

KNOWLEDGE OF THE PREVALENCE, RISK FACTOR, SYMPTOMS, PREVENTION AND CONTROL OF BREAST CANCER AMONG WOMEN IN IFE EAST LOCAL GOVERNMENT AREA, ILE IFE, OSUN STATE, NIGERIA

By

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Abstract

Background: Breast cancer remains a leading cause of morbidity and mortality among women globally, with late presentation contributing significantly to poor outcomes in Nigeria. Sociocultural beliefs and limited clinical health knowledge continue to influence women's perceptions and health-seeking behaviour. This study assessed women's knowledge, attitudes, and clinical health-seeking behaviour of breast cancer risk factors, signs, preventive practices, and treatment-seeking behaviour in Ife East Local Government Area, Osun State, Nigeria.

Methods: A descriptive cross-sectional study was conducted among 200 respondents aged 20 years and above with the use of a structured interviewer-administered questionnaire. Data were collected on socio-demographic characteristics, knowledge of risk factors and symptoms, preventive practices, attitudes, and treatment preferences. Descriptive statistics were used for analysis.

Results: The majority of respondents were aged 21–25 years (32.0%), with 68.0% having attained at least a secondary education. While 71.0% acknowledged that breast cancer is curable if detected early, significant knowledge gaps and misconceptions were identified. Approximately 60% correctly identified clinical risk factors like alcohol consumption and radiation, but 65.0% failed to recognise the protective benefits of prolonged breastfeeding. Knowledge of symptoms was high, with 75.5% identifying bloody nipple discharge and 62.0% recognizing painless lumps. However, socio-cultural myths were prevalent: 53.0% viewed breast cancer as a curse, 50.0% attributed it to witchcraft, and 47.5% believed it was contagious. Consequently, health-seeking behaviour was pluralistic; while 62.0% would consult a doctor, a higher percentage (77.5%) opted for herbalists, and 72.0% preferred consulting a pharmacist.

Conclusion: Despite moderate clinical awareness of breast cancer symptoms and curability, deeply rooted cultural beliefs significantly influence attitudes and treatment choices among women in Ife East. These deep-seated spiritual beliefs and fatalism (62.5% believing death is inevitable) still drive many residents toward traditional and alternative medicine. Public health interventions in Ife East must go beyond providing medical facts to actively addressing spiritual misconceptions and integrating traditional gatekeepers into early referral networks.

Keywords: Breast cancer; Knowledge; Attitude; Health-seeking behaviour; Sociocultural beliefs; Nigeria

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Introduction

Breast cancer is the most frequently diagnosed cancer among women globally and remains a significant cause of morbidity and mortality, particularly in low- and middle-income countries like Nigeria. According to the World Health Organisation (WHO, 2024), over 2.3 million women were diagnosed with breast cancer worldwide in 2020, and

approximately 685,000 deaths were recorded. Sub-Saharan Africa accounts for a growing proportion of this burden, with Nigeria ranking among the top contributors due to increasing incidence rates and poor survival outcomes (Mohammed, 2024). In Nigeria, studies have shown that breast cancer accounts for over 22% of all cancers among women and is often diagnosed at late stages, which reduces the effectiveness



of treatment and increases mortality (Adewuyi *et al.*, 2022; Agodirin *et al.*, 2021; Effiong *et al.*, 2025). The late presentation is largely due to a lack of awareness and knowledge about breast cancer risk factors, early warning signs, and available preventive measures (Yusuf *et al.*, 2022; Agodirin *et al.*, 2021). For example, common risk factors such as genetic predisposition, prolonged exposure to estrogen, obesity, alcohol consumption, and sedentary lifestyle are not widely recognized by women in many communities (Akokuwebe *et al.*, 2020). Additionally, many women are unaware of symptoms like breast lumps, nipple discharge, and skin changes, which delays the decision to seek medical help (Awoyemi *et al.*, 2020).

