

**SCREENING ATTENDANCE, INTENTION TO ATTEND, HEALTH LITERACY
AND ASSOCIATED FACTORS OF BREAST OR CERVICAL CANCERS AMONG
WOMEN IN GEDEO ZONE, ETHIOPIA 2023: BASED ON PROTECTION
MOTIVATION THEORY**

MASTERS THESIS

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HAWASSA UNIVERSITY, HAWASSA, ETHIOPIA

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MOTIVATION THEORY**

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**A THESIS SUBMITTED TO THE SCHOOL OF NURSING,
HAWASSA COLLEGE OF MEDICINE AND HEALTH SCIENCES, SCHOOL
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**NOVEMBER, 2023
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DECLARATION

I hereby declare that this MSc thesis is my own work and has not been presented for a degree in any other university and all sources of materials used for this thesis have been acknowledged.

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ABBREVIATION AND ACRONYM

AOR :	Adjusted odd ratio
BCC :	Breast and cervical cancers
BC :	Breast cancer
BSE :	Breast self-examination
BSA :	Breast screening attendance
CBE :	Clinical breast examination
CC :	Cervical cancer
CI :	Confidence interval
COR :	Crude odds ratio
CSA :	Cervical screening attendance
FMoH :	Federal minister of Health
HL :	Health literacy
PAP :	Papanicolaous
PMT :	Protection motivation theory
SNNPE :	Southern nation nationality people of Ethiopia
SPSS :	Statistical Package for Social Sciences
VIA :	Visual inspection of the cervix with acetic acid
WHO :	World health organization

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ABSTRACT

Introduction: Breast and cervical cancers are the most frequent and fatal cancers among women. Early detection has a significant impact on the success of the treatment. However, a limited study was available that assessed both cancers simultaneously and involved health literacy in relation to cancer screening behaviors. This study is the first critical step in designing interventions that improve cancer early detection.

Objective: Aim to assess the magnitude of screening attendance, intention to attend, health literacy of breast or cervical cancers, and their predictors among women aged 30-49 years old in Gedeo Zone, South Ethiopia, in 2023 based on protection motivation theory.

Method: A community-based cross-sectional study design was conducted from April 30 to May 30 on 594 women's by employing a multi-stage cluster sampling technique. Data collection was performed using pretested, structured interviewer-administered questionnaires via the kobo Collect app. IBM SPSS version 25 was used for statistical analyses and the characteristics of participants were described by frequencies and percentages for categorical variables. A binary logistic regression model was used to identify factors associated with outcomes. In bi-variable analysis variables with a p-value ≤ 0.25 were candidates for multivariable analysis. Adjusted odds ratio (AOR) with 95% confidence interval (CI) and p-value < 0.05 were declared statistically significant.

Result: A total of 554 women were included in the study, yielding a response rate of 93.2%. Of them, 120 (21.7%), 95% CI: [18%, 25%] were screened for cervical cancer, 30(5.4%) 95% CI: [4%, 7%] for breast cancers and 132 (23.8%) 95% CI: [20%, 27%] for two-female cancers (screened either for breast or cervical or both). In this study's, 342 (61.7%) 95% CI: [58%, 66%] were had the intention to attend screening and 216(39%) 95% CI: [35%, 43%] adequate health literacy of breast and cervical cancers. Age of 45-49 [AOR = 4.18, 95% CI (1.59, 10.9)], college and above educational status [AOR = 5.49, 95% CI (2.01, 13.1)], having family or friend history of breast or cervical cancer [AOR = 5.55, 95% CI (2.47, 12.5)] ,short anticipated time to seek help [AOR 4.66(1.31, 11.7), adequate health literacy AOR = 6.98, 95% CI (2.82, 13.3)], high self-efficacy [AOR 2.32, 95% CI (1.08, 4.96)], were positive factors; while high response cost [AOR 0.19, 95% CI (0.08, 0.50)] were negative factors associated with screening attendance. Having a family or friend history of breast or cervical cancer [AOR = 7.18, 95% CI (3.59, 14.4)], short anticipated time to seek help [AOR = 4.75, 95% CI (2.41, 9.39)], adequate health literacy [AOR = 2.26, 95%CI (1.15, 4.48)], high perceived severity [AOR = 2.96, 95% CI (1.64, 5.37)], high self-efficacy [AOR = 3.93, (1.76, 8.77)] were positive factors associated with screening intention to attend. Urban residence [AOR 1.96(1.19, 3.22), short anticipated time to seek help [AOR = 4.01, 95% CI (2.15, 7.49)], good knowledge [AOR = 4.51, 95% CI (1.14, 13.9)], ever used contraceptives [AOR = 2.51, 95% CI (1.24, 5.11)] were positive factors associated with health literacy.

Conclusion and Recommendation: This study found that screening attendance and health literacy of breast and cervical cancers among women were low. Further, more women in this study were found to have had cervical cancer screening compared to women who had ever been screened for breast cancer. More than half of women had the intention of attending screenings in the future. Therefore, to improve screening attendance and intention to attend designing health literacy-focused screening policies and provision of factors should have to be addressed at each level of health care. Also, to enhance health literacy emphasis should be given to rural residents and providing health education to enhance their awareness.

Key words: Breast cancer, cervical cancer, two-female cancers, screening, intention to attend, health literacy, protection motivation theory, Ethiopia

1 INTRODUCTION

1.1 Background

Cancer, at present, is a widely known non-communicable disease and the leading cause of death worldwide (Bray et al., 2021). Globally, breast and cervical cancers (BCC) were the two most common female cancers diagnosed in women (Sung et al., 2021). Breast and cervical cancer screening is the most effective method to reduce mortality and morbidity. Breast cancer screening is a means of identifying the occurrence of breast cancer at early stages (before it progresses to the advanced stages). The main screening tests used to screen the breast cancer are breast self-examination (BSE), clinical breast examination (CBE) and mammography (Ali and Baig, 2006).

BSE is done by a woman herself, where she checks her own breasts for lumps, changes in size or shape of the breast, or any other changes in the breast or underarm. However, regularly performing BSE doesn't mean breast cancer is necessarily self-detected and it doesn't replace regular screening mammograms or clinical breast examinations (World Health Organization. Regional Office for the Eastern, 2006).

CBE is another kind of screening method which seeks to detect breast abnormalities or evaluate patient reports of symptoms and is undertaken by health practitioners (Ali and Baig, 2006). The World Health Organization (WHO) recommends CBE as the most effective screening modality for women in resource limited setting (WHO, 2014). Mammography is a screening method used to take x-ray pictures of the breasts and it is the gold standard for early detection of breast cancer in high income countries (Elmore et al., 2005).

Cervical cancer screening is a means accurately detecting high-grade precursor lesions of the cervix to allow timely treatment of cervical intraepithelial neoplasia (Zhang et al.). Progression to cancer usually takes many years, which allows clinicians to early detect and time to treat lesions when they are found during screening. In 2015, in Ethiopia population based cervical cancer screening using visual screening using acetic acid (VIA) launched for all women aged 30-49 every 5 years. VIA is a key aspect of the "screen and treat" paradigm, where a patient can feasibly undergo treatment after VIA (or other screening technique in the paradigm) within a single visit (FMoH, 2015).

Protection Motivation Theory (PMT) is a theory developed by Rogers in 1975 based on the theory of value expectation to explain the effects of fear on health attitudes and behaviors and that the effects of fear motivation have a significant effect on behavior choice (Milne et al.,

2000). It is a useful theory for predicting and performing early interventions in behaviors related to the prevention and early detection of cancer (Inukai and Ninomiya, 2010, Rahaei et al., 2015, Asadi et al., 2022).

This study aimed to assess screening attendance, intention to attend, health literacy and their associated factor towards breast and cervical cancer among women in Gedeo zone 2023: Based on protection motivation theory.

1.2 Statement of Problem

In 2020 worldwide, BCC was the first and fourth most frequently diagnosed cancer, with an estimated 2.3 million and 604,000 new cases, respectively (WHO, 2020), while in terms of their incidence mortality ranked as the fifth with a cause of 685,000 deaths and fourth with a cause of 342,000 death in women, respectively (Sung et al., 2021). It was reported that BCC is the most commonly diagnosed and leading cause of cancer death, with an estimated of (186,598 new cases, 85, 787 deaths) and (117, 316 new cases, 76,745 deaths) respectively, among African women in 2020 (cancer, 2020). In Ethiopia in 2019, the leading incident cases and cancer related mortality in females were cervical cancer (6570 cases, 3870 mortality) and breast cancer (5450 cases, 3700 mortality) (Awedew et al., 2022).

Cancer screening, which is a secondary prevention strategy, aims for early detection, diagnosis, and treatment. For breast and cervical cancer, early detection through screening and proper treatment can be life-saving. Studies showed that when early detection of breast cancer through screening activities combined with appropriate treatment reduced mortality rates due to breast cancer by 25–30% (Mai et al., 2009) , while; VIA reduced the incidence and mortality of cervical cancer by at least 25% (Guerrero et al., 2015). Almost three thousand women can be saved each year if the intervention is available universally (i.e., 40% to 90% coverage) (Ntekim, 2012, Kahesa et al., 2008). However, data obtained from different countries on screening programs showed that screening examination coverage for breast cancer ranged from 1.7% in Bangladesh to 85.5% in England, while for cervical cancer, it ranged from 2.1% in Côte d’Ivoire to 86.3% in Sweden (Zhang et al., 2023). Not only does early detection of breast and cervical cancers save lives, but it also maintains quality of life and lowers the cost of advanced-stage treatment (Organization, 2013).

Moreover, most healthcare facilities in Ethiopia do not have advanced laboratory investigations for diagnostic breast cancer screening because of resource scarcity in the country (Azage et al., 2013, Oluwatosin, 2012). Timely detection of breast cancer is strongly recommended because of better treatment prognosis with more effective cost (Taha et al., 2014). Evidence also showed that a three- to six months diagnosis delay was associated with an advanced stage of breast cancer and a lower survival rate (Kantelhardt et al., 2015). Breast cancer detection requires awareness of breast cancer risk factors, signs and symptoms using breast screening methods such as breast Self-examination (BSE), clinical breast examination (CBE) and diagnostic assessment like mammography (Ifeanyichukwu, 2015),while in

Ethiopia, a national cancer control plan organized by the Federal Minister of Health (FMOH) to be implemented from 2015 to 2020, which is a scale-up of the screening and treatment for cervical pre-cancer into 800 health facilities (one health facility per district). The age group of 30 to 49 years old and high-risk women is primarily targeted in the plan. Promoting prevention and early detection, improving diagnosis and treatment for palliative care and maximizing screening coverage to more than 80% to cervical cancer is the main aim of the plan (Waktola et al., 2005, FMOH, 2015).

