HAWASSA UNIVERSTY COLLEGE OF MEDICINE AND HEALTH SCIENCIES SCHOOL OF NURSING

BREAST CANCER SCREENING PRACTICE AND ASSOCIATED FACTORS AMONG FEMALE NURSES WORKING AT SOUTH OMO ZONE PUBLIC HEALTH FACILITIES, SOUTHERN ETHIOPIA, 2023.

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A RESEARCH THESIS SUBMITTED TO HAWASSA UNIVERSITY COLLEGE OF MEDICINE AND HEALTH SCIENCIES SCHOOL OF NURSING DEPARTMENT OF ECCN, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS IN EMERGENCY AND CRITICAL CARE NURSING.

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SCHOOL OF NURSING

The title of the research	BREAST CANCER SCREENING PRACTICE AND ASSOCIATED FACTORS AMONG FEMALE NURSES WORKING AT SOUTH OMO ZONE PUBLIC HEALTH FACILITIES, SOUTHERN ETHIOPIA, 2023, BY USING A HEALTH BELIEF MODEL
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HAWASSA, ETHIOPIA

DECLARATION

I declare that this thesis is my original work and has not been presented at this or any other university. All sources of materials used for this research thesis have been fully acknowledged.

Principal investigator: _____Signature: _____ Date_____

EXAMINER'S APPROVAL SHEET

We, the undersigned, members of the Board of Examiners of the final open defense by Tadele Damena have read and evaluated his thesis entitled "Breast cancer screening practice and associated factors among female nurses working at South Omo Zone public health facilities, southern Ethiopia, 2023."and examined the candidate. This is to certify that the thesis has been accepted in partial fulfillment of the requirements for the degree of emergency and critical care nurse

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Name of Internal Examiner-II	Signature	Date
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Name of External examiner	Signature	Date
_____	_____	_____
SGS Approval	Signature	Date

DATE OF SUBMISSION ----------

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ACRONYMS

ACS:	American cancer society
AOR:	Adjusted odds ratio
BCS:	Breast cancer screening
BSE:	Breast self-examination
CBE:	Clinical breast examination
CHBMS:	Champion Health Believe Model Scale
COR:	Crude odds ratio
FHPs:	Female health professionals
FMH:	Federal ministry of health
GLOBCCAN:	Global burden of cancer
HBM:	Health belief model
HCWs:	Health care workers
HU-ERB:	Hawassa university-Ethical review board
IARC:	International agency for research on cancer
LICs:	Low-income countries
LMICs:	Middle income countries
MMG:	Mammography
PI:	Principal investigator
REC:	Research ethical committee
ROCs:	Reproductive organ cancer
SPSS:	Statistical package for social sciences
WHO:	World health organization

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ABSTRACT

Background: Globally, breast cancer is one of the most prevalent cancers and the leading cause of mortality for women due to not receiving screening. Therefore, early detection of breast cancer could potentially reduce morbidity and mortality from breast cancer among women. Hence, female nurses play a vital role in promoting breast cancer screening, although there is scarce data regarding the screening practices among female nurses in the research area.

Objective: To assess breast cancer screening practice and associated factors among female nurses working at South Omo Zone public health facilities in Southern Ethiopia in 2023.

Methods: An institutional-based cross-sectional study was conducted from May 15 to June 15, 2023, among female nurses employed in public health facilities in the South Omo Zone. Simple random sampling was used to select the study participants. Data was collected using a pre-tested, structured, and self-administered questionnaire. The collected data were entered and cleaned using Epi Data version 3.1 and exported to SPSS version 22 for analysis. Binary logistic regression analyses were used. Variables with a p-value <0.05 in the multivariable logistic regression analysis were considered statistically significant.

Result: In the current study, the prevalence of breast cancer screening practice was 21% (95% CI: 16.0, 26.5) based on recommendations. The mean age of respondents is 33 ±7 SD. Being age ≥40 years (AOR = 0.18; 95% CI: 0.04–0.70), having good knowledge about breast cancer signs and symptoms (AOR =2.94; 95% CI: 1.18–7.35), good knowledge of risk factors (AOR =8.60; 95% CI: 3.72–19.87), high perceived susceptibility (AOR = 2.55; 95% CI: 1.11–5.88), and a high perceived benefit of breast cancer screening (AOR = 2.30; 95% CI: 1.02–5.18) were significantly associated.

Conclusion and recommendation: The practice of breast cancer screening among female nurses in the study area was low as compared to previous studies. Being age ≥40 years, knowledge of signs and symptoms, risk factors of breast cancer, susceptibility to breast cancer, and benefits from breast cancer screening were associated with the practice of breast cancer screening. It is better to provide mammography and training to improve breast cancer screening.

Key words: - Breast Cancer Screening, Female Nurses, South Omo Zone

1. INTRODUCTION

1.1. Background of the study

Breast cancer is one of the most prevalent cancers and the leading cause of mortality for women globally. Its incidence was higher in high-income nations (571/100 000) than in low-income countries (95/10 000), but mortality of breast cancer was higher in LMICs than in HICs, primarily as a result of delayed detection and treatment. (Kashyap et al., 2022) (Dibisa et al., 2019).

The morbidity and mortality of breast cancer increasing because of factors like aging, smoking, obesity, early menarche, late age at first full-term pregnancy, shorter breastfeeding durations, use of hormonal oral contraceptives, physical inactivity, and other poor health related behaviors (Dibisa et al., 2019; Soerjomataram et al., 2019) (Lei et al., 2021)(Dibisa et al., 2019).

The Breast cancer screening is the best way to detect breast cancer before symptoms appear (Breast et al., 2022). It helps to identify cancer at its early stages, increases treatment efficacy, reduces complexity and cost, increases survival rates, and lowers mortality (Alshahrani et al., 2020; World Health Organization (WHO), 2022). Breast cancer detection require awareness of breast cancer risk factors, signs and symptoms using breast screening methods (Dibisa et al., 2019)

Self-breast examination, clinical breast examination, and mammography are recognized early breast cancer detection methods that are vital to lowering the morbidity and mortality rates related to breast cancer (Abeje, Seme and Tibelt, 2019; Ayoub et al., 2021; Mansour et al., 2021; Olaogun and Agodirin, 2022). The Ethiopian health authorities designed a cancer control plan that prioritized early detection, education, research, and risk factor prevention in order to strengthen the country's present healthcare system and lower cancer incidence, morbidity, and death rates (MOHE, 2020).

In order to promote breast cancer screening knowledge and uptake in their communities, healthcare providers those who have regular contact with women are an essential source of health information(Andegiorgish, Kidane and Gebrezgi, 2018; Ayoub et al., 2021). Furthermore, female nurses play a vital role in promoting breast cancer screening among health professions, women's in their community and the general public (Mansour et al., 2021).

1.2. Statement of the problem

Globally breast cancer is now the most common cause of cancer incidence for women, accounting for 2.3 million new cases and over 685 000 deaths annually (World Health Organisation, 2020; Lei et al., 2021; Sung et al., 2021; Arnold et al., 2022).

In a study done in the UK and Australia, screening attendants had a 39% lower death rate from breast cancer than non-attendants, and the screened cohorts were compared to the unscreened cohorts. Similarly, in research done in England, women who had screening at least once had a 38% decrease in death rates (Massat et al., 2016; Dunn et al., 2020; Maroni et al., 2021). Additionally, screening attendance is associated with a mortality reduction of at least 30% and a 40% lower the risk of advanced disease, and the five-year relative survival rate increased to 90% among the women who attended an organized mammography screening (Trimboli et al., 2020).

However, a Taiwanese survey found that only 10% of nurses had screened, and 61% had never screened using recommended practices for women age over 20.(Wu and Chen, 2017). Similarly, in a study on Turkish female healthcare workers, 42.9% appealed they self-examined their breasts, whereas the majority (93.9%) and 95.1%) stated they did not receive annual mammograms or clinical breast exams (Yilmaz and Durmus, 2016). Likewise, the study conducted among female Jordanian Nurses only 18% reported performing breast self-examination monthly(Alkhasawneh and Review, 2007). Addition, only 12.9% in four sub-Saharan African countries had breast cancer screenings, with the highest frequency at 23.1% in Namibia and the lowest at 5.2% in Ivory Coast. (Ba et al., 2020). Once more, in the research among nurses working in hospitals in Asmara, Eritrea, the percentages of nurses who performed clinical breast exams and mammograms were 30% and 11.3%, respectively. (Andegiorgish, Kidane and Gebrezgi, 2018).

Furthermore, study revealed that 28.1% of female nurses at Hawassa University Comprehensive Specialized Hospital in Sidamo Regine and 42.1% of female healthcare personnel at Debre Tabor Comprehensive and Specialized Hospital self-examined their breasts.

Besides the importance of breast cancer screening, female health care providers and women's lives both in developed and developing countries, especially in sub-Saharan Africa, including Ethiopia, were poorly engaged in breast cancer screening practices

(Yilmaz and Durmus, 2016; Wu and Chen, 2017; Dibisa et al., 2019; Jemebere, 2019; A. A. Assefa, Abera and Geta, 2021; Ayoub et al., 2021; Tesfaw et al., 2021)

Moreover, up to 80% of women in SSA and 71.2% of Ethiopian women with breast cancer was diagnosis at advanced disease stage (stage III or IV). This is due to the lack of qualified healthcare workers, the low adoption of early detection techniques, and a shortage of diagnostic and screening facilities all contribute to problem (Black and Richmond, 2019; Ayele et al., 2022). Although there is scarce data regarding the screening practices among female nurses in the research area.

Therefore, this research was to assess the practice of breast cancer screening and determine the factors influencing the practice of breast cancer screening among female nurses working at South Omo Zone public health facilities by using the health belief model.

1.3. Significance of the study

The study's findings will provide information on the prevalence of breast cancer screening among female nurses working at public health facilities in the South Omo Zone, as well as the factors that are related to this practice.

Therefore, the outcome of this research is to support female nurses in enhancing their client education duties and motivate other women in their community to adopt similar behavior.

Additionally, it will be assisting health care providers, health educators, and other concerned bodies to design strategies to increase the uptake of breast cancer screening, to a decrease in late detection and, consequently, the death rate from delayed presentation.

Furthermore, by giving information to validate their deficiencies and look into related aspects, this study will be crucial for staff nurses and nursing leaders.

Lastly, the data from this study may be useful to other researchers who wish to investigate this topic further.

2. OBJECTIVES OF THE STUDY

2.1. General objective

To assess breast cancer screening practice and associated factors among female nurses working at South Omo Zone public health facilities, Southern Ethiopia in 2023.

2.2. Specific objective

To determine prevalence of breast cancer screening practice among female nurses working at South Omo Zone public health facilities, Southern Ethiopia in 2023.

To identify factors associated with breast screening practice among female nurses working at South Omo Zone public health facilities, Southern Ethiopia in 2023.