In semi-urban and rural settings, such as the Ife East Local Government Area of Osun State, these challenges are compounded by limited access to health information, screening services, and culturally sensitive educational campaigns. Traditional beliefs, fear of diagnosis, and stigmatisation also play a role in preventing women from engaging in early detection practices such as breast self-examination (BSE) or clinical breast examination (CBE) (Daniel *et al.*, 2024). Although health authorities have made efforts to raise awareness, these initiatives are often urban-centred and do not effectively reach rural populations.

Given these challenges, it becomes essential to assess the current level of knowledge among women regarding the prevalence, risk factors, symptoms, prevention, and control of breast cancer in Ife East LGA. This study aims to identify knowledge gaps and provide evidence that can guide targeted health interventions to reduce breast cancer mortality through early detection and informed health-seeking behaviour.

Research Methodology

Ethical Consideration

Prior to the commencement of the study, verbal informed consents were obtained from all respondents and confidentiality was assured by using codes.

Study Design

A descriptive cross-sectional research design will be used to assess the level of knowledge among women regarding breast cancer. This design is suitable because it allows for the collection of data at a single point in time to understand the current awareness and understanding of the disease, risk factors, symptoms, and preventive measures.

Study Area

The study was conducted in Ife East Local Government Area in Ile-Ife, Osun State. The State (Figure 1) covers an area of approximately 14,875 sq km and lies between latitude 7° 30' 0" N and longitude 4° 30' 0" E, and it is situated in the tropical rain forest zone. It has an area of 172 km² and a population of 188,087 at the 2006 census. Ife East is one of two LGAs in Ile-Ife, along with Ife Central. Modakeke was part of Ife North, but was transferred to Ife East during the creation of new local councils in the late 1990s. The major sub-ethnic groups in Osun State are Ife, Ijesha, Oyo, Ibolu and Igbomina of the Yoruba people, although there are also people

from other parts of Nigeria. Yoruba and English are the formal languages. People of Osun State practice Christianity, Islam and their ancient religion, the traditional faith.

Ile-Ife is a semi-urban area where agriculture is a predominant occupation. It has a mean relative humidity of 75% to 100% and the average rainfall of 1,000–1,250 mm is usually from March to October.

Study Population

The target population comprises women aged 20 years and above residing in the selected area. Inclusion criteria include women who are:

- Residents of the study area for at least six months
- Willing to participate and provide informed consent
- Capable of understanding and responding to the questionnaire

Exclusion criteria include women with a prior diagnosis of breast cancer or other major health conditions that may influence their knowledge or perceptions.

Data Collection Method

The data for this study were collected using a **structured, interviewer-administered questionnaire**, designed to assess women's knowledge of the prevalence, risk factors, symptoms and prevention of breast cancer in Ife East Local Government Area, Ile-Ife, Osun State, Nigeria.

The questionnaire was developed based on existing literature and validated instruments used in previous studies on breast cancer awareness. It was divided into five sections:

- Socio-demographic information (for instance, age, marital status, education, occupation)
- Knowledge of breast cancer prevalence
- Awareness of risk factors and symptoms
- Understanding and practice of preventive measures (e.g., breast self-examination)

Procedure: A total of 200 questionnaires were administered to women aged 20 years and above across selected communities in Ife East LGA.

- A multi-stage sampling technique was used to select the communities and participants to ensure fair representation from both urban and rural areas.
- Data collection was carried out by trained research assistants who were fluent in both English and Yoruba (the local language), enabling effective communication and clarity for respondents with limited literacy.
- Respondents were approached in public places such as markets, health centres, community centres, and residential areas. The purpose of the study was explained to them, and informed consent was obtained before participation.
- For respondents who were unable to read or write, the questionnaires were read out, and responses were recorded by the interviewer to maintain inclusivity.

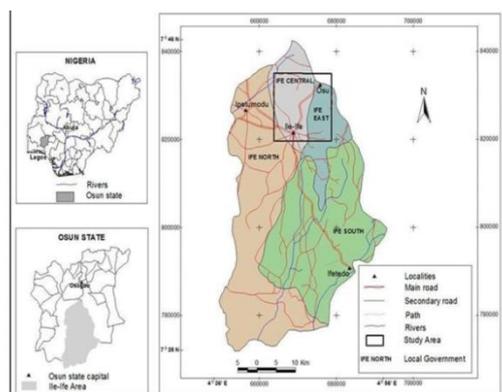


Figure 1: Map showing Ife East Local Government Area, Ile Ife, Osun State (Research Gate).