Despite efforts to improve access to the screening service from governmental and non-governmental organizations in Ethiopia, utilization has not been raised. The national pooled prevalence of cervical cancer screening was 14.79% (Desta et al., 2021) and the rate of breast cancer screening ranges from 6.9% (Dibisa et al., 2019) to 20.8% (Assefa et al., 2021b) .

Different studies have documented factors associated with breast and cervical cancer screening utilization worldwide, including the age of the women, risk perception, financial constraints, marital status, and parity, although there are inconsistencies among the studies (Islam et al., 2017, Tron et al., 2017). Cancer screening rates are very low in developing countries (Akinyemiju, 2012). Also in Ethiopia, numerous studies have shown low screening attendance for the two female cancers, separately with the factor affecting their attendance (Abeje et al., 2019b, Belay et al., 2020, Fentie et al., 2020).

Moreover, as far as our level of knowledge concerned, limited studies had been done which include both cancers, to show the prevalence of screening attendance and intention towards the two female cancers screening based on protection motivation theory. Even though; different studies suggest that people exhibiting higher levels of health literacy are more likely to have under-gone cancer screening (Filippi et al., 2013, Lee et al., 2016). However, limited studies were undergone health literacy in relation to cancer screening behaviors.

Therefore, this study assess the magnitude of screening attendance, intention to attend, health literacy and their associated factors of the two female cancers based on protection motivation theory specifically among women of aged 30 to 49 in the study setting.

1.3 Significance of Study

Cancer Screening is a key approach to detect cancer at an early stage and help reduce cancer mortality. Understanding women attendance, intention, health literacy and their associated factors based on protection motivation theory towards the two female cancer screening among woman in Ethiopia in which there is limited resource is the first critical steps to provide an evidence base for designing intervention to improve cancer early detection behaviors by promoting screening behavior towards the two female cancers among women.

Health care provider will use this finding for appropriate intervention by understanding the gap. It will also be believed that the finding of this study will provide baseline information for future researchers.

2 LITERATURE REVIEW

2.1 Protection motivation theory

PMT is based on two cognitive processes. The first is threat appraisal, which measures the perception of an individual's threat to health events or certain behaviors through perceived risk, severity, and fear arousal. Perceived risk refers to an individual's subjective judgment of the possibility of being affected by a potential threat. Perceived severity is the individual degree of perception of a potential threat. Fear arousal refers to the degree to which an individual worried affected about a potential threat. The second is coping appraisal which assesses an individual's ability to deal with and avoid the threat of danger which include response efficiency, response cost, and self-efficacy. Response efficiency is an individual perception towards effectiveness of a specific preventative behavior. Response costs which reflect the perceived costs of an individual adapting to the recommended behavior. Self-efficacy refers to an individual's perception of their ability to implement preventative behavior (Bai et al., 2018).

Various Study have been used protection motivation theory in health related field to predict human intention towards health promotion among this to predict cervical cancer screening intention (Li et al., 2020) also used to determine breast cancer screening attendance(Ghofranipour et al., 2020a) in addition to this it is applicable in predicting breast cancer screening intention (Barati et al., 2019).

2.2 Screening attendance of breast or cervical cancer Screening

A study conducted among women in different countries showed screening rates towards breast and cervical cancers were such as in India (BC 16.2%, CC 23.4%) (Saha et al., 2021) in china (BC 5 %, CC 61.8%) and 39.1% of participants screened for both BC and CC (Sun et al., 2022c); while the attendance of all eligible women in Czech was 52% in BC and 46% in CC screening (Altová et al., 2021). Also in South Africa Papanicolaou (PAP) smear test and mammography participation were 52.0% and 13.4%, respectively (Phaswana-Mafuya and Peltzer, 2018).

In a systematic review and meta-analysis done in four sub-Saharan African Countries the pooled prevalence of breast cancer screening attendance was only 12.9%, ranging from 5.2% in Ivory Coast to 23.1% in Namibia and cervical cancer screening was 12.87% (Ba et al., 2020).

A study done in different parts of Ethiopia showed that the women BC screening rate ranges from 6.9% (Dibisa et al., 2019) to 20.8% (Assefa et al., 2021b) , while the pooled prevalence CC screening rate ranges from 8.11% (Mengesha et al., 2020) to 14.79% (Desta et al., 2021).

2.3 Intention to attend Breast or Cervical Cancer Screening

A study conducted in china showed that the magnitude of intention to undergo screening for BC and CC among women was 71.3 % (Han et al., 2022b) similarly, another study revealed that 86.65% of women had the intention to screen for breast cancer in the future (Zhang et al., 2021a).

According to a study done in different parts of Ethiopia, showed that women's intentions to attend CC screening ranged from 17.1% (Eshete et al., 2020) to 62.7% (Belete et al., 2015a).

2.4 Health Literacy

Health literacy is the ability of a person to gain access, understand and use information in ways that promote and maintain good health (Nutbeam et al., 1993). Adequate health literacy is a necessity to enable effective decision making to seek, access and utilize appropriate health care service; while Inadequate health Literacy may pose a barrier to patient engagement in getting screened for cancer (Koirala et al., 2021).

A survey study on European Health literacy indicated 30–63% of the population have limited health literacy, depending on the European country considered (Sørensen et al., 2015).

A study done among Taiwanese women showed that 17.6% had inadequate and 49.3% problematic, health literacy (Huang et al., 2020). Another study done in Afghanistan showed that 51.6% of women had an inadequate level of health literacy (Harsch et al., 2021b).

2.5 Factors related to screening attendance of breast or cervical cancer

A study conducted in China showed that self-rated health status was significantly associated with two female cancer screening attendances (Sun et al., 2022a). Another study showed that women living in urban and semi urban area had higher odds of being screened as compared to those living in rural areas (Compaore et al., 2016). A study conducted in Australia showed that patient perceptions of seriousness (severity) about lung cancer were associated with their preference for lung cancer screening (See et al., 2020). A study done in Iran showed that women's risk perception positively associated with screening attendance for mammography (Faryabi et al., 2023).

A study conducted in different countries showed that higher ages significantly associated with screening attendance (Keetile et al., 2021, Belay et al., 2020), having a secondary school education or greater (Akinyemiju, 2012, Abeje et al., 2019b), being married (Akinyemiju, 2012) and family planning user woman (Belay et al., 2020), having a family history of breast cancer (Nigussie et al., 2019) in contrast to this women in the poorest and poorer wealth quintiles, being not currently employed were less likely to report breast and cervical cancer screening attendance (Keetile et al., 2021, Akinyemiju, 2012, Abeje et al., 2019b).

Higher perceived severity was correlated with the lower defensive avoidance and, consequently, with the greater attempts for cancer screening (rahimian boogar et al., 2018). Fear significantly associated with breast examination behavior (Zhang et al., 2021b). Self-efficacy significantly associated with breast examination behavior (Ghofranipour et al., 2020b).

2.6 Factors associated with intention to attend screening of breast or cervical cancers

A study conducted among urban Chinese women showed that using oral contraceptive was positively associated with breast cancer screening intention; similarly, to this having a family history of breast cancer was significantly associated with screening intention (Zhang et al., 2021a); however, having a lower educational level was negatively associated with breast cancer screening intention (Ivanova and Kvale, 2021) while the cervical cancer screening intention of women is high among those whose age is 35-49, having children up to four and being house wife (Getahun et al., 2020a).

Perceived severity was significantly associated with breast cancer screening intention (Zhang et al., 2021b). Perceived severity has a strong relationship with the attitudes and intentions towards health screening (Shi and Smith, 2016). Response costs were significantly associated with breast cancer screening intention (Zhang et al., 2021b).

Response efficacy provides strong predictions of women intentions to undergo cervical cancer screening (Dehdari et al., 2016b). Self-efficacy was significantly associated with breast cancer screening intention (Zhang et al., 2021a). Self-efficacy factors provide strong predictions of women intentions to undergo cervical cancer screening (Dehdari et al., 2016a).

2.7 Factors associated with health literacy related to breast or cervical cancers

A community based study conducted in China showed that high health literacy levels were significantly associated with the educational level of high school and above in contrary to this manual workers and unemployed participant have low health literacy levels (Wu et al., 2017)

similarly, another study in this country showed that participants with higher education and income have high health literacy level (Xie et al., 2019).

A study showed that those who stated their self-rated health status as good were significantly associated with high health literacy (Sarhan et al., 2021).

2.8 Conceptual Frame work

The conceptual framework for the study was based on literature reviewed and it shows factors that associate with screening attendance, intention to attend and health literacy of breast and cervical cancers.

