* in 2018, suggesting behavioural differences between societies [21]. In fact, in our environment, smoking is predominantly male, which explains the low trend in our study. Finally, 79.3% of patients had a low socio-economic level, a rate exceeding the 40% - 60% reported by Coughlin [20] in 2019, which highlights inequalities in access to care or exacerbated social determinants in this population [4].

These shortcomings illustrate the need to analyse risk factors by taking into ac-

count local contexts and socio-cultural disparities.

In this study, 57.6% of breast cancer patients reported having their first menstrual period between the ages of 12 and 13, a result similar to the recent data from Bodicoat *et al.* in 2020 [22], who report a prevalence of 50% - 60% in Western populations.

With regard to the length of menstrual cycles, 92.0% of patients had cycles of 24 to 32 days.

In addition, we found that 52.5% were nulliparous and 53.9% nulliparous, significantly higher than the 25% - 35% reported in high-income countries by Fortner *et al.* [23] in 2019, perhaps reflecting distinct socio-cultural norms or barriers to accessing health services basic.

These variations underline the importance of contextualising hormonal and reproductive risk factors according to regional specificities and socio-economic dynamics.

4.3. Clinical Aspects of Breast Cancer

The presence of breast nodules/mass (95.9%) and mastodynia (96.8%) is higher than the 90% described by Ochalefu *et al.* [24] in 2019, suggesting a more advanced clinical presentation or limited self-monitoring. Ulceration (75.1%) and orange peel skin (94.5%) exceeded the 40% and 60% observed by Traoré *et al.* [25] in 2020 in Mali, possibly linked to delays in management. Ecchymosis (13.4%) and Paget's eczematous lesions (3.7%) are less well documented in the African literature, while milky discharge (22.6%) and breast retraction (75.6%) are more frequent than in the work by Bado *et al.* [26] in 2021 in Burkina Faso, who found 67%.

Regarding the presence of lymph nodes, 93.5% of patients had axillary lymph nodes, compared with 60-70% in the study by Ali-Gombe *et al.* [27] in 2021 in Ghana, highlighting variations in tumour aggressiveness or clinical follow-up.

These data highlight distinct clinical profiles and regional disparities in Africa.

5. Conclusion

At the end of our study, we came to the following conclusion: the prevalence of breast cancer in our study was 18.2%. It generally affects women aged between 61 and 70 who are single and unemployed. The majority of patients were overweight and alcoholics. In terms of socio-economic status, the majority of patients were of low socio-economic status.

6. Limits of the Study

In our study, we were unable to collect data prospectively. In addition, we focused on the descriptive aspect of the results without analysing the various factors associated with breast cancer in our setting.

7. Outlook

We envisage and recommend that future researchers carry out an analytical study

with prospective data collection, in order to determine the proportion of each factor associated with the occurrence of breast cancer in our environment. We recommend that an experimental study be carried out to analyse the various means of treating these cancers in our environment.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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