Data Analysis

After data collection, all completed questionnaires were carefully reviewed for completeness and consistency. The data obtained from the 200 respondents were coded, entered, and analyzed using the Statistical Package for Social Sciences (SPSS) version 25.

Steps in Data Analysis:

- **Data Cleaning and Coding**

Raw data from the questionnaires were reviewed and coded numerically to facilitate computer-based analysis. Responses such as "Yes" and "No" were assigned specific numerical values.

- **Descriptive Statistics**

Descriptive statistics such as frequencies and percentages were used to summarize respondents' socio-demographic characteristics and their responses to questions on knowledge of breast cancer prevalence, risk factors, symptoms, prevention, and control.

Results

Table 1 shows the socio-demographic characteristics of the respondents used in the study in Ife East L.G.A, Ile Ife, Osun State. The highest percentage of aged group 21-25 years of the respondents who participated in the study was 32.0% (64/200), followed by aged 36- 40 years with 20.0% (40/200), aged 15-20 years and 26-30 years with 13.0% each while the least was recorded in aged group 46-50 years. The highest percentage of occupation 33.5% was recorded among artisans, followed by 32.0% among traders, 21.0% among civil servants, while the least was 5.5% was recorded among students. The highest percentage of educational level of the respondents 33.5% was recorded among tertiary, followed by 34.5% among secondary, 15.0% among primary, while the least was 10.0% was recorded among others. The highest percentage of family structure of 56.5% was recorded in the nuclear family, followed by 26.0% in the extended family, 21.0%, while the least was 17.5% was recorded in the polygamous family.

Table 2 shows Respondents' Knowledge of Risk Factors of Breast Cancer in Ife East Local Government Area, Osun State. 66.0% of the respondents think that fat women are more prone to breast cancer than slim women, while 46.5% think

taking oral contraceptive pills is a risk for breast cancer. Only 51.5% think prolonged breastfeeding is a risk for developing breast cancer, 45.5% think early menarche and late menopause are risks for developing breast cancer. 44.0 % believed that delayed first pregnancy is a risk for developing breast cancer, 50.0% believed that Infertility is a risk for developing breast cancer, 60.5% says that breast cancer is more common among older women than younger ones, 54.0% think multiplicity is a known risk for breast cancer while, 65.0% believed that prolong breast feeding is not a known risk for breast cancer.

Table 3 shows Respondents' Knowledge of Breast Cancer in Ife East Local Government Area, Osun State. 70.0% of the respondents believed that Breast cancer is strictly a disease of women, 42.0% think Breast cancer is mostly caused by spiritual powers.59.5% says that Exposure to multiple chest x-rays increases the chances of breast cancer. Only 59.0% think Exposure to ionizing radiation increases the chances of breast cancer, 59.5% believed that High alcohol consumption increases the chances of having breast cancer. While 71.0% believed that Breast cancer is curable if detected early.

Table 1. Socio- Demographic Characteristics of Respondents used in the study In Ife East Local Government Area, Osun State

Variables of the Parents	Number Examined	Percentage (%) in the pool
Age group (Years)		
15-20	26	13.0
21-25	64	32.0
26-30	26	13.0
31-35	17	8.5
36-40	40	20.0
41-45	19	9.5
46-50	8	4.0
Marital Status		
Divorce	3	1.5
Married	83	41.5
Separated	1	.5
Single	99	49.5
Single mother	14	7.0
Occupation		
Artisan	67	33.5
Trader	64	32.0

Civil servant	42	21.0	Tertiary	80	40.0
Student	11	5.5			
Farmer	16	8.0	Family Structure		
			Polygamous	35	17.5
Level of Education			Extended	52	26.0
Other	21	10.5	Nuclear	113	56.5
Primary	30	15.0	Total	200	100.0
Secondary	69	34.5			