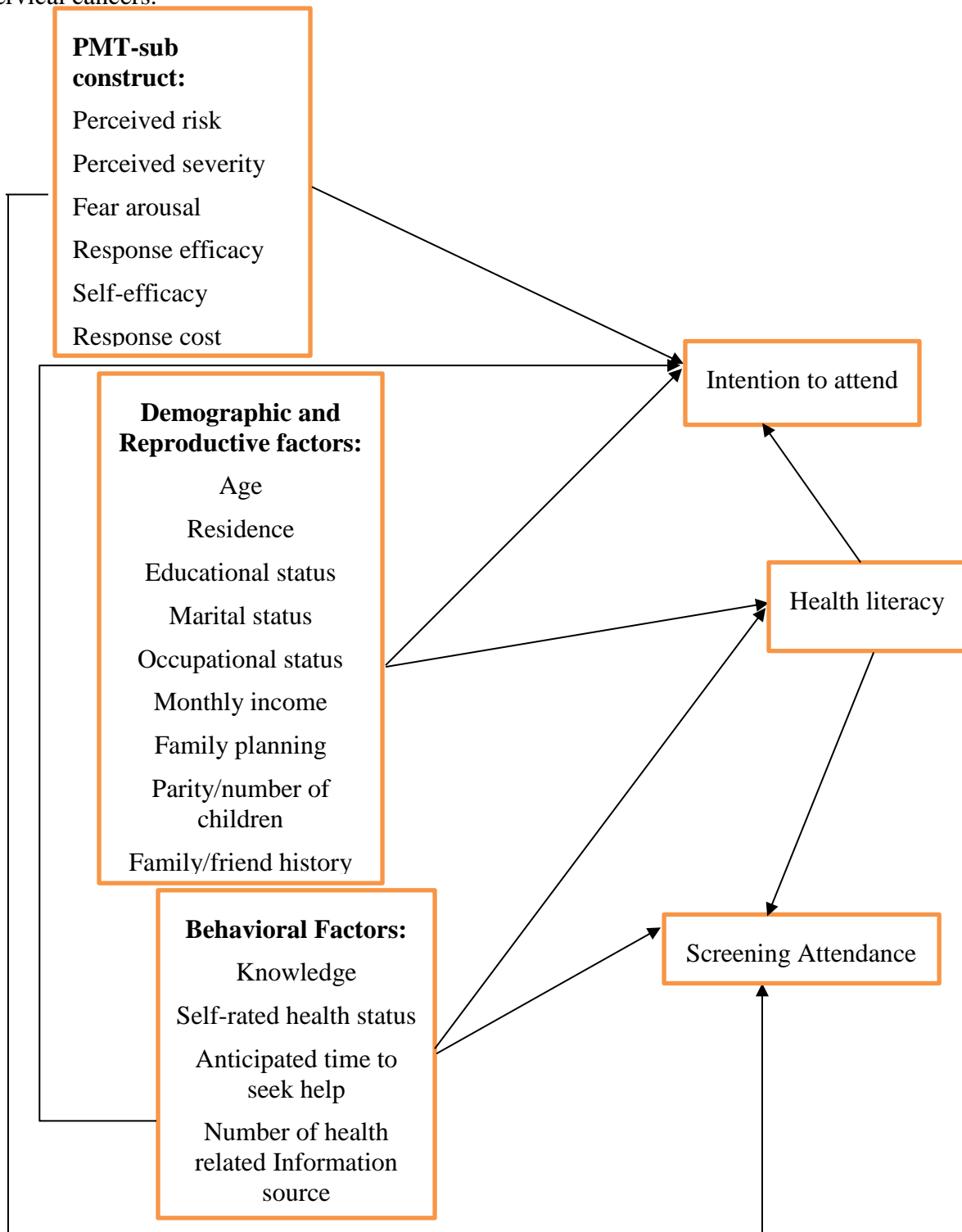


Figure 1: Conceptual frame work (Ghofranipour et al., 2020c, Zhang, 2021 #163, Li, 2020 #164, Sarhan, 2021 #115, Abeje, 2019 #100, Belay, 2020 #152, Zhang et al., 2021b).

3 OBJECTIVE

3.1 General Objective

To assess screening attendance, intention to attend, health literacy of breast or cervical cancers and their associated factors among women in Gedeo zone, South Ethiopia 2023.

3.2 Specific Objective

- To determine magnitude of screening attendance of the two female cancers among women in Gedeo zone, South Ethiopia 2023.
- To determine magnitude of intention to attend screening of the two female cancers among women in Gedeo zone, South Ethiopia 2023.
- To determine magnitude of health literacy related to the two female cancers among women in Gedeo zone, South Ethiopia 2023.
- To identify factors associated with screening attendance of the two female cancer among women in Gedeo zone, South Ethiopia 2023.
- To identify factors associated with intention to attend screening of the two female cancer among women in Gedeo zone, South Ethiopia 2023.
- To identify factors associated with health literacy related to two female cancer among women in Gedeo zone, South Ethiopia 2023.

3.3 Research Question

1. How is magnitude of screening attendance of two female cancers among women in the study setting?
2. How is magnitude of women intention to attend screening towards the two female cancers in the study setting?
3. How is magnitude of women health literacy related to the two female cancers in the study setting?
4. What are factors associated with screening attendance of the two female cancer?
5. What are factors associated with screening intention to attend the two female cancer?
6. What are factors associated with health literacy related to the two female cancers

4 MATERIAL AND METHOD

4.1 Study design

A community-based cross-sectional study design was employed.

4.2 Study area and period

The study was conducted from April to May 2023 in Gedeo zone which is located in the Southern Nations, Nationalities, and Peoples Region of Ethiopia (SNNPE). SNNPE is the third-largest region in Ethiopia, with an estimated population of 20,768,000. Gedeo is one of the 13 zones in SNNPR. The zone had eight district and five town. Dilla town is the administrative capital of the Gedeo zone which is located 359 km far from the capital city, Addis Ababa. The geographical location of the zone is found between 50 840– 60 430N latitudes and 380080–380440E longitudes. Its average rainfall is from 1200-1800mm per year. The zone covers a total area of 5890.2 sq. km. According to Gedeo Zone Health Department 2014 E.C report; the total population of the zone is 1,247,812. The estimated crude population density of the zone is 774 persons per sq. km. Gedeo is among the top coffee and inset-producing area in Ethiopia. In terms of healthcare infrastructure in the zone, there are one teaching hospital, three primary hospitals, 38 health centers and 146 health post. Among the health institution presented in the zone eight of them (One teaching hospital, two primary hospital, and five health center) were giving the screening services (Source: Gedeo Zone Health Department).

4.3 Source and study Population

4.3.1 Source population

- ✓ All women of 30-49 years age living in Gedeo zone, South Ethiopia.

4.3.2 Study population

- ✓ All women of 30-49 years age lived in the selected catchment Keeble found under health center which gave the screening service in the Gedeo zone, south Ethiopia.

4.3.3 Study unit

- ✓ Each a randomly selected 30-49 years age of individual participant.

4.4 Inclusion and Exclusion criteria

4.4.1 Inclusion Criteria

- ✓ Individuals women who were 30-49 years of age, reside in the selected specific Keeble for at least six months
- ✓ Women who were willing to participate included in the study.

4.4.2 Exclusion Criteria

- ✓ Women who were unable to respond for questioners
- ✓ Women who were diagnosed with breast or cervical cancer

4.5 Sample size determination

Single population proportion formula was used to calculate sample size for each specific objective by considering their respective assumption:

$$n = (Z_{\alpha/2})^2 p(1 - p)/d^2$$

Where; n = sample size required,

α = Level of significance (set at 0.05),

$Z_{\alpha/2}$ = a standardized normal test with α level of significant. It is equivalent with 1.96 with the corresponding 95% confidence interval

d= Margin of error,

D=design effect

p= Expected proportion

Table 1. Sample size determination for specific objective

S.N	Variable	P	d	Z	D	N	Reference
1	Cervical cancer screening attendance	21.2	0.05	1.96	1.5	374	(Eshete et al., 2020)
2	Breast cancer screening attendance	6.9	0.05	1.96	1.5	164	(Dibisa et al., 2019)
3	Cervical cancer screening intention	62.7	0.05	1.96	1.5	540	(Belete et al., 2015a)
4	Health literacy	35.1	0.05	1.96	1.5	525	(Ababu et al., 2022)

P-expected proportion; d-margin of error; D-design effect; N-sample size

After comparing the above result the largest sample size 540 was taken, then after 10% non - response added the final sample size become 594.

4.6 Sampling Procedure

In this study, multi stage cluster sampling technique was used to select the participant. Accordingly, all five-health center which had screening service were taken as cluster. Then from each health center 30% of catchment Keble (the smallest administrative unit next to district in Ethiopia) was selected by simple random sampling technique. Sample allocated proportionally for each health centers and selected Keble's based on their number of house hold found in the Keble's.

To obtain the sampling interval (k^{th} interval), the number of house hold in each team was divided by the required sample for that specific Keble. Then the starting house hold selected randomly selected from k^{th} interval, then the next house hold was selected systematically from the starting house hold. For household with more than one eligible participant by using lottery method only one study participant was selected and when eligible respondent was not available at time of data collection, revisit was made three times.

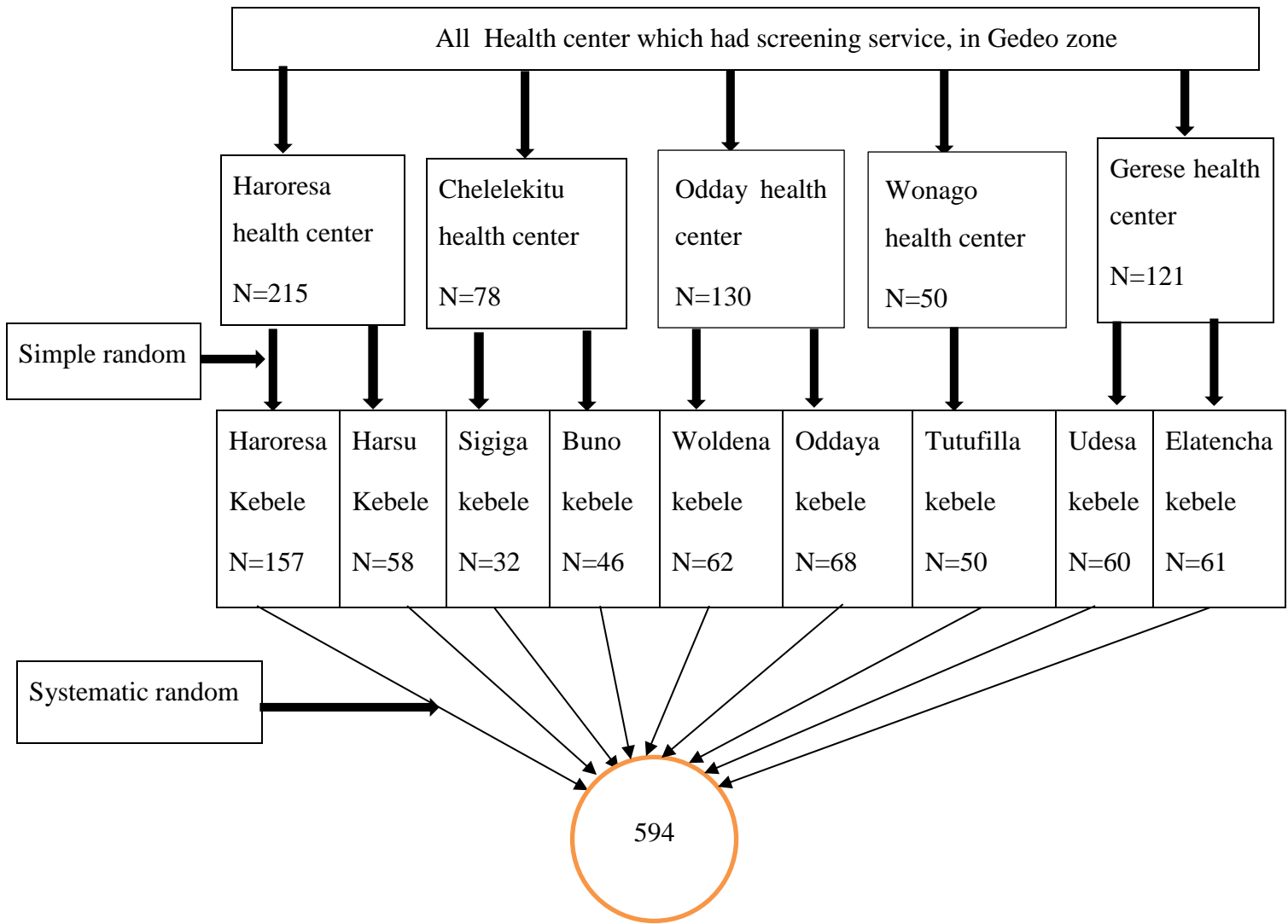


Figure 2: Sampling Procedure

4.7 Variables

4.7.1 Dependent variables

- ❖ Screening Attendance
- ❖ Intention to attend
- ❖ Health Literacy

4.7.2 Independent Variable

Socio demographics Factor:

- Age
- Residence
- Educational Status
- Marital Status
- Occupational status
- Monthly income
- Family/friend-history-of breast/cervical cancer

Reproductive factors

- Family-planning(ever-used contraceptive)
- Parity(number of children)

Behavioral factors:

- Knowledge
- Anticipated time to seek help
- Self-rated health status
- Health related information source

Protection Motivation Theory Construct

- Perceived risk
- Response efficacy
- Response cost
- Self- efficacy
- Perceived Severity
- Fear arousal

4.8 Operational Definition

Screening Attendance: women who ever been screened either for cervical cancer, breast cancer or for both considered as having “screening attendance of two female cancers” (Sun et al., 2022a).

Intention to attend: One item was used to assess intention to attend screening of two female cancers using a five-point scale ranging from 1 (very unwilling) to 5 (very willing). It was categorized as ‘**yes**’ who scores of “4” and “5” and “**No**” who scores “1” to “3” (Zhang et al., 2021a).

Health Literacy: women who responded to the health literacy related question and a score of the median value or above were considered as adequate health literacy.

Knowledge: Women who were responded to the knowledge-related questions and a score of the median value or above were considered as having good knowledge.

Anticipated time to seek help: woman who seek health care for potential symptom of breast or cervical cancer for less than 1 week considered as having short anticipated time to seek help (Moodley et al., 2021).

Source of information: ranking participant most commonly used source for health information and based on the number of source they utilized considered as only one source and more than one source.

4.9 Data collection and analysis

4.9.1 Data collection instrument

The instrument was structured questionnaire which was adopted from different literature. The tool has six part such as socio-demographic factors (6 item), attendance of breast and cervical cancer screening (2 item), intention to attend the two female cancer screening (1 item), health literacy related to two female cancer (12 item), Reproductive factors(3 item), behavioral factors (18 item), and protection motivation theory constructs (17 item).

The demographic and reproductive characteristics of the participants obtained as part of the survey included age (years), Residence, Marital status, educational status, occupational status, monthly average family income(Ethiopian birr), number of children, family planning usage/contraceptive, family/friend history of breast/cervical cancer.

Anticipated time to seek help: Anticipated time to seeking care in health facility for possible breast/cervical cancer symptom was assessed by one item. The response recorded as: never; <1 week; ≥ 1 week <1 month; ≥ 1 month <3 months; \geq months, then it was dichotomized into <1 week (**shorter**) versus ≥ 1 week (**longer**) to seek care (Moodley et al., 2019).

Health related information source: By using one item, participants were asked most commonly used source of information they had sought to receive health related information: (1) Health care provider (2) mass media (Television /Radio) (3) family (4) friends. It was developed based on a previous study on health literacy in diabetic patients accordingly to our context (Ishikawa et al., 2008).

Self-rated health status: using one item to rate their overall health on a 5-point ordinal scale ranging from poor (1) to excellent (5) (Amoah, 2018). This was categorized into Good and poor health status. Responses “excellent” and “very good health” were combined into Good; while all other responses were categorized as poor health status (Bhusal et al., 2021).

Attendance: It was assessed by two item separately for breast and cervical cancer. The first item assessed if they had ever been screened for breast cancer at least once in their life time by health care professional (Dibisa et al., 2019). The second item assessed if they had ever been screened for cervical at least once in their life time; both item had two response option (yes/no) (Desta et al., 2022).

Knowledge: assessed by 15 question related to symptom of breast and cervical cancer with three response option (Yes, No, Don't Know). Finally, yes (correct response) was given “1” point and no/don't know (incorrect) was given “0” with maximum of 15 point. It was categorized as good who scored above or equal to median and poor those scored below median value (Moodley et al., 2019).

Health literacy: health literacy related to the two female cancer was assessed by Twelve (12) Item using five point Likert type scale which ranges from 1(very difficult) to 5(very easy) (Minamitani et al., 2022).

Protection motivation theory sub construct: The section related to the PMT constructs consisted of 17 question, which were based on a 5-point Likert scale. In the 5-point spectrum, the score of each statement was (1: strongly disagree, 2: disagree, 3: neutral, 4: agree, 5: strongly agree) such as : 2 questions for the perceived risk, 3 questions for perceived severity, 4 questions for self-efficacy, 3 questions for response cost, 2 questions for fear arousal and 3 questions for response efficacy. After a total score computed, it were dichotomized using the

mean score in to high (who scored mean or above) and low (who scored below mean) (Zhang et al., 2021b).

4.9.2 Data collection procedure and quality assurance technique

The questionnaire was first developed in English, then it was translated to Amharic and Gedeofa language and re-translated back in to English by language experts to assure its consistency, then it was prepared by kobo Collect app.

Data was collected by face-to-face interview. For the data collection five health extension workers was assigned to collect data. Before data collection two day training was given for data collectors by principal investigator regarding the purpose of the study, the contents of questionnaires, the method of data collection and how to kept confidentiality and privacy.

Questionnaire were pre tested among 30 (5% of total study participant) to check that they were clear, understandable and interpreted as intended in wonago. The reliability of the study instrument was ensured by calculating the Cronbach's alpha coefficient to measure the internal consistency.

During data collection time, close supervision and monitoring was carried out by investigator to ensure quality of data. Daily evaluation of the data for completeness and encountered difficulty on the time of data collection was attended accordingly.

4.9.3 Data management and analysis

IBM SPSS version 25.0 was used for statistical analysis. The data were imported to SPSS from the kobo collect app, then cleaned, coded and checked. The characteristics of categorical variables were described by a chart and frequency table with frequencies and percentages.

A binary logistic regression model was used to identify factors associated with screening attendance, intention to attend and health literacy for breast and cervical cancers. In bi-variable analysis variables with a p-value ≤ 0.25 were candidates for multivariable analysis. Multicollinearity was assessed using the variance inflation factor (VIF) and model fitness was checked using Hosmer-lemeshow goodness of fit. The Adjusted odds ratio (AOR) with a 95% confidence interval (CI) and p-value < 0.05 was declared statistically significant.

4.10 Ethical Considerations

An ethical clearance letter was obtained from Hawassa University college of Medicine and Health science Institutional Review Board (IRB) and presented to Gedeo Zonal health office and concerned bodies.

After discussion and explanation about the purpose of the study written informed consent was obtained from individual study participant just before the actual data collection. They were notified no harm with participation in this study and they have the right to refuse or terminate at any point of the interview. Confidentiality was assured by making the data collection procedure anonymous.

4.11 Result Dissemination

The findings of the study will be presented to School of Nursing, Hawassa University College of Medicine and Health Science. The result of the study will be disseminated to Gedeo zonal health office. It will be tried to publish in reputable journals to reach out to those concerned bodies.

5 RESULT

Response Rate: A total of 554 eligible women's were participated, yielding a response rate of 93.2%.

5.1 Socio-Demographic characteristics of the respondents

Of the study participants, 231 (41.7%) were between 30 and 34 years of age. Two-thirds of respondents (374, or 67.5%) were urban and the rest of 180 (32.5%) were rural residents. Majority of participants (436, or 78.7%) were married.

In terms of educational level, more than half of the participants (330, or 59.6%) had primary education or below (can't read and write, can read and write). Nearly one third of the respondents, 191 (34.5%) were housewives and 87 (15.7%) were government employees. The majority of participants (232, or 41.9%) had an average family monthly income between 1501 and 3000 Ethiopian Birr.

Table 2: Socio-demographic characteristics of women in Gedeo Zone, South Ethiopia, 2023 (N=554).

Variable	Frequency	Percentage (%)
Age		
30-34	231	41.7
35-39	135	24.4
40-44	70	12.6
45-49	118	21.3
Residence		
Urban	374	67.5
Rural	180	32.5
Marital status		
Divorced/widowed	62	11.2
Single	56	10.1

Married	436	78.7
Education		
Primary education or below	330	59.6
Secondary education	104	18.8
College and above	120	21.7
Employment		
House wife	191	34.5
Daily labor	105	19
Merchant	70	12.6
Private/non-government employee	101	18.2
Governmental-employee	87	15.7
Income		
≤1500	141	25.5
1501-3000	232	41.9
≥3001	181	32.7

5.2 Reproductive and behavioral characteristics of participant

A total of 405 (73.1%) of participants responded that they visit health care (pharmacy, clinic or health center or hospital) for a period of less than one week, while 21 (3.8%) responded that they never visit to seek help for a potential symptom of the two female cancers. The remaining 128 (23.1%) responded as they visited health care for a period of one week or greater.

Regarding contraceptive usage 442 (79.8%) of them had ever used contraceptives, and nearly half of participants 272 (49.1%) rated their health status as good. Among participants, 172 (31%) had a family or friend history of breast or cervical cancer. About 63 (11.4%) of participants had no children.

Table 3: Reproductive and behavioral characteristics of women in Gedeo Zone, South Ethiopia, 2023 (N=554).

Variables	Frequency	Percentage (%)
Number of children		
No	63	11.4
1-2	164	29.6
3-4	189	34.1
>4	138	24.9
Ever used contraceptive		
No	112	20.2
Yes	442	79.8
Self-rated health status		
Poor	282	50.9
Good	272	49.1
Family/friend history of BC/CC		
No	382	69
Yes	172	31
Anticipated time to seek help		
Long	149	26.9
Short	405	73.1

5.2.1 Participant knowledge related to symptom of two female cancers

Participant knowledge of breast and cervical cancer symptoms was below 10%. Only 30 (5.4%) of them had good knowledge.