3. LITERATURE REVIEW

3.1 Practice of breast cancer screening

Cohort study in Australia and a case-control study in the UK both indicated that attendance at breast cancer screening reduced death from the disease by 39% when compared to non-attendance and screening cohorts when compared to unscreened cohorts. Women who underwent screening at least once decreased mortality by 38% in a case-control study carried out in England (Massat et al., 2016; Dunn et al., 2020; Maroni et al., 2021)

A descriptive study conducted about breast cancer screening knowledge and practice in Jordan among female Jordanian Nurses 86% perform breast self-examination among those only 18% reported doing it monthly(Alkhasawneh and Review, 2007). In addition, in a study conducted in Taiwan regarding Breast Cancer Screening Practices and Related Health Beliefs among Taiwanese Nurses the vast majority (63%) reported having never received any type of breast cancer screening ,but Less than 10% of the nurses reported being screened clinically within the past 2 years, (Wu and Chen, 2017).

Similarly, a study done among female health professionals in Turkey found that the majority (93.9%), or 95.1%, did not have annual clinical breast examinations (CBE) or mammograms (MMG), although 42.9% said they had performed breast self-examinations (BSE) (Yilmaz and Durmus, 2016).

Moreover, the result of the study conducted in Saudi Arabia among female health care workers at maternity and children's hospitals showed that 9.9% of participants had undergone mammogram screening (Alshahrani et al., 2020). In a hospital-based cross-sectional study assessing nurses' knowledge and utilization of breast cancer screening in Eritrea's Asmara hospitals, clinical breast examination and mammography were both utilized by 30% and 11.3% of nurses, respectively. (Andegiorgish, Kidane and Gebrezgi, 2018).

In Ethiopia, a facility-based cross-sectional study of female healthcare professionals employed by Debre Tabor Comprehensive Specialized Hospital revealed that they lacked the necessary skills. The reasons for this given by 22.29%, 5.6%, 47.61%, and 3.4%, respectively, are forgetfulness, fear of detecting anomalies, and other (lack of privacy, absence of breast symptoms) (Tesfaw et al., 2021). Furthermore, similar

study conducted on Practice of Breast Self-Examination and Associated Factors among Female Nurses of Hawassa University Comprehensive Specialized Hospital, South Ethiopia revealed that (71.2%) of nurses ever practiced BSE. From those nurses practiced BSE, only (28.1%) regularly; (16.4%) monthly (right response) and (32.0%) of a week after menses. Seven of them detected a breast mass/lump and only (16.4%) of nurses have taught BSE technique to their clients (Jemebere, 2019).

3.2. Socio demographic characteristics

A study conducted in Taiwanese nurses was significant difference by age observed in perceived benefits whereas participants who are 41 years and older reported higher levels of perceived benefits than their counterparts (Wu and Chen, 2017)

In an institution-based cross-sectional study on breast cancer knowledge, attitudes, and practice among nurses conducted in Asmara, Eritrea, there was a significant relationship between nurses' professional level and BSE practice (p 0.001), with registered nurses having the highest level of practice (82.40%), followed by associated nurses (74.4%) and bachelor of science in nursing (BSN) (55.80%) (Andegiorgish, Kidane and Gebrezgi, 2018).

In a study conducted among nurses Addis Ababa Ethiopia Marital status of nurses has a significant association with the knowledge of breast cancer in the aspect that unmarried respondents are (COR =0.527, 95% CI (0.314–0.884), P = 0.015) more knowledgeable than married ones(Lemlem et al., 2013)

3.3. Knowledge of breast cancer screening method

In cross-sectional study conducted regarding Knowledge and Practices of Early Detection of Breast cancer among female nurses at Primary Health Care Clinics in Gaza Strip-Palestine a good knowledge of signs and risk factors of BC, with scores of 85.3% and 77.9%, respectively(Mansour et al., 2021)

In a similar study among nurses working at Asmara, Eritrea, the primary reason given by 55.3 percent of the nurses for not doing breast cancer screening was the lack of breast cancer symptoms (Andegiorgish, Kidane and Gebrezgi, 2018). In a descriptive cross-sectional study conducted Knowledge of Breast Cancer and Screening Methods among Nurses in University Hospitals in Addis Ababa the findings revealed that only 57.8% of them were knowledgeable about breast cancer and its screening and 42.2% were not. Knowledge of breast cancer was found to be significantly associated with

regular course in nursing, family history of respondents, and unit of work(Lemlem et al., 2013)

A cross-sectional study conducted at Debre Tabor Comprehensive Specialized Hospital among female healthcare providers on early detection methods of cancer of the breast found that the practice of self-examination was associated with good knowledge (AOR = 2.9; 95% CI: 1.3, 6.52) (Tesfaw et al., 2021).

A study conducted among female health care professionals in Saudi Arabia found that, with regard to barriers of breast cancer screening practice, 47.3%, 50.5%, and 27.2% of the participants had no knowledge of mammograms, clinical breast examinations, or self-examination (Alshahrani et al., 2020).

3.4. Theoretical frame work

The HBM is a psycho-social model that attempts to explain health behaviors and is useful in identifying variables related to women's breast cancer beliefs and screening behaviors (Kirag and Klzllkaya, 2019).

Perceived vulnerability to and severity of the condition, perceived benefits from action, and perceived barriers to action are factors that impact screening and preventive health behaviors, according to the Health Belief Model (Moreira et al., 2020).

Measures of HBM components included the Champions Health Beliefs Scale (CHBMS), a self-report questionnaire modified to assess perceived risks, perceived seriousness, perceived advantages, perceived obstacles, cues to action, and self-efficacy in relation to the frequency of breast cancer screenings. (Lamadah and El-Magd, 2016).

Reducing the morbidity and mortality of breast cancer is largely dependent on early detection achieved through the use of breast cancer screening techniques. (Lera et al., 2020).

The current study aims to determine the extent of breast cancer screening practice and assess the perceptions of a sample of female nurses working at public health institutions in the South Omo Zone in southern Ethiopia regarding breast cancer screening using a health belief model

3.5. Conceptual Frame Work

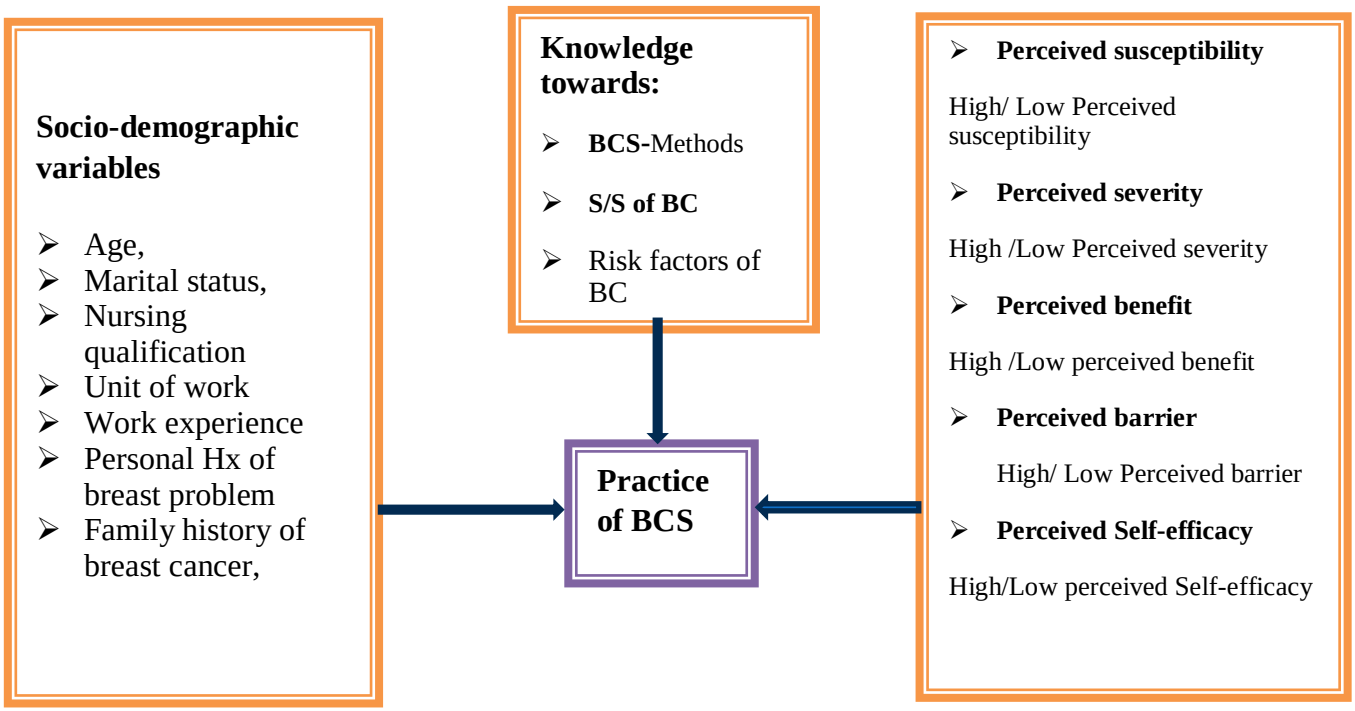

Figure 1 : A conceptual framework on BCS practice among female nurses working at South Omo Zone public health facilities, Southern Ethiopia 2023.

Adapted from previous published studies, (Yilmaz and Durmus, 2016; Kirag, 2019; Alshahrani et al., 2020; Abiyu Ayalew Assefa, Abera and Geta, 2021; Ayoub et al., 2021; Tesfaw et al., 2021).

4. METHODS AND MATERIALS

4.1 Study design

An institution-based cross-sectional study design was used.

4.2 Study setting and period

The research was carried out at public health facilities in the South Omo Zone. It is 750 kilometers from the Ethiopian capital city of Addis Ababa and 265 kilometers from Wolaita. It's one of the border zones of the southern region's pastoralist zones, belonging to a varied ethnic group including about twenty-one different tribes and primarily defined by the lowest socioeconomic class groups. In this zone, there are 1483 healthcare providers, 4 public hospitals, and 43 health centers. The study was conducted between May 15 and June 15, 2023.

4.3 Population

4.3.1 Source population:

All female nurses working at South Omo Zone public health facilities

4.3.2 Study population:

All female nurses working at South Omo Zone selected public health facilities during the study period.

4.3.3 Study unit

A female nurse

4.4 Inclusion and Exclusion Criteria

4.4.1 Inclusion criteria

All female nurses working at South Omo Zone in selected public health facilities were included.

4.4.2 Exclusion criteria

Female nurses who undergo maternity leave, annual leave or sick leave

4.5 Sample size determination and sampling procedure

4.5.1 Sample size determination

Sample size was determined by using the single population proportion formula by considering 95% confidence interval, 0.05 margin of error, 50% proportion of breast cancer screening practice as follows

N= (Za/2)2 p (1-p)/d= (1.96)2x 0.50(0.50) =384

0.05x0.05

P= proportion of breast cancer screening practice 50 %,

Zα =95% CI,

d=5% margin of error.