Table 2: Respondents' Knowledge of Risk Factors of Breast Cancer in Ife East Local Government Area, Osun State 10-18

Questions for the Respondent	No	Yes	Total
Fat women are more prone to breast cancer than slim women.	68 (34.0)	132 (66.0)	200 (100.0)
Taking oral contraceptive pills is a risk for breast cancer.	107 (53.5)	93 (46.5)	200 (100.0)
Prolonged breastfeeding is a risk for developing breast cancer.	97 (48.5)	103 (51.5)	200 (100.0)
Early menarche and late menopause is a risk for developing breast cancer.	109 (54.5)	91 (45.5)	200 (100.0)
A delayed first pregnancy is a risk for developing breast cancer.	112 (96.0)	88 (44.0)	200 (100.0)
Infertility is a risk for developing breast cancer.	100 (50.0)	100 (50.0)	200 (100.0)
Breast cancer is more common among older women than younger ones.	79 (39.5)	121 (60.5)	200 (100.0)
Multiplicity is a known risk for breast cancer.	92 (46.0)	108 (54.0)	200 (100.0)
Prolonged breastfeeding is not a known risk for breast cancer.	70 (35.0)	130 (65.0)	200 (100.0)

Table 3: Respondents' Knowledge of Breast Cancer in Ife East Local Government Area, Osun State

Questions for the Respondent	No	Yes	Total
Breast cancer is strictly a disease of women.	60 (30.0)	140 (70.0)	200 (100.0)
Breast cancer is mostly caused by spiritual powers.	116 (58.0)	84 (42.0)	200 (100.0)
Exposure to multiple chest X-rays increases the chances of breast cancer.	81 (40.5)	119 (59.5)	200 (100.0)
Exposure to ionizing radiation increases the chances of breast cancer.	82 (41.0)	118 (59.0)	200 (100.0)
High alcohol consumption increases the chances of having breast cancer.	81 (40.5)	119 (59.5)	200 (100.0)
Breast cancer is curable if detected early.	58 (29.0)	142 (71.0)	200 (100.0)

Table 4: shows Respondents' Knowledge of Signs and Symptoms of Breast Cancer in Ife East Local Government Area, Osun State. 62.0% of the respondents believed that Painless lump in the breast is one of the sign and symptoms of

breast cancer, 62.0% think it is Ulcer of the breast, 75.5% thinks it is Bloody discharge from the nipple 72.5% says it is Breast sore, 73.5% thinks it is pain in the breast while 62.5% think it is Nipple discharge (other than breast milk), 65.0%

believed that it is Swelling of all or part of the breast (even if no distinct lump is felt), 56.0% think it is Skin irritation or dimpling, 66.5% thinks it is Nipple retraction (turning inward) While, 58.0% believed that it is Redness, scaliness, or thickening of the nipple or breast skin.

Table 5: shows Respondents knowledge of preventive practices of breast cancer on lifestyle and Screening practices in Ife East Local Government Area, Osun State. 64.0% of the respondents believed that Breastfeeding longer than one year is one of the preventive practices of breast cancer on lifestyle, 66.0% think it is Weight loss, 68.0% believed it is regular exercise, 73.5% improved hygiene, 66.0% Quitting smoking, 53.5% Quitting excessive alcohol consumption, 59.0% Avoidance of excess weight gain while 59.5% believed in Avoidance of over exposure to radiation and environmental pollution.

Table 6: shows Respondents Attitude (female adults) towards breast cancer in Ife East Local Government Area, Osun State. 53.0% of the respondents believed that breast cancer is a curse so cannot be treated in the hospital, 41.0% believed that herbal healers can cure breast cancer, 48.0% think it is prayers and faith can cure breast cancer, 62.5% says death is inevitable when breast cancer is present, 50.0% believed that a person can get breast cancer through witchcraft attack,

52.0% says that breast cancer can be caused by evil spirit and 47.5% believed that breast cancer is contagious.