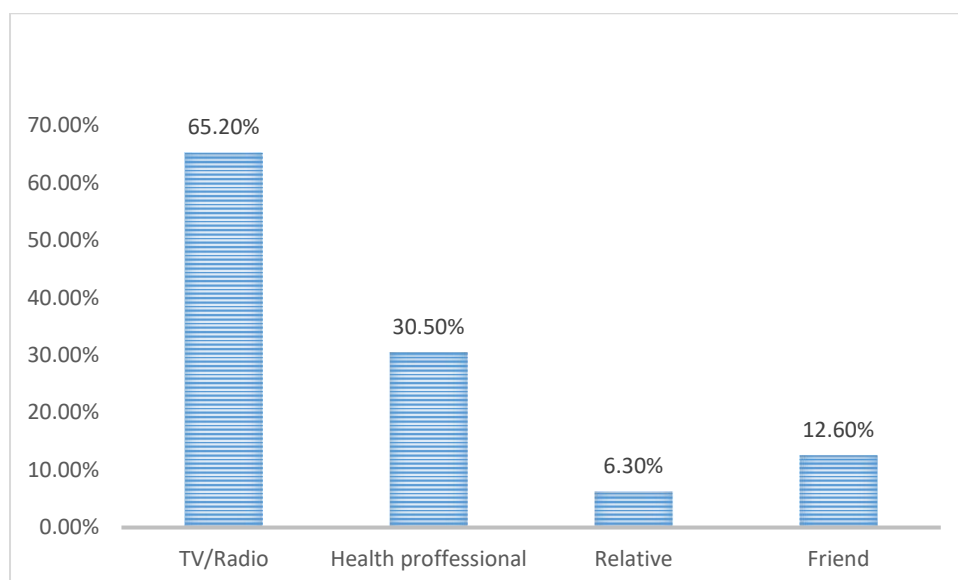
Table 4: Frequency of knowledge related to symptoms of breast and cervical cancer among women in Gedeo zone, south Ethiopia 2023 (N=554)

Symptom of breast and cervical cancers	Category	Frequency	Percentage (%)
change in the size of the nipple	Yes	112	20.2
	No	138	24.9
	Don't know	304	54.9
change in the shape of the nipple	Yes	102	18.4
	No	126	22.7
	Don't know	326	58.8
Nipple rash	Yes	86	15.5
	No	141	25.5
	Don't know	327	59
Discharge from the nipple	Yes	136	24.5
	No	139	25.1
	Don't know	279	50.4
Bleeding from the nipple	Yes	157	28.3
	No	95	17.1
	Don't know	302	54.5
lump or thickening in the breast	Yes	54	9.7
	No	119	21.5
	Don't know	381	68.8
Vaginal bleeding between menstrual periods	Yes	30	5.4
	No	171	30.9

	Don't know	353	63.7
Persistent lower back pain	Yes	14	2.5
	No	135	24.4
	Don't know	405	73.1
persistent smelly vaginal discharge	Yes	352	63.5
	No	86	15.5
	Don't know	116	20.9
Discomfort or pain during sex	Yes	26	4.7
	No	161	29.1
	Don't know	367	66.2
Menstrual periods that are longer or heavier than usual	Yes	18	3.2
	No	151	27.3
	Don't know	385	69.5
Persistent lower abdominal or pelvic pain	Yes	32	5.8
	No	167	30.1
	Don't know	355	64.1
Vaginal bleeding during or after sex	Yes	51	9.2
	No	118	21.3
	Don't know	385	69.5
Unexplained weight loss	Yes	11	2
	No	219	39.5
	Don't know	324	58.5
Itching in the vagina	Yes	26	4.7
	No	194	35
	Don't know	334	60.3
Knowledge	Good knowledge	30	5.4

5.2.2 Health related information source of participant

A total of 361 (65.2%) of participants used mass media (television or radio) as the most commonly used source of health-related information. Those who used health care providers were 169 (30.5%), relatives 35 (6.3%) and friends 70 (12.6%). Only 73 (13.2%) of participants used more than one source of information.



TV-Television

Figure 3: Health related information source of women in Gedeo zone, south Ethiopia, 2023.

5.3 Participant response regarding to protection motivation theory sub constructs

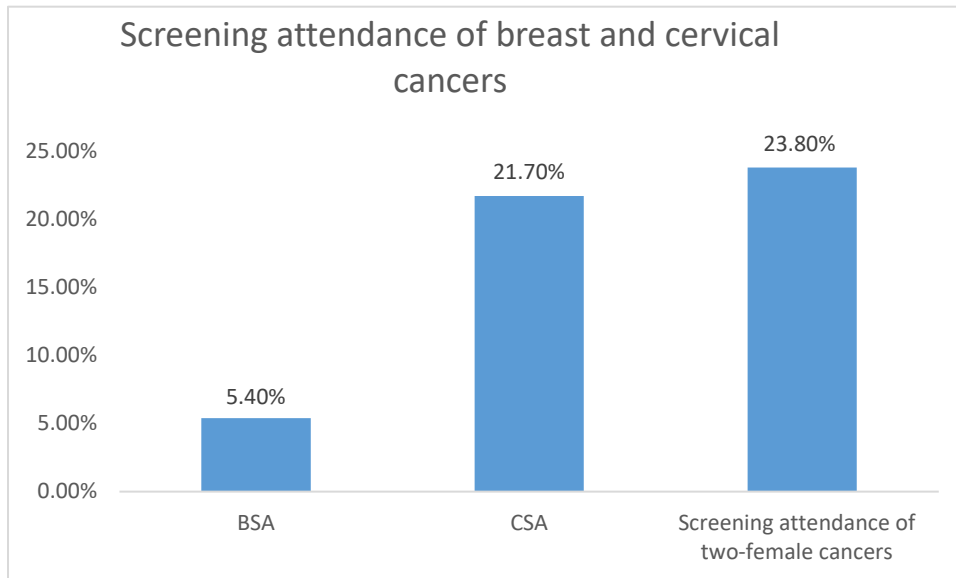
As shown in the table below, a total of 254 (45.8%) study participants had a high perceived risk of two female cancers and 314 (56.7%) of them had a high perceived severity. A total of 238 (43%) of participants had low self-efficacy and about half of the study participants (282 or 50.9%) had a high response cost.

Table 5: Study participant response towards protection motivation theory sub constructs in Gedeo zone, South Ethiopia, 2023 (N=554).

Theory Sub construct	Frequency	Percentage (%)
Perceived risk		
Low	300	54.2
High	254	45.8
Perceived severity		
Low	240	43.3
High	314	56.7
Fear arousal		
Low	256	46.2
High	298	53.8
Response efficacy		
Low	187	33.8
High	367	66.2
Response cost		
Low	272	49.1
High	282	50.9
Self-efficacy		
Low	238	43
High	316	57

5.4 Participant screening attendance of two female cancers

Among the total participants 132 (23.8%) (95% CI: 20%, 27%) of them had screening attendance of two-female cancers (screened either for breast or cervical or for both of them).



BSA-breast cancer screening attendance; CSA-cervical cancer screening attendance

Figure 4: Screening attendance of breast and cervical cancer among women in Gedeo zone, South Ethiopia, 2023 (N=554).

5.5 Participant intention to attend screening of two female cancers

More than half of the study participants which is 342 (61.7%) (95% CI: 58%, 66%) had intention to attend screenings of two female cancers.

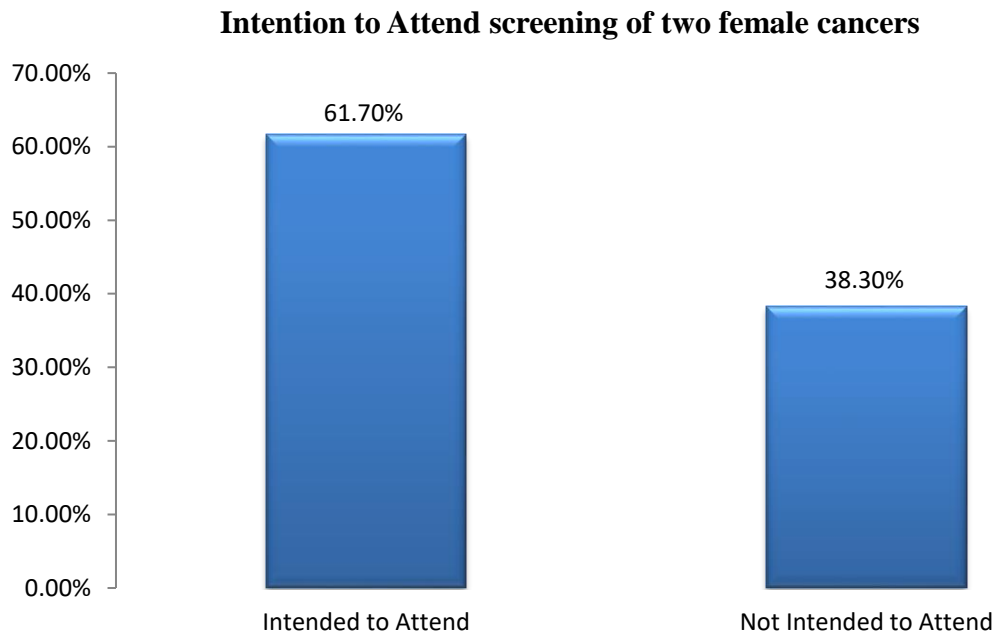
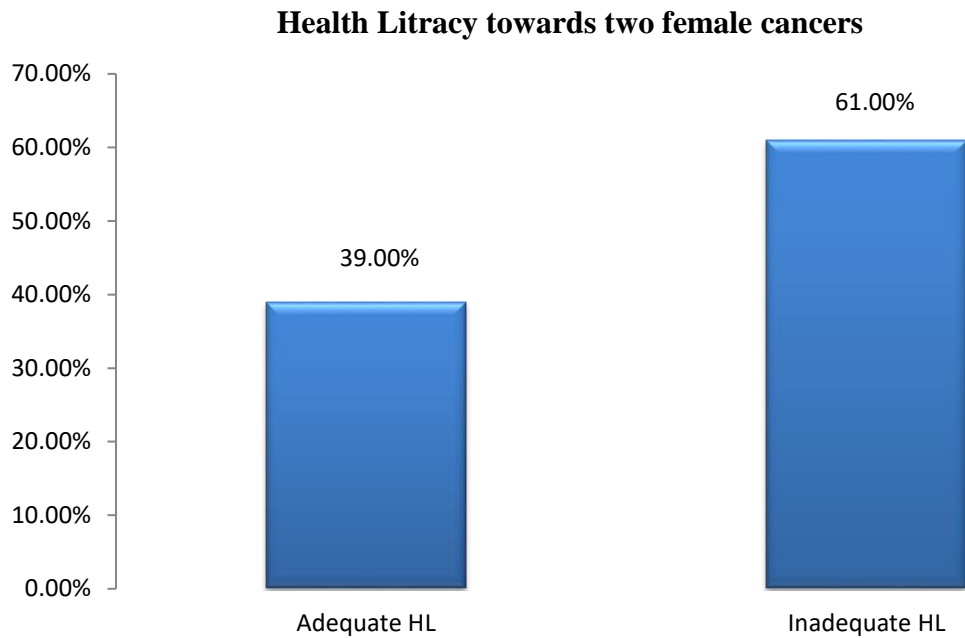


Figure 5: Intention to attend screening of two female cancers among women in Gedeo zone, south Ethiopia, 2023 (N=554).