N= the estimated sample size. N= (1.96)2* 0.5 (0.50)/ (0.05) =384

sample size for correction formula for finite population (< 10,000)

n = the desired sample size (the corrected sample size)

no=sample size by calculated earlier = 384

N= total number of populations in the study area = 381

n = no/ (1+no\N) = 384/ (1+384/381) = 192

n = 384 = 192 + 19.2 none response = final sample size (211)

[1+384/381]

Table 1: Sample size calculation for the second objective (factors) for a study conducted on breast cancer screening practice among female nurses at South Omo Zone, Southern Ethiopia, 2023

Variables	% of unexposed	AOR (95%CI)	Power	Level of significance	sample sizes	Reference
Work experience	47.3 %	3.2	80%	5%	116	(Tesfaw et al., 2021)
Family Hx of BC	36.9 %	4	80%	5%	82	
Knowledge about early detection methods for breast cancer	66.1 %	2.9	80%	5%	182	

AOR adjusted odds ratio, BC breast cancer, CI-confidence interval, HX-history

The calculated sample size for the first objective is larger than the calculated sample size by Epi Info 7.2.5.0 for the second objective; that means the result obtained by the

finite correction formula was larger than the second objective (192 > 182). Since N is less than 10,000, using the correction formula, the total number of female nurses in the South Omo Zone [N] is 381, so the final sample size after using the correction formula and adding 10% non-response rate was 211.

4.5.2 Sampling procedure

The South Omo Zone has four hospitals and 43 health centers. Among those three hospitals and 13 health centers were selected by a simple random sampling method. Then participants were selected proportionally to size allocation to give equal chance to each health care facility, based on the sampling frame of female nurses (Gelila = 6, Wurkish = 5, Arfaro=5, Goza=4, Milinium=6, Bitimal=6, Keyafer=5, Wubhammer=3, Mitser=3, Tolta=3, Barka=4, Aynalem=4, and Woset=5) obtained from Zonal Health Department. (Figure 2)

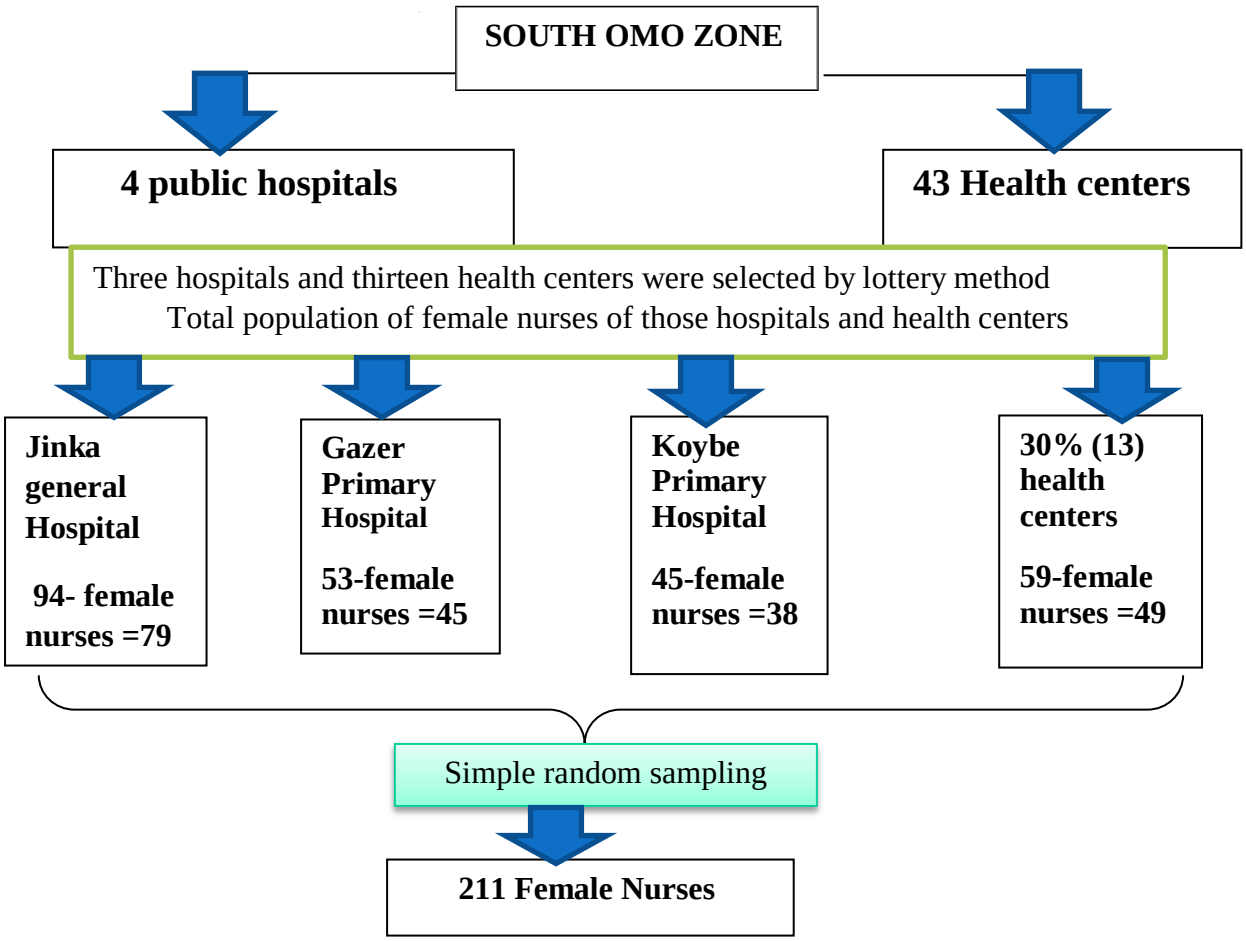

Figure 2; Schematic presentation of sampling procedure among female Nurses at South Omo Zone public health facilities, Southern Ethiopia, 2023

4.6 Study variables

4.6.1 Dependent variable

Practice of Breast cancer screening

4.6.2 Independent variables

Sociodemographic variables; (age, marital status, level of education, history of breast cancer in the family, personal history of breast cancer, work experience, and unit of work)

Knowledge of breast cancer; (signs and symptoms, screening methods, and risk factors for breast cancer)

Perceptions of breast cancer; vulnerability, perceived severity of breast cancer, perceived benefits associated with screening for the disease, perceived barriers to screening for the disease, and self-efficacy to perform and motivation for breast cancer screening

4.7 Operational definition

Good breast cancer screening practice: - Participants who regularly practiced one of the breast cancer screening methods (BSE every month regularly after menses, or examination clinically within the last two years, or mammography within the last one year) were considered to have good screening practice (Abiyu Ayalew Assefa, Abera and Geta, 2021)

Poor breast cancer screening practice: - Respondents who did not practice any of the screening methods based on the recommendation regularly were classified as having poor practice of breast cancer screening

Good knowledge of breast cancer screening method : - Participants who score above mean value of the breast cancer knowledge and screening assessment questions (Abiyu Ayalew Assefa, Abera and Geta, 2021; Ayoub et al., 2021; Tesfaw et al., 2021)

Poor knowledge of breast cancer screening method: participants who score mean and below value of the breast cancer knowledge and screening assessment questions.

Knowledge of breast cancer (S/S and risk factors): - Participants who score above the mean value of the breast cancer knowledge assessment questions (Abeje, Seme and Tibelt, 2019).

High perceived susceptibility to breast cancer: - participants who score above the mean values from the provided questions regarding their risk of getting breast cancer

Low perceived susceptibility to breast cancer:- Respondents who score mean and below values from the provided questions regarding their risk of getting breast cancer (Kirag and Klzllkaya, 2019; Moreira et al., 2020).

High perceived severity of breast cancer: participants who score above the mean value regarding their consequence of breast cancer from the provided close-ended questions.

Low perceived severity of breast cancer: Participants who score a mean or &below value regarding their consequence of breast cancer from the provided closed-ended questions**.**

High perceived benefits of breast cancer screening: Participants who score above the mean values regarding the benefit of breast cancer screening from the provided questions.

Low perceived benefits of breast cancer screening: Participants who score mean and below values regarding the benefit of BCS from the provided questions.

High perceived barriers to breast cancer screening: - Participants who score above the mean value on questions that indicate barriers to BCS practice indicate having more barriers.

Low perceived barrier of breast cancer screening: - Participants who score mean and below value to questions that indicate barriers to BCS practice indicate having fewer barriers**.**

High self-efficacy to practice breast cancer screening: - Participants who score above mean values regarding confidence to do BCS practice measuring questions

Low self-efficacy to practice breast cancer screening: - Participants who score mean and below value regarding confidence should do BCS practice measuring questions.

Cues to action (health motivation) towards breast cancer screening: Participants who respond for at least one motivation question considered good cues to do breast cancer screening (Yilmaz and Durmus, 2016)(Masoudiyekta et al., 2015)(Kirag, 2019)

The Likert scale was used to assess Perceived susceptibility, severity, benefit, (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). The mean value was computed and dichotomized into high and low.

4.8 Data collection tools and measurements

The questionnaire was first prepared in English, then translated to Amharic for data collection purposes. A per-tested, structured, and self-administered questionnaire was used to collect data. The questionnaire was divided into five categories: seven questions on socio-demographics; eleven questions on knowledge of breast cancer signs, symptoms, and nine question on risk factors; nine questions on knowledge of screening methods; seven questions on breast cancer screening practices; and 27questions on the variables of the health beliefs model. Cronbach's alpha internal consistency reliability values varied from 0.70 to 0.89, indicating high internal consistency. Senior staff nurses at Karat Primary Hospital examined the instruments and the accuracy of the question.

4.9 Data quality management/Assurance.

The investigator provided two days of training to supervisors and data collectors regarding the purpose of the study, its context, and how to code the questionnaire. Prior to the actual data collection, a pretest was done to 5% of the study participants at Karat Primary Hospital. Based on the pretest results, necessary adjustments were performed. Following the questioner's modification, three senior BSc nurses supervised the six BSc nurses who actually collected the data. The supervisors checked each day that the questionnaire was complete and that the data gathering procedure was working as planned.

4.10 Data processing and analysis

Epi-Data software version 3.1, was used for data entry and cleaning and exported to the SPSS statistical software package version 22 for data analysis. After the study variables were summarized using descriptive analysis, the frequencies and percentages of the variables were computed. Bivariable analyses were done for all variables. Multivariable logistic regression analyses were conducted, and variables having a p-value of less than 0.25 were incorporated into multivariable regression models. The components significantly associated with the outcome variable were found using a multivariable logistic regression model and the backward LR ratio approach. The variables of statistical significance were selected using a p-value of

less than 0.05, and an adjusted odds ratio with a 95% confidence range was presented. Using Hosmer-Lem show chi-square statistics = 0.343, the model's quality of fit was evaluated. Considering the variance inflation factor (VIF) test for multicollinearity, the mean IVF was 2.04, which suggests no multi-collinearity.

4.11 Ethical consideration

The institutional review board of Hawassa University College of Medicine and Health Sciences granted ethical clearance for the study to be carried out (Ref. No. IRB/315/15). The department of nursing at Hawassa University College of Medicine and Health Sciences provided an approval letter. Prior to collecting any data, formal letters were sent to all relevant organizations and bodies involved in the study to obtain consent at each level. All respondents provide their informed and written consent after being reading study's objectives and methodology. The gathered data was kept in a secure, safe place. Moreover, confidentiality was ensured by aggregate analysis and distribution of the results.