Table 7: shows respondents' treatment options for breast cancer treatment in Ife East Local Government Area, Osun State. 62.0% have the option of consulting a medical doctor, 77.5% have the option to see a herbalist, 39.5% chose prayer houses, 59.0% opted for self-medication, 34.5% opted for consulting a nurse, and 72.0% chose consulting a pharmacist.

Table 4: Respondents knowledge of Signs and Symptoms of Breast Cancer in Ife East Local Government Area, Osun State

Questions for the Respondent	No	Yes	Total
Painless lump in the breast.	76 (38.0)	124 (62.0)	200 (100.0)
Ulcer of the breast.	76 (38.0)	124 (62.0)	200 (100.0)
Bloody discharge from the nipple	49 (24.5)	151 (75.5)	200 (100.0)
Breast sores	55 (27.5)	145 (72.5)	200 (100.0)
Pain in the breast	53 (26.5)	147 (73.5)	200 (100.0)
Nipple discharge (other than breast milk)	75 (37.5)	125 (62.5)	200 (100.0)
Swelling of all or part of the breast (even if no distinct lump is felt)	70 (35.0)	130 (65.0)	200 (100.0)
Skin irritation or dimpling	88 (44.0)	112 (56.0)	200 (100.0)
Nipple retraction (turning inward)	67 (33.5)	133 (66.5)	200 (100.0)
Redness, scaliness, or thickening of the nipple or breast skin	84 (42.0)	116 (58.0)	200 (100.0)

Table 5: Respondents knowledge of preventive practices of breast cancer on lifestyle in Ife East Local Government Area, Osun State

Questions for the Respondent	No	Yes	Total
Breastfeeding longer than one year	72 (36.0)	128 (64.0)	200 (100.0)
Weight loss	68 (34.0)	132 (66.0)	200 (100.0)
Regular exercise	64 (32.0)	136 (68.0)	200 (100.0)
Improved hygiene	53 (26.5)	147 (73.5)	200 (100.0)
Quitting smoking	68 (34.0)	132 (66.0)	200 (100.0)
Quitting excessive alcohol consumption	93 (46.5)	107 (53.5)	200 (100.0)
Avoidance of excess weight gain	82 (41.0)	118 (59.0)	200 (100.0)
Avoidance of over exposure to radiation and environmental pollution	81 (41.0)	119 (59.5)	200 (100.0)

Table 6: Respondents Attitude (female adults) towards breast cancer in Ife East Local Government Area, Osun State

Questions for the Respondent	No	Yes	Total
Breast cancer is a curse, so it cannot be treated in the hospital	94 (47.0)	106 (53.0)	200 (100.0)
Herbal healers can cure breast cancer	118 (59.0)	82 (41.0)	200 (100.0)
Prayers and faith can cure breast cancer	104 (52.0)	96 (48.0)	200 (100.0)
Death is inevitable when breast cancer is present	75 (37.5)	125 (62.5)	200 (100.0)
A person can get breast cancer through witchcraft attack	100 (50.0)	100 (50.0)	200 (100.0)
Breast cancer can be caused by evil spirit	96 (48.0)	104 (52.0)	200 (100.0)
Breast cancer is contagious	105 (52.5)	95 (47.5)	200 (100.0)

Table 7: Respondents' treatment options for breast cancer treatment in Ife East Local Government Area, Osun State

Questions for the Respondent	No	Yes	Total
Consult a doctor	76 (38.0)	124 (62.0)	200 (100.0)
See an herbalist	45 (22.5)	155 (77.5)	200 (100.0)
Prayer houses	121 (60.5)	79 (39.5)	200 (100.0)
Self-medication	82 (41.0)	118 (59.0)	200 (100.0)
Consult a Nurse	131 (65.5)	69 (34.5)	200 (100.0)
Consult a Pharmacist	56 (28.0)	144 (72.0)	200 (100.0)

Discussion

This discussion provides an in-depth analysis of the research findings regarding breast cancer awareness, attitudes, and health-seeking behaviours in Ife East Local Government Area (L.G.A.), Osun State. The study identifies a predominantly young demographic, with 32.0% of respondents aged 21–25.