5.6 Participant Health literacy of two female cancers

More than half of the participants had inadequate health literacy towards the two female cancers. A total of 216 (39%) (95% CI: 35%, 43%) study participants had adequate health literacy; while the rest of 61% (316) had Inadequate health literacy.



HL-health literacy

Figure 6: Health literacy of the two female cancers among women in Gedeo zone, south Ethiopia, 2023 (N=554).

5.7 Factors associated with screening attendance of two female cancers

The regression model revealed that, the odds of screening attendance were four times higher among women aged 45-49 as compared to those aged 30-34 years **AOR 4.18 (1.59, 10.9)**. The odds of screening attendance were five times higher among women having college and above educational status in comparison with those who had primary education and below **AOR 5.49(2.01, 13.1)**.

The odds of screening attendance were approximately six times higher among women who had a family or friend history of breast or cervical cancer as compared to those with no family or friend history of breast or cervical cancer **AOR 5.55(2.47, 12.5)**; similarly, the odds of screening attendance were five times higher among women who had a short anticipated time to seek help as compared to those with a long anticipated time to seek help **AOR 4.66(1.31, 11.7)**.

Women who had adequate or sufficient health literacy were seven times more likely to have screening attendance as compared to those with inadequate or problematic health literacy **AOR 6.98(2.82, 13.3)**. The odd of screening attendance decreased by 81% among women who had a higher response cost as compared to those with a lower response cost **AOR 0.19(0.08, 0.50)**. The odds of screening attendance were two times higher among women who had higher self-efficacy as compared to those with low self-efficacy **AOR 2.32(1.08, 4.96)**.

Table 6: Factors associated with screening attendance of two-female cancers among women in Gedeo Zone, South Ethiopia, 2023 (N=554).

Variables	Screening attendance		COR	AOR
	Yes	No		
Age				
30-34	40(30.3%)	191(45.3%)	1	1
35-39	22(16.7%)	113(26.8%)	0.93(0.53,1.64)	0.68(0.29,1.6)
40-44	26(19.7%)	44(10.4%)	2.82(1.56,5.10)*	1.08(0.41,2.84)
45-49	44(33.3%)	74(17.5%)	2.84(1.71,4.71)*	4.18(1.59,10.9) **
Marital status				

Divorced/widowed	24(18.2%)	38(9%)	1	1
Single	16(12.1%)	40(9.5%)	0.63(0.29,1.37)	0.04(0.01,1.39)
Married	92(69.7%)	344(81.5%)	0.42(0.24,0.74)*	0.12(0.03,1.42)
Educational status				
Primary education & below	32(24.2%)	298(70.6%)	1	1
Secondary education	58(48.3%)	62(14.7%)	6.31(3.69,10.8)*	0.57(0.13,2.46)
College and above	42(31.8%)	62(14.7%)	8.71(5.23,14.5)*	5.49(2.01,13.1)**
Employment status				
House wife	18(13.6%)	173(41%)	1	1
Daily labor	42(31.8%)	63(14.9%)	6.41(3.44,11.9)*	0.23(0.08,1.70)
Merchant	22(16.7%)	48(11.4%)	4.41(2.19,8.87)*	1.16(0.39,3.40)
NGO/private	7(5.3%)	94(22.3%)	0.72(0.29,1.78)	2.03(0.56,7.36)
Governmental	43(32.6%)	44(10.4%)	9.39(4.94,14.9)*	0.97(0.34,2.83)
Income				
≤1500	10(7.6%)	131(31%)	1	1
1501-3000	37(28%)	195(46.2%)	2.49(1.19,5.17)*	5.52(0.73,12.6)
≥3001	85(64.4%)	96(22.7%)	11.6(5.72,18.1)*	9.64(0.21,13.2)
Number of children				
No	27(20.5%)	36(8.5%)	1	1
1-2	49(37.1%)	115(27.3%)	0.57(0.31,1.04)	0.19(0.03,1.16)
3-4	28(21.2%)	161(38.2%)	0.23(0.12,0.44)*	0.05(0.01,1.34)
>4	28(21.2%)	110(26.1%)	0.34(0.18,0.65)*	0.22(0.03,1.53)

Family/friend history of BC/CC				
No	85(64.4%)	297(70.4%)	1	1
Yes	47(35.6%)	125(29.6%)	1.31(1.17,1.99)*	5.55(2.47,12.5)**
Number-of information source				
One	98(74.2%)	383(90.8%)	1	1
More than one	34(25.8%)	39(9.2%)	3.41(2.05,5.68)*	0.64(0.22,1.86)
Knowledge				
Poor	113(85.6%)	411(97.4%)	1	1
Good	19(14.4%)	11(2.6%)	6.28(2.91,13.6)*	0.96(0.26,3.57)
Health status				
Poor	36(27.3%)	246(58.3%)	1	1
Good	96(72.7%)	176(41.7%)	3.73(2.43,5.73)*	1.35(0.61,3.01)
Anticipated time to seek help				
Long	7(5.3%)	142(33.6%)	1	1
Short	125(94.3%)	280(66.4%)	9.06(4.12,12.9)*	4.66(1.31,11.7)**
Health literacy				
Inadequate/problematic	33(25%)	305(72.3%)	1	1
Sufficient/Adequate	99(75%)	117(27.7%)	7.82(4.99,12.2)*	6.98(2.82,13.3)**
Perceived risk				
Low	97(73.5%)	203(48.1%)	1	1
High	35(26.5%)	219(51.9%)	0.33(0.22,0.52)*	0.35(0.16,1.74)

Fear arousal				
Low	88(66.7%)	168(39.8%)	1	1
High	44(33.3%)	254(60.2%)	0.33(0.22,0.49)*	1.33(0.55,3.21)
Response efficacy				
Low	35(26.5%)	152(36%)	1	1
High	97(73.5%)	270(64%)	1.56(1.01,2.41)*	0.44(0.18,1.05)
Response cost				
Low	118(89.4%)	154(36.5%)	1	1
High	14(10.6%)	268(63.5%)	0.07(0.04,0.12)*	0.19(0.08,0.50)**
Self-efficacy				
Low	41(31.1%)	197(46.7%)	1	1
High	91(68.9%)	225(53.3%)	1.94(1.28,2.94)*	2.32(1.08,4.96)**

COR-crude odd ratio; AOR-adjusted odds ratio; *= P-value ≤ 0.25, **=P-value < 0.05, 1=reference category

5.8 Factors associated with intention to attend screening of two female cancers

The regression model revealed that, women who had a family or friend history of breast or cervical cancer were seven times more likely to have increased odds of screening intention to attend as compared to those with no history **AOR 7.18(3.59, 14.4)**. Having a short anticipated time to seek help approximately five times increased the odds of screening intention to attend as compared to those with a long anticipated time to seek help **AOR 4.75(2.41, 9.39)**.

The odds of screening intention to attend were two times higher among women with adequate or sufficient health literacy as compared to those with inadequate or problematic health literacy **AOR 2.26(1.15, 4.48)**. Having high perceived severity three times approximately increased the odds of screening intention to attend as compared to those with low perceived severity **AOR 2.96(1.64, 5.37)**. The odds of screening intention to attend were four times higher among women who had high self-efficacy as compared to those who had low self-efficacy **AOR 3.93(1.76, 8.77)**.

Table 7: Factors associated with intention to attend screening of two-female cancers among women in Gedeo Zone, South Ethiopia, 2023 (N=554).

Variables	Intention to attend		COR	AOR
	Yes	No		
Age				
30-34	144(42.1%)	87(41%)	1	1
35-39	79(23.1%)	56(26.2%)	0.85(0.55,1.32)	1.47(0.76,2.83)
40-44	52(15.2%)	18(8.5%)	1.75(0.96,3.18)*	2.68(0.85,8.38)
45-49	67(19.6%)	51(24.1%)	0.79(0.51,1.25)	2.66(0.84,8.47)
Marital status				
Divorced/widowed	34(9.9%)	28(13.2%)	1	1
Single	33(9.6%)	23(10.8%)	1.18(0.57,2.45)	0.64(0.11,3.75)
Married	275(80.4%)	161(75.9%)	1.41(0.82,2.41)*	0.81(0.27,2.43)
Educational status				

Primary education & below	170(49.7%)	160(75.5%)	1	1
Secondary education	86(25.1%)	18(8.5%)	4.49(2.59,7.81)*	0.01(0.01,1.09)
College and above	86(25.1%)	34(16%)	2.38(1.52,3.74)*	0.19(0.07,1.57)
Employment status				
House wife	101(29.5%)	90(42.5%)	1	1
Daily labor	83(24.3%)	22(10.4%)	3.36(1.94,5.82)*	2.26(0.71,7.22)
Merchant	45(13.2%)	25(11.8%)	1.60(0.91,2.82)	0.87(0.28,2.72)
NGO/private	29(8.5%)	72(34%)	0.36(0.21,0.60)*	0.26(0.13,0.55)
Governmental	84(24.6%)	3(1.4%)	24.9(0.62,27.7)	24.3(0.95,27.9)
Income				
≤1500	55(16.1%)	86(40.6%)	1	1
1501-3000	140(40.9%)	92(43.4%)	2.38(1.55,3.65)*	0.66(0.34,1.32)
≥3001	147(43%)	34(16%)	6.76(4.09,11.2)*	11.2(0.44,14.4)
Number of children				
No	44(12.9%)	19(9%)	1	1
1-2	116(33.9%)	48(22.6%)	1.04(0.55,1.97)	0.37(0.06,2.23)
3-4	120(35.1%)	69(32.5%)	0.75(0.41,1.39)	0.18(0.03,1.24)
>4	62(18.1%)	76(35.8%)	0.35(0.19,0.66)*	0.09(0.02,1.71)
Ever-used contraceptive				
No	43(12.6%)	69(32.5%)	1	1
Yes	299(87.4%)	143(67.5%)	3.36(2.18,5.16)*	4.25(0.63,11.1)