4.12 Dissemination and Utilization of results

After the research paper is completed and approved by the responsible bodies of the Hawassa University College of Medicine and Health Sciences, the result of the study will be disseminated to the Hawassa University College of Medicine and Health Sciences Research and Community Service Core Process Office, the Zonal Health Department, each health facility, and stakeholders. The findings of this study will be presented in hard and soft copies, which are available in the library of Hawassa University College of Medicine and Health Sciences for students as well as other concerned readers, and will be published in a recognized journal for those who could benefit from the study.

5. RESULT

5.1 Socio-demographic characteristics of the respondents

From the total of 211 participants, 207 completed the questionnaire, giving a response rate of 98.1%. The mean age of study participants was 33.02 ±7.25 SD and more than one-third (41.1%) of respondents were between 23-29 years. The majority of the study participants, 139 (67.1%), were married. Regarding educational status, more than half of respondents, 121 (58.5%), were diploma nurses. The mean work experience was 9.30 ± 5.64 SD, with a range of 1–34 years. On the other hand, 78 (37.7%) had worked 11 and above years. Most of study participants 203 (98.1%) and 204 (98.6%) had no relatives with a history of breast cancer and personal history of breast-related conditions, respectively. Table_2

Table 2: Sociodemographic features of female nurses employed in public health facilities in the South Omo Zone, Southern Ethiopia, 2023

(N=207)

Variables	Category	Frequency	Percent (%)
Age in year	23-29	85	41.1
	30-39	71	34.3
	≥40	51	24.6
Status of marriage	Single	55	26.6
	Married	139	67.1
	Divorced, Widowed	13	6.3
Educational status	Diploma nurse	121	58.5
	BSc nurse	86	41.5
Work experience	≤5	62	30.0
	6-10 years	67	32.4
	≥11years	78	37.7

Unit of work	Surgical ward	20	9.7
	Medical ward	24	11.6
	OPD	32	15.5
	Emergency	29	14.0
	Pediatrics	31	15.0
	NICU	19	9.2
	ART	16	7.7
	OR	14	6.8
	ICU	12	3.0
	Triage	10	2.5
Previous experiences of breast problems	Yes	4	1.9
	No	203	98.1
History of breast cancer in the family	Yes	3	1.4
	No	204	98.6

5.2 Breast cancer knowledge and screening techniques

5.2.1 Knowledge of breast cancer risk factors

Concerning breast cancer risk factors more than two thirds of nurses 133 (64.3%) had poor knowledge and 74 (35.7%) good knowledge of breast cancer risk factors. The most common risk factors indicated by female nurses are a family history of breast cancer and long-term usage of oral contraceptives (Figure 3).

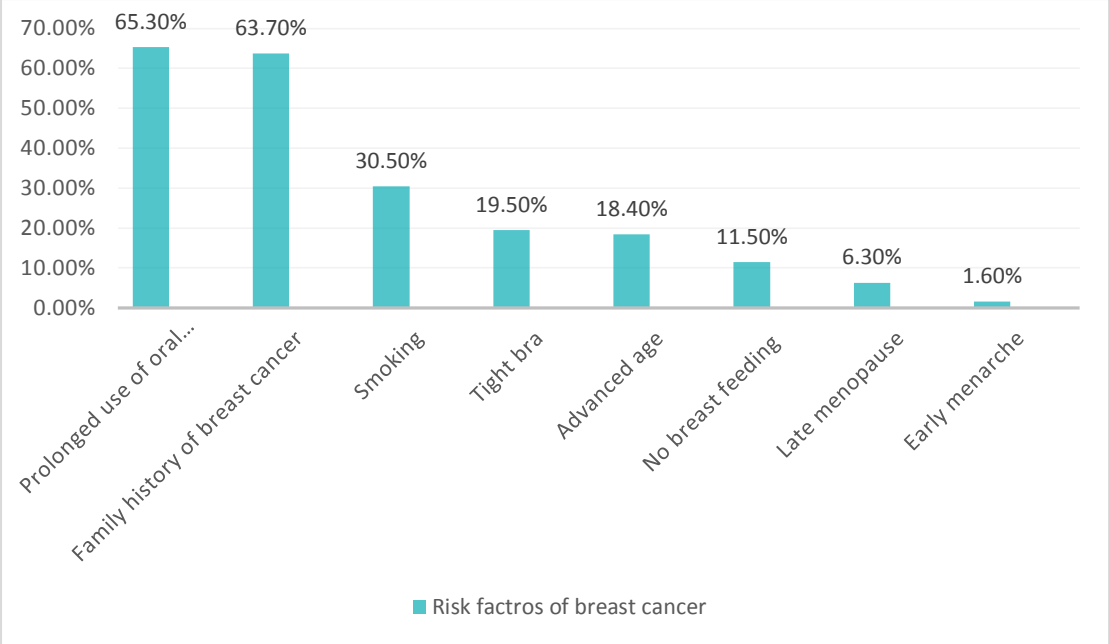

Figure 3: knowledge towards Risk factors of breast cancer among female nurses working at South Omo Zone public health facilities, Southern Ethiopia, 2023

5.2.2 Knowledge of signs and symptoms of breast cancer

About the signs and symptoms of breast cancer the result of this study revealed that 89 (43%) female nurses had poor knowledge of breast cancer signs and symptoms, while more than half, 118 (57%) of female nurses had good knowledge. Of those, 152 (75.7%) of the respondents mentioned breast lump as the primary symptom, followed by breast discharge 119 (65.5%), pain, or sourness in the breast. (Figure 4).

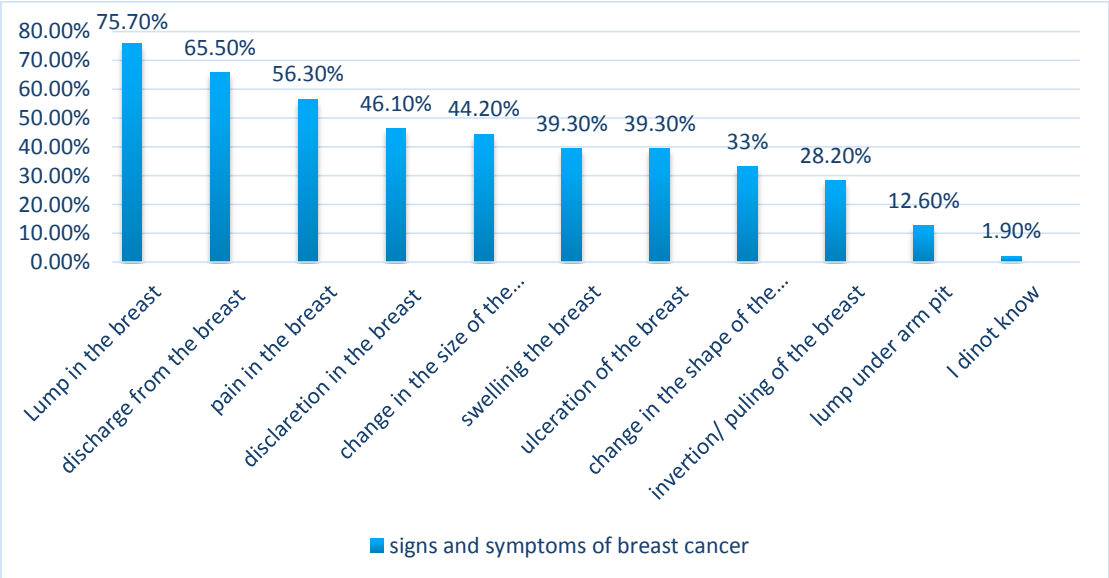

Figure 4: Knowledge of breast cancer signs and symptoms among female nurses working at South Omo zone public health facilities, Southern Ethiopia, 2023

5.2.3 knowledge of screening techniques for breast cancer

The majority of respondents 191 (92.3%) are aware of breast cancer screening techniques. Among them, 147 (83.1%) respondents stated breast self-examination as the most common screening method. Clinical breast examination came in second with 79 (44.6%), mammography with 70 (39.5%), and other (ultrasound and biopsy) with 7 (4.0%). Among those, 69 (36.1%) had good knowledge of breast cancer screening techniques, whereas the remaining 122 (63.9%) had poor knowledge of screening techniques. (Table 3).

Table 3 : Knowledge of breast cancer screening methods among female nurses working at South Omo Zone public health care facilities, Southern Ethiopia, 2023

(N = 207)

Breast cancer screening knowledge questions	**Response**	**Frequency**	**Percent**
What is the appropriate time for doing BSE?	During menses	13	6.2
	1-7 days before menses	34	16.4
	1-7 days after menses	47	22.7
	Occasionally	46	22.2
	Don't know	67	32.3
Age of BSE be started?	At <20 years	22	10.6
	From age 20 years	112	54.1
	Don't know	73	35.2
How frequently should BSE be done?	Monthly	52	25.1
	Every three month	42	20.2
	Every six month	20	9.7
	Once in year	33	16
	Don't know	60	28.9
How often should CBE have done?	Once in year	35	16.9
	Every two year	19	9.2
	Every three year	58	28
	I don't know	95	45.8
At what age should mammography be started?	At age below 40 years	60	28.9
	At age 40 and above years	33	15.9
	I don't know	114	55

How often should mammography be done?	Once in a year	18	8.7
	Once in every two years	43	20.7
	Once in three years	50	24.2
	I don't know	96	46.3

5.3 Practice of breast cancer screening

According to the findings of the study, 85 (41.1%) of the study participants ever performed breast cancer screening. Only 44 (21%; 95% CI: 16.0–26.5) of them utilized a breast cancer screening method based on recommended. (Figure 5).

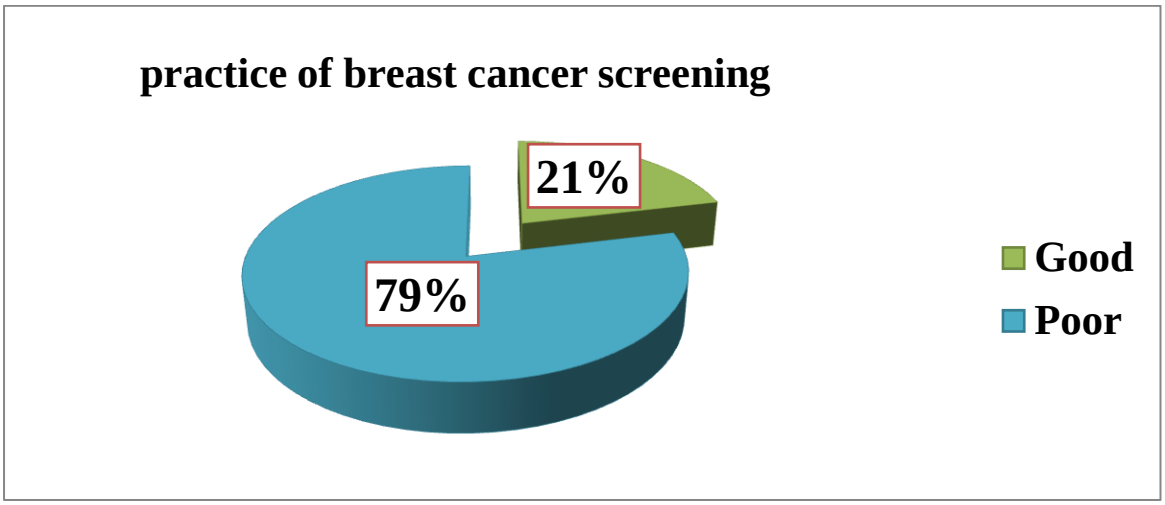

Figure 5: Regular screening for breast cancer among female nurses working at South Omo zone public health facilities, Southern Ethiopia, 2023.