This suggests that the data largely reflects the perspectives of young adults who are in their reproductive years—a critical period for establishing lifelong health-seeking behaviours. Educationally, the respondents appear relatively well-informed, with 68.0% having attained at least a secondary or tertiary education. However, the occupational distribution

shows a tilt toward the informal sector, with artisans (33.5%) and traders (32.0%) making up the majority. In many Nigerian contexts, professional background often influences the "gatekeepers" of health information. While formal education is present, the daily social environment of markets and workshops often prioritizes oral tradition and peer-led advice over clinical consultation (Aliyu *et al.*, 2025; Jimoh, 2022).

The prevalence of the nuclear family structure (56.5%) is an important finding. It suggests a shift away from traditional extended family decision-making, potentially allowing individual women more autonomy in seeking healthcare. However, the persistence of traditional influences remains evident in later tables.

The respondents exhibit a selective understanding of breast cancer risk factors. There is strong recognition of certain biological and environmental factors, 66.0% recognize that overweight women are at higher risk. 60.5% correctly identify that older women are more prone to the disease. Over 59% identify radiation and alcohol as risks. However, significant confusion exists regarding reproductive health. Only 45.5% understand the risk associated with early menarche/late menopause, and a staggering 65.0% incorrectly believe that prolonged breastfeeding is *not* a risk-reduction factor. This is a critical gap, as the protective effect of lactation is a cornerstone of breast cancer prevention in many public health campaigns (WHO, 2024).

Regarding Signs and Symptoms, knowledge levels are high, particularly for bloody nipple discharge (75.5%) and breast pain (73.5%). While identifying a "painless lump" (62.0%) is vital, the high percentage of people associating "pain" with cancer can be misleading, as early-stage breast cancer is often asymptomatic and painless.

The most complex finding in this study is the co-existence of medical awareness and supernatural belief systems. While 71.0% of respondents believe breast cancer is curable if detected early, their understanding of the *source* of the illness is highly spiritualized: 42.0% believe the disease is caused by spirits. 50.0% attribute it to witchcraft. 53.0% view it as a curse that cannot be treated in a hospital. This creates a dual reality where a woman may recognise a medical symptom (a lump) but interpret its origin as a spiritual arrow. This interpretation directly fuels Fatalism (62.5% believing death is inevitable) and leads to Stigmatization, as 47.5% erroneously believe the disease is contagious. This stigma can lead to social withdrawal, preventing women from seeking help early for fear of being identified as a "cursed" or "bewitched" person (Elewonibi and BeLue, 2019; Alabi *et al.*, 2025).

The health-seeking behaviours in Ife East are characterized by "Medical Pluralism," where patients move between different systems of healing simultaneously. Although 62.0% would consult a medical doctor, an even higher percentage 77.5% opt for herbalists. Additionally, 72.0% would consult a pharmacist, likely for self-medication to manage symptoms before seeking a formal diagnosis. The preference for herbalists and prayer houses often leads to late-stage

presentation. When women finally reach the hospital at Stage III or IV, the mortality rate is high, which unfortunately reinforces the community myth that "the hospital is where people go to die of cancer" (Afaya *et al.*, 2024; Agodirin *et al.*, 2021).

Conclusion and Strategic Recommendations

The data from Ife East L.G.A. demonstrates that while "Awareness" (knowing what a lump is) is moderate, "Proper Action" is hindered by cultural beliefs. To bridge this gap, public health interventions must move beyond standard brochures.

- **Community Gatekeepers:** Public health officials should collaborate with traditional healers and pharmacists. Since these are the first points of contact (77.5% and 72% respectively), they must be trained to recognise symptoms and refer patients to hospitals immediately.
- **Addressing Fatalism:** Campaigns must emphasize survivorship stories to combat the 62.5% who believe death is inevitable.
- **Correcting the Contagion Myth:** Specific education is needed to dispel the idea that cancer is contagious, which will reduce stigma and encourage early disclosure.

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