Family/friend history of BC/CC				
No	207(60.5%)	175(82.5)	1	1
Yes	135(39.5%)	37(17.5%)	3.09(2.04,4.67)*	7.18(3.59,14.4)**
Knowledge				
Poor	316(92.4%)	208(98.1%)	1	1
Good	26(7.6%)	4(1.9%)	4.28(1.47,12.4)*	0.24(0.04,1.63)
Health status				
Poor	146(42.7%)	136(64.2%)	1	1
Good	196(57.3%)	76(35.8%)	2.40(1.69,3.42)*	0.37(0.15,1.92)
Anticipated time to seek help				
Long	33(9.6%)	116(54.7%)	1	1
Short	309(90.4%)	96(45.3%)	11.3(7.22,17.7)*	4.75(2.41,9.39)**
Health literacy				
Inadequate/problematic	172(50.3%)	166(78.3%)	1	1
Sufficient/Adequate	170(49.7%)	46(21.7%)	3.57(2.42,5.26)*	2.26(1.15,4.48)**
Perceived severity				
Low	122(35.75)	118(55.7%)	1	1
High	220(64.3)	94(44.3%)	2.26(1.59,3.21)*	2.96(1.64,5.37)**
Response cost				
Low	227(66.4%)	45(21.2%)	1	1
High	115(33.6%)	167(78.8%)	0.14(0.09,0.21)*	0.07(0.03,1.19)
Self-efficacy				

Low	115(33.6%)	89(42%)	1	1
High	227(66.4%)	123(58%)	2.73(1.92,3.88)*	3.93(1.76,8.77)**

**COR-crude ratio; AOR-adjusted odds ratio; *= p-value less ≤ 0.25 , ** = p-value < 0.05 ,
1=reference category**

5.9 Factors associated with health literacy related to the two-female cancer

The regression model revealed that, women who lived in urban areas had two times increased odds of adequate health literacy as compared to those who lived in rural areas **AOR 1.96(1.19, 3.22)**. Those with a short anticipated time to seek help were four times more likely to have adequate health literacy as compared to those with a long anticipated time to seek help **AOR 4.01(2.15, 7.49)**.

The odds of adequate health literacy were four times higher among women who had good knowledge as compared to those who had poor knowledge **AOR 4.51(1.14, 13.9)**. Those individual women who had ever used contraceptives were three times more likely to have adequate health literacy as compared to those who hadn't used contraceptives **AOR 2.51(1.24, 5.11)**.

Table 8: Factors associated with health literacy related to the two-female cancer among women in Gedeo zone, south Ethiopia, 2023 (N=554).

Variables	Health literacy		COR	AOR
	Adequate	Inadequate		
Residence				
Rural	60(27.8%)	120(35.5%)	1	1
Urban	156(72.2%)	218(64.5%)	1.43(0.99,2.08)*	1.96(1.19,3.22)**
Educational status				
Primary education & below	83(38.4%)	247(73.1%)	1	1
Secondary education	73(33.8%)	31(9.2%)	7.01(4.30,11.4)*	0.59(0.18,1.89)
College and above	60(27.8%)	60(17.8%)	2.97(1.93,4.60)*	1.84(0.79,4.25)
Employment status				
House wife	44(20.4%)	147(43.5%)	1	1
Daily labor	72(33.3%)	33(9.8%)	7.29(0.28,12.4)	5.45(0.53,11.9)
Merchant	25(11.6%)	45(13.3%)	1.86(1.03,3.36)*	0.95(0.45,2.01)

NGO/private	25(11.6%)	76(22.5%)	1.09(0.63,1.93)	1.17(0.60,2.28)
Governmental	50(23.1%)	37(10.9%)	4.52(2.63,7.77)*	1.59(0.67,3.76)
Income				
≤1500	40(18.5%)	101(29.9%)	1	1
1501-3000	52(24.1%)	180(53.3%)	0.73(0.45,1.18)	0.64(0.36,1.16)
≥3001	124(57.4%)	57(16.9%)	5.49(3.39,8.89)*	3.73(0.59,8.73)
Number of children				
No	41(19%)	22(6.5%)	1	1
1-2	58(26.9%)	106(31.4%)	0.29(0.16,1.54)	0.27(0.11,1.69)
3-4	64(29.6%)	125(37%)	0.28(0.15,0.5)*	0.46(0.16,1.27)
>4	53(24.5%)	85(25.1%)	0.34(0.18,0.62)*	0.85(0.29,2.51)
Ever-used contraceptive				
No	34(15.7%)	78(23.1%)	1	1
Yes	182(84.3%)	260(76.9%)	1.61(1.03,2.51)*	2.51(1.24,5.11)**
Family/friend history of BC/CC				
No	157(72.7%)	225(66.6%)	1	1
Yes	59(27.3%)	113(33.4%)	0.75(0.51,1.09)*	0.45(0.27,1.76)
Number-of information source				
One	164(75.9%)	317(93.8%)	1	1
More than one	52(24.1)	21(6.2%)	4.79(2.79,8.22)*	1.78(0.77,4.12)
Knowledge				

Poor	190(88%)	334(98.8%)	1	1
Good	26(12%)	4(1.2%)	11.4(3.93,16.2)*	4.51(1.14,13.9)**
Health status				
Poor	79(36.6%)	203(60.1%)	1	1
Good	137(63.4%)	135(39.9%)	2.61(1.83,3.71)*	0.83(0.48,1.43)
Anticipated time to seek help				
Long	23(10.6%)	126(37.3%)	1	1
Short	193(89.4%)	212(62.7%)	4.99(3.07,8.1)*	4.01(2.15,7.49)**

COR-crude ratio; AOR-adjusted odds ratio; *= P-value less \leq 0.25, ** = p-value $<$ 0.05, 1=reference category

6 DISCUSSION

The aim of this community-based cross-sectional study was to assess screening attendance, intention to attend, and health literacy of breast and cervical cancer among women aged 30–49 years in Gedeo Zone, southern Ethiopia. The findings provide valuable insights into the current state of cancer screening behavior and identify factors associated with screening attendance, intention to attend and health literacy.

Our analysis found that 21.7% (95% CI: 18%, 25%) of women had ever attended cervical cancer screening. This finding revealed that the screening attendance was low, which indicates a significant gap in early detection practice among women in the Gedeo zone. The low screening attendance found in this study indicates the need for increased efforts to promote the importance of regular screening among women. This finding is comparable with previously done studies in Zimbabwe (24%) (Tapera et al., 2019), Nigeria (20.6%) (Ifemelumma et al., 2019), and Ethiopia (22.9%) (Tekle et al., 2020). However, it was higher in comparison to the previously done study in Malaysia (5.9%) (Javaeed et al., 2019) and in different parts of Ethiopia which showed 8.11% (Mengesha et al., 2020) to 14.79% (Desta et al., 2021). This might be due to the differences between our sample population and other sample studies. In addition, these studies were done some years ago when awareness and availability of the service of cervical cancer screening were relatively low. In contrast to this, our finding is lower than the study done in Uganda (30.3%) (Wanyenze et al., 2017). The possible reason for this might be due to the difference in study subjects, in which the study done in Uganda was among HIV infected women.

In the present study, only 5.4% (95% CI: 4%, 7%) of women had ever received breast cancer screening. These numbers indicate a significant gap in efforts to detect these cancers early, which highlights the need to raise awareness of the importance of regular screening. This finding is consistent with a previously done study in Ethiopia (6.9%) (Dibisa et al., 2019); however, it is higher than the study done in Ghana (3.4%) (Ayanore et al., 2020a). The possible reason for this might be that the study done in Ghana only assessed mammography screening uptake. In contrast, our magnitude of breast cancer screening attendance is much lower than studies in Brazil (62.3%) (Buranello et al., 2018), India (23.4%) (Saha et al., 2021), in different parts of Ethiopia such as Addis Abeba (35.7%) (Abeje et al., 2019a), and in the urban setting of SNNPR (20.8%) (Assefa et al., 2021a). This discrepancy might be due to examination differences assessed in the study, health system strength, and study setting differences.

In this study, more women were found to have had cervical cancer screening compared to women who had ever been screened for breast cancer. This is due to the fact that organized cancer screening increases the participation rate in comparison to opportunistic screening (Pelullo et al., 2021). The cancer control national plan of Ethiopia recommended that clinical breast examination (opportunistic screening) for all women above 18 coming to health institutions for other complaints and breast self-awareness is recommended for raising awareness among women at average risk rather than as a screening method, while population-based cervical cancer screening using VIA (organized screening) is recommended for all women aged 30-49 every 5 years (FMoH, 2015).

In our study, the overall screening rate for the two female cancers (breast, cervical or both) was 23.8%. 23.8% (95% CI: 20%, 27%). The low screening attendance observed in this study highlights the urgent need for information campaigns and educational initiatives to highlight the benefits of early detection. This finding is higher than the study done in Ghana (1.8%) (Ayanore et al., 2020b). This might be due to the study done in Ghana which reported women who had been screened for both cervical and breast cancers, in addition to the difference in sociodemographic characteristics and the year of study done. This finding is lower in comparison to studies conducted in China (40.6%) (Han et al., 2022a) and 39.1% (Sun et al., 2022b). This might be due to the difference in screening program policy, in which there is an organized screening program for two female cancers in China. This might give insight that organized screening program may enable to early detect breast and cervical cancers. Therefore, in our country integrating the existing national program of breast cancer screening with cervical cancer screening and vice versa may enable to early detect the two female cancers.