Table 4: Methods specific practice of breast cancer screening among female nurses working at South Omo Zone public health facilities Southern, Ethiopia 2023

Breast cancer screening practice questions	Response	Frequency	Percent
Do you perform self-breast examination monthly 1-7 days after menses	1. Yes	40	19.3
	2. No	167	80.7
Do you examine your breast clinically during the last two years	1. Yes	17	8.2
	2. No	190	91.8
Do you undergo mammography examination during the last one year	1. Yes	0 (zero)	0%
	2. No	207	100%

5.3.1. professional practice of CBE for female clients to screen BC

The current study revealed, only 5 (2.4%) and 9 (4.3%) of female nurses ever performed CBE and provided counseling about breast cancer screening for female clients.

5.3.2. Reasons for not having been screened

Out of the total of 207 study participants, 163 (79%) female nurses didn't practice breast cancer screening. Among those, lack of knowledge is the major reason for more than one-third (36.2%) of respondents (Figure 6).

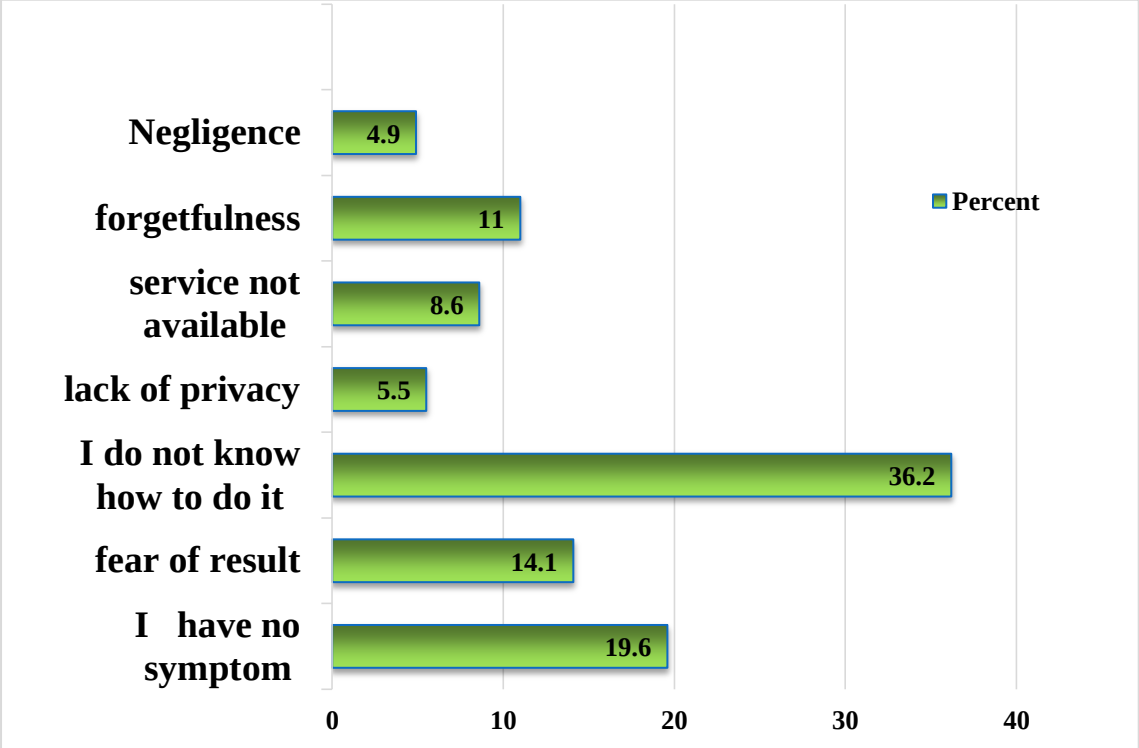

Figure 6: Reasons for not having been screened among female nurses working at south Omo Zone public health facilities, Southern Ethiopia, 2023.

5.4. The health belief model components on breast cancer and screening practice

According to data regarding respondents' breast cancer perceptions and their practices toward breast cancer screening, 106 (51.2%) had high perceived susceptibility and 101 (49.8%) had low perceived susceptibility. In the case of cues to action among nurses who regularly perform BCS, 2(4.5%), 16 (36.3%), and 26 (59%) of respondents are motivated to carry out BCS because of their family's history of BC, as they have heard about the benefits of BCS in the media, due to they are afraid of the severity of BC, and for the reason they are taught about BC and BCS in regular nursing courses, respectively. (Figure 7

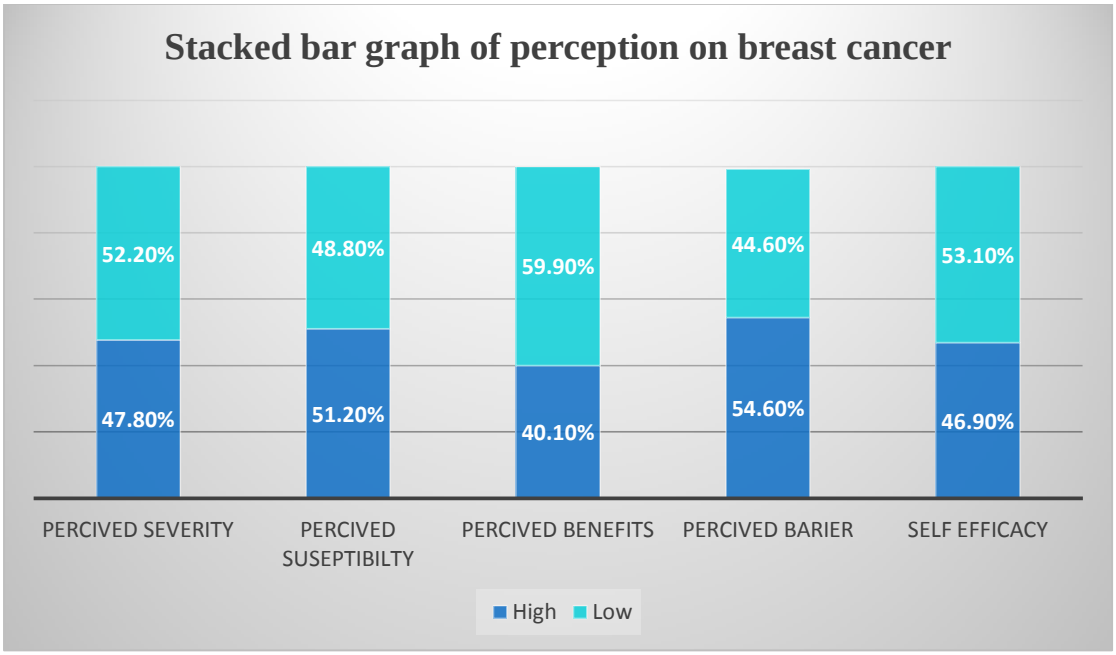

Figure 7: Perceptions on cancer of the breast and the practice of screening among female nurses working at South Omo Zone public health care facilities, Southern Ethiopia, 2023.

5.5. Factors related to the practices of breast cancer screening among female nurses

To find variables that satisfy the inclusion requirements for inclusion in multivariable analysis, bivariable regression analysis was conducted. Therefore, the candidate variables (which had a p-value of less than 0.25) were the respondents' age, marital status, employment history, prior history of breast cancer, knowledge of breast cancer signs and symptoms, knowledge of breast cancer risk factors, perceptions of the severity and susceptibility of breast cancer, and perceptions of the benefits of breast cancer screening. All candidate variables (p-value <0.25) from the bi-variable regression analysis model were included in the multi-variable logistic regression analysis for the final adjusted model.

In a multivariable logistic regression analysis model, the following variables were found to be significantly (p-value < 0.05) associated with the practice of breast cancer screening: the age of the respondents, knowledge of breast cancer symptoms and signs, knowledge of risk factors for breast cancer, perceived susceptibility of breast cancer, and perceived benefits of breast cancer screening. Being age greater than or equals to 40 years, the odds of having breast cancer screening were 82% (AOR=0.18;

95% CI (0.05, 0.70) less likely to perform breast cancer screening as compared to female nurses aged 23–29. In a similar manner, female nurses who had knowledge in the signs and symptoms of breast cancer were 2.94 times more likely to perform breast cancer screening than those who were not (AOR = 2.94; 95% CI: 1.18, 7.35). Once more, respondents with good knowledge of breast cancer risk factors were 8.60 times more likely to screen for the disease than respondents with poor knowledge (AOR =8.60, 95% CI: 3.72–19.87).

likewise, compared to female nurses with a low perceived susceptibility to breast cancer, those with a high perceived susceptibility were 2.55 times more likely to conduct breast cancer screening (AOR = 2.55; 95% CI: 1.11, 5.88). Furthermore, those respondents who had a high perceived benefit towards breast cancer screening were 2.30 times more likely to practice breast cancer screening than their counterparts (AOR = 2.29; 95% CI: 1.02–5.18) (Table 4).

Table 5: Logistic regression analysis, both bi-variable and multi-variable, revealed variables associated with BCS practice among female nurses working at south Omo zone public health care facilities in southern Ethiopia in 2023. (N=207)

Variables	**Regular Practice of BCS**		**COR (95%) CI**	**AOR (95%) CI**	**p-value**
	Good	Poor			
Age in years					
23-29	27	58	1	1	
30-39	14	57	0.53 (0.25, 1.11)	0.63(0.26, 1.52)	0.29
>=40	3	48	0.13 (0.04,0.47)	0.18(0.05, 0.70)	**0.01***
Marital status					
Single	17	38	1	1	
Married	25	114	0.49 (0.24, 1.00)	0.52(0.20, 1.36)	0.18
Others (divorced and widowed)	2	11	0.41(0.08, 2.04)	0.59(0.07, 4.66)	0.61
Work experience					
< 5 years	20	42	1	1	
5-10 years	16	51	0.66 (0.30,1.43)	0.91(0.31, 2.75)	0.87

11 years and above	8	70	0.24 (0.09, 0.59)	0.72(0.20, 2.62)	0.62
Previous history of breast problems					
Yes	2	2	1	1	
No	42	161	0.26(0.04, 1.91)	0.64(0.05, 7.99)	0.79
Knowledge about the signs and symptoms of breast cancer					
Good	33	85	2.75(1.30, 5.82)	2.94(1.18, 7.35)	**0.02***
Poor	11	78	1	1	
Knowledge about risk factors for breast cancer					
Good	32	42	7.68(3.6-16.27)	8.60(3.73,19.87)	**0.00****
Poor	12	121	1	1	
Perceived severity of breast cancer screening					
High	28	71	2.27(1.14, 4.51)	1.75(0.73,4.19)	0.20
Low	16	92	1	1	
Perceived susceptibility to breast cancer					
High	29	77	2.16(1.08, 4.33)	2.55(1.10, 5.88)	**0.02***
Low	15	86	1	1	
Perceived benefit of breast cancer screening					
High	25	58	2.38 (1.21, 4.69)	2.29(1.02,5.18)	**0.04***
Low	19	105	1	1	

COR= crude odds ratio; AOR= adjusted odds ratio; BCS= breast cancer screening.

*P<0.05; **P<001

6. DISCUSSION

According to the findings of the current study, only 21% (95% CI: 16.0–26.5%) of female nurses routinely use a breast cancer screening technique. This finding is lower than the study conducted among , Taiwanese Nurses ,where 37% experienced breast cancer screening (Wu and Chen, 2017) .

This discrepancy may be related to the advanced health care system or the accessibility with which health services are readily available and differences in the sociodemographic characteristics of the study participants (most study participants in the current study are diploma nurses, whereas the majority of study participants in the previous study were collage and above, and includes lecturers

According to the results of the current study method specific finding revealed, 19.3% and 8.2% of female nurses undertake BSE and CBE, respectively, whereas none of them receive MMG examination. This finding was in line with the study conducted in Jordan among female Nurses 18% performing breast self-examination monthly, and in a study conducted among Taiwanese Nurses Less than 10% of the nurses reported being screened clinically within the past 2 years (Alkhasawneh and Review, 2007; Wu and Chen, 2017). This is may be due to both study participants are nurses and have knowledge about breast cancer from nursing school, and a it may be related with the study period variation.

However this study finding was lower than a study conducted among female health professionals in Turkey 42.9% had performed breast self-examinations (BSE) , a St. Vincent and the Grenadines study, primary health care nurses carried out BSE and mammography screening at rates of 45.2% and 21%, respectively and in the study conducted in Saudi Arabia 9.9% of female health care workers had undergone mammogram screening ,and again in a study conducted in Eritrea's Asmara among nurses 30% and 11.3% respectively were undergone clinical breast examination and mammography examination (Onuoha and Sergeant Richards, 2015; Yilmaz and Durmus, 2016; Andegiorgish, Kidane and Gebrezgi, 2018; Alshahrani et al., 2020). In addition in a study conducted among female health care professionals in Debre Tabor Comprehensive Specialized Hospital 42.1% and in a study done in Hawassa Comprehensive Specialized Hospital 28.1 % female nurses performed breast self-examination (Jemebere, 2019; Tesfaw et al., 2021).

The strength of the health system, the accessibility of the service, and variations in sociodemographic factors could all be contributing factors to this discrepancy. In case of Debre tabor and Hawassa the possible justification may be due to they are more experienced than nurses working in primary hospitals and health centers.

Regarding the professional practice of screening the results of the current study showed that 5 (2.4%) and of study participants performed CBE for female clients, whereas 9 (4.3%) of study participants advised female clients on breast cancer screening. This finding was less than the study conducted in St. Vincent and the Grenadines, which revealed that primary health care nurses there routinely advise mammography (69.3%) and perform CBE for female clients (85.4%) (Onuoha and Sergeant Richards, 2015).

This discrepancy might be caused by the lack of a routine breast cancer screening program in our country. It is possibly justified that in the Previous study area in St. Vincent and the Grenadines CBE services were given to clients as regular health care services.

Here, as well, a good knowledge of breast cancer symptoms and signs, risk factors, and screening methods was reported by 57%, 35.7%, and 36.1% of female nurses in this study, respectively. It is very lower than the study done in the Gaza Strip, Palestine (85.3% and 77.9%), female nurses had good knowledge of breast cancer symptoms and signs, and risk factors, respectively (Mansour et al., 2021).

These differences could be caused by the sociodemographic variations among the study participants as well as the health system's strength. In the current study, the majority of participants were diploma nurses, and only two had a family history of breast cancer. On the other hand, the previous study included almost all BSc nurses who had been trained on breast cancer symptoms, risk factors, and early detection methods. Furthermore, a family history of the illness was also present in one-fifth of research participants.

Similarly: the current study's findings were less than those of the Debre Tabor study, which found that 79.7% of participants had a good knowledge about early detection techniques (Tesfaw et al., 2021). This disparity may result from the socio demographic difference (in the previous study participants had higher level of education as compared to the current study participants, and, the possible reason may be due to over 10% of study participants had a personal or family history of breast

cancer, and in addition, they are more experienced as compared to the current study participants working in primary hospitals and health centers.

This proved that training on BC and BCS, along with participants' knowledge of risk factors and symptoms and sign of BC, had a positive impact on the practice of breast cancer screening.

This finding revealed that respondents who were 40 years of age or older had an 82% less likely doing breast cancer screening than those who were between the ages of 23 and 29 years. The possible justification may be in this study majority of them were those between the ages of 23 and 29 have more knowledge of the symptoms, signs, and risk factors of breast cancer and have a higher perception of breast cancer and screening than do those over 40. The study's findings showed that female nurses with a good knowledge of breast cancer symptoms and signs were 2.94 times more likely to practice breast cancer screening than female nurses with those who had poor knowledge. In addition, women who were knowledgeable about the risk factors for breast cancer were 8.6 times more likely to engage in screening practice than their counterparts. This finding was supported by research conducted in Gaza Strip-Palestine(Mansour et al., 2021). The possible justification may be due to Breast cancer detection requires breast cancer knowledge (a strong association between knowledge of the disease and breast cancer screening behaviors).

Additionally, HBM constructs on breast cancer screening behaviors found that female nurses having a high perceived susceptibility to breast cancer were 2.55 times more likely than those with a low perceived susceptibility to have engaged in breast cancer screening. A possible justification might result from women perceiving breast cancer negatively and engaging in more preventive activities when they were aware of the disease's vulnerability. Female nurses who believed that breast cancer screening would be beneficial were 2.30 times more likely to perform compared to respondents who believed that it would not be beneficial. This result is consistent with research from Turkey and Iran (Masoudiyekta et al., 2015; Yilmaz and Durmus, 2016; Kirag, 2019). The possible justification could be that women who are aware of the advantages of breast cancer screening have a positive perception of the procedures and make extensive use of the benefits (an individual's perceptions can impact their behavior. In addition, health beliefs play an important role in an individual’s interest

in protective health behaviors that leads to action (Andegiorgish, Kidane and Gebrezgi, 2018).

7. LIMITATION OF THE RESEARCH

A self-administered questionnaire was used for data collection, which may have caused biases in the responses.

8. CONCLUSION AND RECOMMENDATION

8.1 CONCLUSION

practice of breast cancer screening among female nurses in the study area was low as compared to studies conducted in Addis Ababa and Turkey (Abeje, Seme and Tibelt, 2019; Kirag, 2019) . Being age greater or equals to forty years, knowledge of signs and symptoms, risk factors of breast cancer, susceptibility of breast cancer and benefits from breast cancer screening were associated with practice of breast cancer screening.

8.2 RECOMMENDATION

For Female nurses

- Nurses are better to have good knowledge of breast cancer early detection methods, risk factors for breast cancer, a strong belief in breast cancer susceptibility, and the benefits of screening in order to prevent breast cancer by early detection.
- In addition to actively participating in preventive measures, including breast cancer screening, nurses have a responsibility to serve as a positive example for other women in their communities

For the South Omo Zone Health Office and

I would like to recommend that the South Omo Zone Health Office provide training and regularly educate nurses on breast cancer screening techniques and risk factors in order to enhance their knowledge of and experience with breast cancer screening

For the Federal Ministry of Health Ethiopia

- It is better to equip health care facilities especially hospitals with MMG
- It is better to incorporating BCS under the routine health care services

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ANNEX

Annex **I-Information Sheet**

Name of the Principal Investigator: Tadele Damena

Email: tadeledamena68@gmail.com

Phone: 0916712495,

Name of organization: Hawassa University College of Medicine and Health Science

This study was conducted to assess the practice of breast cancer screening and its associated factors among female nurses. You are one of the randomly selected participants to participate in this study; therefore, you are kindly requested to participate in this study and provide the information required from you. Your participation in this study is completely voluntary, and you have the right to refuse participation.

Your participation is not related to reward or punishment. And there is no financial or other benefit for you. There is no risk when you participate in the study, except for the time it takes to complete the questionnaire.

The questionnaire takes between 10 and 15 minutes to complete, and your response was kept confidential. I would like to inform you that the responses that you provide to the questions are very essential, not only for the successful accomplishment of the study but also for relevant information that is helpful to improving the practice of breast cancer screening. The information you provide is confidential, was used only for study purposes, and will not be disclosed to anyone. A code number was used to identify the participant; therefore, writing your name is not needed. If you have something that is not clear about the study, please contact the principal investigator.

Annex II-Consent form

In signing this document, I am giving my consent to participate in the study title "Assess practice of breast cancer screening and its associated factors among female nurses in government health care facilities". I have been informed of the purpose of this study, and I understand the aim of the study. I understand that participation in this study is entirely voluntary. I have also been informed that my participation, non-participation, or refusal to answer questions will have no effect on me. I understood that Tadele Damena is the contact person if I have questions about the study or about my rights as a study participant.

Respondent's signature _____ Date_____ Time started: _____Time finished: _____

Facilitator Name _____Signature _____ Date_____

Supervisor's name _____ signature _____ Date_____

Multi-col linearity test

A multi-collinearity test was done for all variables to check for variance, inflation factor, and tolerance. All variables, variance inflation factor was less than 10. Therefore, there is no multi-co-linearity between variables.

Table 6 : Test of multi-collinearity for variables associated with breast cancer screening practice among female nurses working at South Omo Zone public health facilities, 2023.

Variables	**Variance inflation factor (VIF)**	**Tolerance**
Age in years	1.410	0.709
Marital status	1.181	0.847
Work experience	1.499	0.667
Previous history of breast problems	1.097	0.911
Knowledge about S/S of breast cancer	1.183	0.845
Knowledge about risk factors for breast cancer	1.129	0.886
Perceived severity of breast cancer screening	4.899	0.204
Perceived susceptibility to breast cancer	4.798	0.208
Perceived benefit of breast cancer screening	1.140	0.877
Total mean	2.04	0.59

Annex III- questionnaire

The questionnaire has five parts i.e., Socio-demographic characteristics, knowledge of breast cancer, knowledge of breast cancer screening method, practice of breast cancer screening, and perception towards breast cancer and breast cancer screening. You are expected to attempt all questions that concerned you honestly.

Part I. Socio-demographic characteristics of the respondents (circle all your response)

S no	Question	Response	Skip
101	How old are you?	----------years	
102	What is your marital status?	1.Single 2. Married 3. Divorced 4. Widowed	
103	Educational status?	Comprehensive Clinical nurse (Diploma Nurse) BSc nurse MSc nurse	
104	Work experience?	----------	
105	Current Unite of Work?	----------	
106	Do you have a previous history of breast cancer?	1.yes 2.no	
107	Do you have a family history of breast cancer?	1.Yes 2. No?	

Part II - Knowledge about breast cancer sign symptom and risk factors

S no.	Question	Response	Remark
201	Have you known about breast cancer?	Yes No	If not proceed to next question
202	Which signs and symptoms of breast cancer do you know?	1. Lump in the breast 2. Discharge	

	More than one answer is possible.	3. Pain or in the breast 4. Change in size of the breast 5. Dimpling of the breast 6. Ulceration of the breast 7. Changes in shape of the breast 8. Pulling in of nipple 9. Swelling of the breast 10. Lump under armpit 11. Others 12.I don't know	
203	Which risk factors of breast cancer do you know? **More than one answer is possible.**	1. Family history of breast cancer 2. Prolonged use of oral contraceptive 3. Advanced Age 4. Not to breast feed 5. Early men arch 6. Late menopause 7. Smoking 8. Tight bra 9. Other specify…… 10. I don't know	

Part III- Knowledge about methods of Breast cancer screening

301	Do you know methods of breast cancer screening?	Yes No	If no proceed to the next question
302	Which breast cancer screening method do you know? **More than one answer is possible.**	1. Breast self-examination 2. Clinical breast examination 3. Mammography 4. Others specify_____ 5. I don't know	

303	At what age should breast self-examination be started?	1. Before age 20 years 2. From 20 ≥40 years 3. After menopause 4. I don't know 5. Other specify ---------	
304	How often BSE should be done?	1. Once in a Month 2. Once in a week 3. Every 6 month 4. Once in a year 5. Others specify-------- 6. I don't know	
305	What is the appropriate time for performing BSE?	1. During menses 2. 1-7 days before menses 3. 1-7 days after menses 4. at any time 5. other specify 6. I don't know	
306	How often should CBE be done?	1. Once in a year 2. Once in two years 3. Once in three years 4. Others specify _____ 5. I don't know	
307	At what age should mammography be started?	1. At age 30 years 2. At age 40 and above years 3. After menopause 4. Other Specify ------ 5. I don't know	
308	How often should mammography be done?	1. once in a year 2. every six months 3. once in two years 4. Other Specify--- 5. I don't know	
309	What is the benefit of	1. For screening	

	mammography?	2. For diagnostic purpose 3. For both 4. Other Specify-- 5. I don't know	

PART IV: BREST CANCER SCREENING PRACTICE

S No	Character	Response	Skip
401	Do you ever practice breast cancer screening?	1.Yes 2.No	
402	Do you regularly practice breast cancer screening?	1.Yes 2.No	
403	Do you perform BSE regularly monthly1-7 days after menses?	1.Yes 2.No	
404	Do you examine your breast clinically with in the last two years?	1.Yes 2.No	
405	Do you undergo Mammography examination with in the last one year?	1.Yes 2.No	
406	**If the answer to no for 401, what** is your reason?	1. I don't have any symptom 2. fear of result 3. lack of privacy 4. I don't know how to do it 5. negligence 6. service not available 7.Other specify ----	
408	Do you perform (CBE) for your clients for screening BC?	1. Yes 2. No	If yes for question 401

409	Do you council your clients about breast cancer screening?	1. Yes 2. No	

Part 5: Constructs of the health belief model (HBM) on breast cancer and breast cancer screening practice

Part 5 A-Perception about susceptibility to breast cancer

No		Response type				
	Question	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
501	It is likely that I will get breast cancer in the future					
502	I will get breast cancer some times during my life					
503	My personal chance of getting breast cancer is high					
504	Women with family history of breast cancer are more susceptible to breast cancer					

Part 5 B: Perception about seriousness or severity of breast cancer

Code	Question	Response type				
		Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
505	The thought of breast cancer scares me					
506	BC is a hopeless disease					
507	If I got BC, it would be more serious than other disease					
508	Breast cancer would threaten a relationship with husband, or partner					

509	Death resulting from BC is high					
510	When I think about BC my heart beat faster					

Part 5 C Perceptions on benefits of breast cancer screening practice

No	Question	Response type				
		Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly disagree (5)
511	When I do BCS, I am doing something to take care of myself					
512	Regular BCS helps to diagnose BC early					
513	Performing BSE monthly help in detection of tumors before going to doctors					
514	If I performing breast cancer screening regularly, I will decrease my chances of requiring invasive treatment.					
515	If I Completing BCS regularly it will decrease my chance death					

Part 5 D: Perceptions on barriers to breast cancer screening practice

No	Question	Response type				
		Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
516	It is hard to remember the time to do BCS					
517	I have other problems more					

	important than doing BCS					
518	I don't think it is important					
519	I have no chance to get BC					
520	BCS takes more time					

Part 5 E: Self-Efficacy to do BCS Practice

No	Question	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
520	I am confident in performing BSE correctly					
521	I am confident I can discover breast tumors by performing BSE					
522	I am able to differentiate between normal and abnormal breast tissue through BSE					
523	I am able to identify something is wrong with client's breast when doing clients breast examination					

Part 5 F: Cues to action to practice BCS

No	Question	Response	Skip
1001	Have family history of breast cancer	1. Yes 2. No	
1002	Heard the benefit of breast cancer screening from regular course nursing	1. Yes 2. No	
1003	Fear of the severity of breast cancer	1. Yes 2. No	

በአማርኛ ትርጉም የተዘጋጀ መጠይቅ

የጥናቱ መግለጫ

ጥናቱን የሚያካህደዉ- -ታደለ ዳመና

-ኢሜል፡ tadeledamena68@gmail.com

- ስልክ፡ 0916712495

የድርጅቱ ስም፡- የሀዋሳዩኒቨርሲቲ ህክምናና ጤና ሳይንስ ኮሌጅ

ይህ ጥናት የሚካሄደው የጡት ካንሰር ቅደሜ ልየታ የምያደርጉ ሴት ነርሶች ቁጥራቸውን ለማወቅ እና ተያያዥ ምክንያቶችን ለመገምገምነው.። በዚህ ጥናት ላይ እንድሳተፉ ከተመረጡት ተሳታፊዎች አንዱ እርስዎ ነዎት ። ስለዚህ በዚህ ጥናት ላይ እንዲሳተፉ እና ከእርስዎ የሚፈለገውን መረጃ እንዲያቀርቡ በአክብሮት እንጠይቃለን።

በዚህ ጥናት ውስጥ ያለዎት ተሳትፎ ሙሉ በሙሉ በፈቃደኝነት ላይ የተመሰረተ ነው። ለጥያቄዎቹ የምሰጡት ምላሽ ለጥናቱ ስኬታማነት ብቻ ሳይሆን የጡት ካንሰርን ቀደሞ የመለየት ልምድን ለማሻሻል የሚረዳ ጠቃሚ መረጃ መሆኑን ለማሳወቅ እፈልጋለሁ። መጠይቁን ለማጠናቀቅ ከ10 እስከ 15 ደቂቃዎች ይወስዳል፣ ምላሽዎ ሚስጥራዊ እና ለጥናቱ ዓላማ ብቻ የሚውል ነዉ።

ፈቃድ መጠየቂያ ቅጽ

ከላይ የተገለጸዉን የጥናቱን አላማ ተረድቸ በፈቃደኝነት በጥናቱ ላይ መሳተፈን በፍርማዬ አረጋግጣለሁ።

የመላ ሽፊርማ_____ ቀን_____ የተጀመረበት ጊዜ፡- _____የተጠናቀቀብት ሰዓት፡ _____

የአመቻች ስም_____ ፊርማ_____ ቀን_____

የተቆጣጣሪው ስም _____ ፊርማ _____ ቀን_____

ስለ ትብብርዎ እናመሰግናለን!!!!!

-መጠይቅ

መጠይቁ 5 ክፍሎች አሉት እነሱም 1. አጠቃላይ መረጃ፣ 2. የጡት ካንሰር እውቀት(ምልክቶች እና የሚያጋሊጡ ምክንያቶች) 3 የማጣሪያዘዴ እዉቀት፣ 4.የጡትካንሰርን የመመርመር ተግባር፣ 5 ስለ ጡት ካንሰር እና የማጣሪያ ዘዴዎችን ግንዛቤ ያካትታል። እርስዎን የሚመለከቱትን ሁሉንም ጥያቄዎች በሐቀኝነት መመለስይ ጠበቅቦታል።.

ክፍል I: ማህበራዊ እና የስነ- ህዝብ መረጃ(መልሱን ያክብቡት)

S no	ጥያቄ	መልስ	ማብራርያ
101	ዕድሜሽስንትነው?	-------- ዓመት	
102	የጋብቻሁኔታ?	1. ያላገባች 2.ያገባች 3. የተፋታች 4. የሞተባት	
103	የትምህርትደረጃምንያህልነው?	1. ድፕሎማ 2. ድግር 3. ማስተርስ	
104	የስራልምድ?	----------ዓመት	
105	አሁን የምትሰሩበት ዋርድ(ክፍል)?	----------	
106	የጡት ካንሰር በሽታ አለቦት? ?	1. አዎ 2. አይ	
107	ቤተሰብ የጡት ካንሰር በሽታ ያለበት አሎት?	1. አዎ 2. አይ	

ክፈል II. የጡት ካንሰር እውቀት ጥያቄች

S no.	ጥያቄ	መልስ	ማብራሪያ
201	ስለ ጡት ካንሰር በሽታ ያውቃሉ?	1. አዎ 2. አይ	ካላወቁ ወደሚቀጥለው ጥያቄ አይሂዱ
202	የጡት ካንሰር በሽታ ምልክቶች ምንምን ናቸው? **ከአንድ በላይ መልስ መስጠት ይቻላል**	1.በጡት ውስጥ እባጭ መኖር 2. ከጡት የሚወጣ ፈሳሽ መኖር 3. የጡት ህመም 4.የጡት መጠን መቀየር 5. የጡት ከለር መቀየር /መሰርጎድ 6. የጡት መቁሰል 7.የጡት ቅርጽ መቀየር 8. የጡትጫፍ ወደ ዉስጥ መሰርጎድ	

		9. የጡት እብጠት 10. በብብት ውስጥ እብጠት መኖር 11. ሌላካለይግለጹ---------- 12. አላዉቅም	
203	ለጡት ካንሰር በሽታ የሚያጋልጡ ሁኔታዎች ምንድን ናቸው? **ከአንድ በላይ መልስ መስጠት ይቻላል**	1. በቤተሰብ ውስጥ የጡት የካንሰር በሽተኛ መኖር 2. በአፍ የምዋጡ የወልድ መቆጣጠርያዎችን ለረጅም ጊዜ መዉሰድ 3. የእድሜ መጨመር 4. ጡት አለማጥባት 5. የወር አበባበ ቶሎ መጀመር(በልጅነት) 6.ዘግይ ቶማረጥ 7.ሲጋራማጨስ 8. ጠባብ ጡት ማስያዥያ ማድረግ 9. ሌላካለይግለጹ___10. አላውቅም	

ክፍል III የጡት ካንሰር ቅድመ ምርመራ እውቀት ጥያቄዎች

301	የጡት ካንሰር ቅድመ ምርመራ ዘዴዎችን ያውቃሉ?	1. አዎ አላውቅም	ካላወቁ ወደ ሚቀጥለው ጥያቄ አይሂዱ
302	የትኛውን የጡት ካንሰር መመርመሪያ ዘዴ ያውቃሉ? **ከአንድ በላይ መልስ መስጠት ይቻላል**	1. የራስን ጡት በራስ መመርመር 2. ጡትን በሃኪም ማስመርመር 3. ማሞግራፊ 4.ሌላካለይግለጹ 5. አላውቅም	
303	የራስን ጡት በራስ	1. ከ20 አመት እድሜ በፍት	

	መመርመር በስንት እድሜ መጀመር አለበት?	2. በ20 አመት ዕድሜ 3. 40 አመትና ከዝያ በላይ ዕድሜ 4. ሌላ ካለ ይግለጹ---------- 5. አላውቅም	
304	የራስን ጡት በራስ መመርመር በየስንት ግዜ መደረግ አለበት?	1.በወር አንደ 2.በሳምንት አንደ 3. በስድስት ወር አንዴ 4. በአመት አንዴ 5.ሌላ ካለ ይግለጹ---- 6. አላውቅም	
305	የራስን ጡት በራስ ለመመርመር ትክክለኛው ወቅት መቼነው?	1. የወር አበባ ስመጣ/እየታየ 2. የወር አበባ ከመታየቱ ከ 1-7 ቀን በፍት 3. የወር አበባ ከታየ ከ 1-7 ቀን በኋላ 4. በማንኛውም ጊዜ መመርመር ይቻላል 5. ሌላ ካለ ይግለጹ----- 6. አላውቅም	
306	ጡትን በሃኪም ማስመርመር በየስንት ጊዜ መደረግ አለበት?	1. በየአመቱ 2. በየሁለት አመቱ 3. በየሶስት አመቱ 4. ሌላካለይግለጹ__ 5. አላውቅም	
307	በማሞግራፊ የጡት ካንሰር ቅድመ ሊየታ በስንት ዕ ድሜ መጀመር አለበት?	1. 30 አመት ዕድሜ 2. በ 40 አመትና ከ ዝ ያ በ ላ ይ ዕ ድሜ 3. ካራጡ 4. ለላ ካለ ይግለጹ-	

		5. አላውቅም	
308	የማሞግራፊ ቅድመ ካንሰር ምርመራ በስንት ጊዜ ልዩነት መደረግ አለበት?	1. በየአመቱ 2. በየስድስት ወር 3.በየሁለት አመቱ 4.ሌላካለይግለጹ---------- 5. አላዉቅም	

ክፍልIV : የጡት ካንሰር ቅድመ ልየታ ተግባር ጥያቄዎች

S No	ጥያቄ	መልስ	ማብራርያ
401	የጡት ካንስር ቅድሜ ሊየታ አድርገው ያውቃሉ?	1.አዎ 2. አይ	ካላወቁ ወደምቀጥለው አይሀዱ
402	የጡት ካንስር ቅድሜ ሊየታበመመርያዉ መሰረት ጊዜዉን ጠብቀዉያደርጋሉ?	1.አዎ 2. አይ	
403	.በየወሩ ከወር አበባ በኋላ ከ1-7 ቀናት ውስጥ በመደበኛነት የራስዎን ጡት በራስዎ ምርመራ ያደርጋሉ?	1.አዎ 2. አይ	
404	ባለፉት ሁለት አመታት የጡት ካንሰር ቅድመ ምርመራ በጤና ባለሙያ ተመርምረዋል?	1.አዎ 2. አይ	
405	ባለፈው ዓመት የማሞግራፊ ምርመራ	1.አዎ 2. አይ	

	ታደርጋለህ?		
406	ለጥያቄ 401 መልስዎአይ ከሆነ ምክንያቶት ምንድ ነው?	1. የጡት ካንሰር በሽታ ምልክቶች የሉኝም 2. በሽታው ቢገኝብኝስ ብዬ ስለምፈራ 3. እንደት እንደምመረምር አላዉቅም 4. ምርመራዉን ለማድረግ ምቹ ቦታ የለይኝም 5. አገልግሎቱ የለም 6. ለላካለ ይጥከሱ.....	
408	የጡት ካንሰር ቅድመ ምርመራ ለታካሚዎችዎ አድርገው ያውቃሉ? ?	1.አዎ 2. አይ	ለ ጥ ያ ቄ 402 መልስ ዎ አ ዎ ከ ሆነ ይህ ን ይቀ ጥሉ
409	ለታካሚዎችዎ ስለ ጡት ካንሰር ቅድመ ምርመራ የምክር አገልግሎት ሰተውያውቃሉ?	1.አዎ 2. አይ	

ክፍል አምስት የጡት ካንሰር እና የጡት ካንሰር ቅድመ ልየታ የግንዛቤ ጥያቄ -ክፍል አምስት A :ለጡት ካንሰር ተጋሊጭነት ያለዎትን ግንዛበ በተመለከተ

ተ ቁ	ጥ ያ ቄ	መል ስ				
		በጣምአልስ ማማም (1)	አልስማ ማም (2)	እርግጠ ኛአይደለ ሁም	እስማ ማለሁ (4)	በጣምእስ ማማለሁ(5)

				(3)		
501	ወደፊት የጡት ካንሰር ሊይዘኝ ይችላል					
502	በህይወቴ የሆነ ጊዜ ላይ በጡት ካንሰር ሊያዝ እችላለሁ።					
503	በጡት ካንሰር የመያዝ እድሌ ከፍተኛ ነው።					
504	በቤተሰቧ ውስጥ የጡት ካንሰር በሽታ ታሪክ ያላት ሴት ለጡት ካንሰር የመጋለጥ እድል ከፍተኛ ነው።					

ክፍልV2፡ ስለ ጡት ካንሰር ከባድነት ወይም ኣደገኝነት ግንዛበን በተመለከተ

ተቁ	ጥያቄ	መልስ				
		በጣምአልስማማም (1)	አልስማማም (2)	እርግጠኛ አይደለሁም (3)	እስማማለሁ (4)	በጣምእስማማለሁ(5)
505	ስለ ጡት ካንሰር ሳስብ በጣም ያስፈራኛል					
506	የጡት ካንሰር ተስፋ የሌለው በሽታ ነው።					
507	የጡት ካንሰር ብታመም ከለሎች በሽታዎች ይልቅ በጣም አደገኛ ይሆናል					
508	የጡት ካንሰር ከባለቤቴ ወይም ከቤተሰቤ/ከጓደኞቼ ጋር ያለኝን ግንኙነት አደጋ ላይ ይጥላል					

509	በጡት ካንሰር ምክንያት በሚከሰት የመሞት እድሌ ከፍተኛ ነው።					
510	ስለጡት ካንሰር ሳስብ የልቤ ምት ይጨምራል					

Part 5 C ክፍል5 C: የጡት ካንሰር ቅድመ ምርመራ ስላለው ጠቀሜታግንዛቤን በተመለከተ

ተቁ	ጥያቄ	መልስ				
		በጣምአልስማማም (1)	አልስማማም (2)	እርግጠኛአይደለሁም (3)	እስማማለሁ (4)	በጣምእስማማለሁ(5)
511	የጡት ካንስር ቅድሜ ምርመራ ሳደርግ ለራሰ ጤንነት ጥንቃቄ እያደረኩ ነዉ					
512	በመደበኛነት የጡት ካንስር ቅድሜ ምርመራማደርገ የጡት እብጠቶችን ቶሎ ለመለየት ይረዳኛል					
513	የ ራሲን ጡት በ ራስ በ የ ወሩ መመር መር የ ጡት እ ጥን በ ራስ ለ መለ የ ት ይረ ዳ ል					
514	በ መደ በ ኛ ነ ት የጡት ካንስር ቅድሜ ምርመራ ማድረ ግ ለቀዶጥገና ህክምና የመጋለጥ . እድለን ይቀንሳል					
515	በ መደ በ ኛ ነ ት የጡት ካንስር ቅድሜ ምርመራ ማድረ ግ በጡት ካንሰር የመሞት እድለን ይቀንሳል					

ክፍልV4: የጡት ካንሰር ቅድመ ምርመራ ትግበራን የሚያግዱ/ እንከን የሚፈጥሩ

ተቁ	ጥያቄ	ምርጫዎች				
		በጣምአልስማማም (1)	አልስማማም (2)	እርግጠኛ አይደለሁም (3)	እስማማለሁ (4)	በጣምእስማማለሁ(5)
516	የራሰን ጡት በራሰ ምርመራ ማድረግ ያሳቅቀይኛል፣ ያሳፍረኛልም					
517	የጡት ካንሰር ቅድመ ምመርመራ ከማድረግ የበለጠ ጠቃሚየ ሆኑ ሌሎች ችግሮች አሉብኝ					
518	በጡት ካንሰር የመያዝ ዕድል የልይኝም					
519	የጡት ካንሰር ቅድመ ምመርመራ ማድረግ ምቾት ይነስይኛል					
520	የራስን ጡት በራስ መመርመር ብዙ ጊዜ ይፈጃል					

ክፍልV5: የጡት ካንሰር ቅድመ ምርመራን በተገቢው ሁኔታ መቻልን በተመለከተ

ተቁ	ጥያቄ	በጣምአልስማማም (1)	አልስማማም (2)	እርግጠኛ አይደለሁም (3)	እስማማለሁ (4)	በጣምእስማማለሁ(5)
520	የራሰን ጡት በራሴ ምርመራ ማድረግ እችላለሁ					
521	የራሰን ጡት በራሴ ምርመራ በማድረግ የጡት እጢ/ እብጠት ብኖር መለየት እችላለሁ					
522	የራሰን ጡት በራሰ በመመርመር በጡቴ ዉስጥ ትክክል የሆኑና ያልሆኑ ነገሮችን መለየት እችላለሁ					

523	የታካምዎችን ጡት ምርመራ በማደረግበት ጊዜ ጡት ላይ የሆነ ችግር ቢኖር መለየት እችላለሁ					

ክፍል V6: የጡት ካንሰር ቅድመ ምርመራ ለማድረግ ተነሳሽነትን በተመለከተ

ተቁ	ጥያቄ	መልስ	ማብራርያ
1001	በቤተሰብዉስጥ የጡት ካንሰር በሽተይኛ ስላለ	1. አዉ 2. 2. አይደለም	
1002	ስለ ጡት ካንሰር ቅድመምርመራ በነርስንግ ትምህርት ቤት ስለተማሪኩ	1. አዉ 2. አይደለም	
1003	የጡት ካንሰር በሽታን አደግኝነት ሲለሚፈራ	1. 1.አዉ 2. አይደለም	