The study found that the magnitude of women's intention to attend screening of two female cancers was 61.7% (95% CI: 58%, 66%). Despite the low screening attendance, more than half of the women expressed their intention to attend screenings in the future. This indicates the potential willingness of women to participate in cancer screening programs if they are given the necessary support and resources. This finding is comparable with the previously done study in Ethiopia 62.7% (Belete et al., 2015b); however it was higher than the study done in different parts of Ethiopia 45.3% (Getahun et al., 2020b), 46.7% (Desta et al., 2022). This discrepancy may be attributed to varying study participants and study periods. In contrast to this, it was lower than the previously done study in China 77.15% (Han et al., 2022a), UK 72% (Wilson et al., 2021) and England 88% (Marlow et al., 2017). This might be due to the difference in

demographic characteristics of the participant, low awareness level and cultural variables that make it challenging.

In terms of health literacy towards the two female cancers our study showed that 39% (95% CI: 35%, 43%) of participants had adequate health literacy. This indicates the need to improve the level of health literacy among women in the study population, improving health literacy can enable women to make informed decisions about their health, understand the importance of early detection, and effectively navigate the health care system. Even though there is a difference in measurement tools, it is comparable to the study done in Nepal 43.4% of participants had adequate health literacy (Koirala et al., 2021). However, it is lower than the study done in the United States which showed 82% had adequate health literacy (Dumenci et al., 2014). This difference can be mainly due to the fact the latter study was done among the population comprised of all cancer patients, who might be exposed to cancer related terminologies in some way or another during the process of diagnosis and treatment.

In this study, age was found to be associated with two female cancer screening attendances, which revealed that 45-49 years old women had higher odds of screening attendance than those aged 30-34. This finding is supported by previously conducted studies in Ethiopia (Andargie and Reddy, 2016, Belay et al., 2020). The possible explanation for this could be that Ethiopia cancer control plan guidelines support the beginning of two female cancer screenings at an earlier age (FMoH, 2015). In addition to this, it might be that as age advances women are believed to be risk factors and more likely to approach health care facilities for different types of reproductive morbidities when opportunistic screening is also done.

The findings of our study found that educational level was significantly associated with screening attendance for two female cancers. Participants with college and above education levels had five times higher odds of screening attendance compared to those with primary education and below. The finding was consistent with previously conducted studies in China (Han et al., 2022a) and Ethiopia (Abeje et al., 2019b, Assefa et al., 2021b). Similarly, analysis of WHO studies also showed that higher educational level significantly improve screening rates in low and middle income countries (Tomi et al., 2016). This could be due to the fact that educated women have a good understanding of the burden of cancer related disease and its early detection methods.

In this study, women with high response costs were less likely attended screening of the two female cancers. This indicate that a reduced response cost could facilitate women to engage in

screening. Similarly, this is supported by the study conducted in Iran (Ghofranipour et al., 2020a). This finding implies that effective measures should be taken to reduce women's response costs for screening such as protecting their privacy and giving appropriate advice regarding the two female cancer health practices to reduce their negative feelings.

Participants with high perceived severity were more likely have intention to attend screening of the two female cancers. This finding is supported by a previously conducted study in China (Zhang et al., 2021b). This finding showed that if the women understood the severity and harm of the disease as well as the related consequences they were more likely to perform the screenings.

The odds of adequate health literacy are higher among women who had lived in urban areas as compared to those who lived in rural areas. This highlights the importance of considering contextual factors and tailoring interventions to specific settings. This finding was supported by a previously done study (Azlan et al., 2021). This is might be due to people who had easier access to infrastructure (transportation and technology) were more likely to be exposed to health-related information. Efforts should be made to bridge the urban-rural divide and ensure equal access to health literacy initiatives and screening services.

Having shorter anticipated time to seek help had more increased odds of adequate health literacy as compared to those with longer anticipated time to seek help. This finding is similar to the previously done study (Harsch et al., 2021a). This indicate that there is positive relationship between participant anticipated time to seek help and health literacy, which means that women with high health literacy related to the two female cancer they seek help within short period of time for potential symptom of the two female cancers.

Women who had history of contraceptive utilization practice were more likely had higher odds of adequate health literacy. This finding was consistent with previously done study (Harsch et al., 2021a). The possible explanation for this could be those who had health facility exposure for family planning may increase their health literacy.

In the present study, having good knowledge related to the two female cancers had positively associated on health literacy. Interestingly, when individual reported lower level of disease knowledge the odds of adequate health literacy had been lowered. This finding is supported by previously done study (Gabel et al., 2019).

As WHO recommended actions in health literacy development for the prevention and control of non communicable disease understanding to whom people used frequently for health

information is essential, because they may strongly influence how people in the community perceive the quality and trustworthiness of information which had great impact on Health literacy (Organization, 2022). In our study, the most commonly used source for health related information were mass media next to this health care provider, which indicates that they are an influential tool for the dissemination of health information.

In this study, family or friend breast or cervical cancer history was found to have a significant association with screening attendance and intention to attend the two female cancers. The odds of screening attendance and intention to attend were increased among those who had a family or friend history of breast or cervical cancer. This finding was supported by a previously conducted study (Zhang et al., 2021b) (Assefa et al., 2021b). This may be a family or friend history of breast or cervical cancer; perhaps it gave them a chance to have information about screening methods and increases their health-seeking behavior.

In our study, women who had a short anticipated time to seek help were more likely to have increased odds of screening attendance and intention to attend. In our study, 73.1% of participant had short anticipated time to seek help for possible breast and cervical cancer symptoms; however, only 5.4% of them had good knowledge regarding two-female cancer symptoms. This finding may indicate that to enhance early detection behavior intervention will be focused on increasing knowledge of symptom.

The findings of our study showed that self-efficacy was also found to be associated with screening attendance and intention to attend the two female cancer. Similarly to this, a previously done study showed that women with higher self-efficacy were more likely to have screening intentions (Khalednejad et al., 2022, Zhang et al., 2021a). In consistent with this, a different study showed that women with higher self-efficacy were more likely to perform screening regularly (Ghofranipour et al., 2020a). This indicates that more attention on self-efficacy in intervention programs to increase women's screening attendance.

In our study, health literacy was significantly associated with screening attendance and intention of two female cancer, which indicates that adequate levels of health literacy are associated with increased participation in behaviors that promote health (e.g. screening attendance) and inadequate levels of health literacy are associated with increased participation in health risk behaviors (e.g., screening avoidance). A previous study showed that, individuals with lower health literacy may experience great barriers to adopting protective behaviors, due to their limited ability to use health information (Gautam et al., 2021) (McCaffery et al., 2020).

Similarly to this study, another study indicates that higher health literacy is associated with favorable health behaviors (Jordan and Hoebel, 2015) (Svendsen et al., 2020).

7 STRENGTH AND LIMITATION OF THIS STUDY

This study was a community-based study with coverage of both urban and rural areas. This study adding evidence to research on non-communicable diseases in a country like Ethiopia, where there is more focus on communicable diseases and exploring a relatively new arena of understanding for the early detection of two female cancer. However, this study had a number of limitations, our study was based on the self-reported information provided by the participants, which may have led to some information bias. Also, this study only included participants who lived in catchment Keeble's presented under a health center that provide screening service.

8 CONCLUSION AND RECOMMENDATION

8.1 Conclusion

This study found that the magnitude of screening attendance and health literacy towards the two-female cancers among women in Gedeo zone were low; while breast cancer screening attendance was low as compared to cervical cancer. However more than half of women was intend to attend screening in the future.

Being age 45-49 [AOR= 4.18, 95% CI (1.59, 10.9)], college and above educational status [AOR= 5.49, 95% CI (2.01, 13.1)], having family or friend history of breast or cervical cancer [AOR= 5.55, 95% CI (2.47, 12.5)] , short anticipated time to seek help [AOR 4.95(1.37, 13.8), adequate health literacy AOR= 6.98, 95% CI (2.82, 13.3)], high self-efficacy [AOR 2.32, 95% CI (1.08, 4.96)] were positive factors; while high response cost [AOR 0.19, 95% CI (0.08, 0.50)] were negative factors associated with screening attendance.

Having family or friend history of breast or cervical cancers AOR= 7.18, 95%CI (3.59, 14.4)], short anticipated time to seek help [AOR=4.75, 95% CI (2.41, 9.39)], adequate health literacy [AOR 2.26, 95%CI (1.15, 4.48)], high perceived severity [AOR=2.96, 95% CI (1.64, 5.37)], high self-efficacy [AOR=3.93, (1.76, 8.77)] were positive factors associated with screening intention to attend.

Being Urban residence [AOR 1.96(1.19, 3.22), short anticipated time to seek help AOR=4.01, 95% CI (2.15, 7.49)], good knowledge AOR 4.51, 95% CI (1.14, 13.9)], ever used contraceptives AOR= 2.51, 95% CI (1.24, 5.11)] were positive factors associated with health literacy.

8.2 Recommendation

Based on the findings of this particular study the following recommendations are provided:

Ethiopian ministry of health (EMOH) and non-governmental organization: Better to design health literacy focused screening policy guide line.

Regional, Zonal and District health administrators: Better to enforce public health education and awareness creation by using their most commonly used source of health related information.

Health care professional/ workers: Better to advice and motivate age eligible women using protection motivation theory wherever they approached in the health facility or in the

community. It is recommended to practice one role of nurses, identifying women with inadequate or problematic health literacy and to improve health literacy by training and counseling activities.

Conduct further studies: Researcher may investigate or confirm having intention to attend screening will lead to actual screening attendance through longitudinal study. In addition to this, experimental study which examine the effect of health literacy level on the two female cancer early detection behavior.

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Annex I: Information sheet

Dear respondents,

Hello,

We are pleased to present you with a questionnaire considered for conducting a study titled “Screening attendance, intention to attend, health literacy and their associated factors towards breast and cervical cancer among woman in Gedeo Zone, south Ethiopia 2023: based on Protection motivation theory. Please help us better carry out this study by answering the questions carefully. Meanwhile, we want to point out that the information received is for the sole purpose of this study, and that this information will be kept confidential by the researcher. Therefore, you have a right to respond or not to respond to the questions. Your support and willingness in responding to the questions will be very important for the success of this study. The questions may take around 20 minutes.

Name of Data collector _____ Signature: _____ Date: _____.

Name of principal investigator: Abel Desalegn

Address: Tel: +251-900-53-10-10

Email: adesalegn2513@gmail.com

Annex II: Consent form

I am informed about the aim of the study and also, I understand that there is no risk upon participation in this study. Therefore, you are kindly requested to indicate your agreement or disagreement to participate. If you are willing to participate, please put your signature or thumb print in the space provided below.

Participant's signature or left thumb print: _____ Date: _____

Thank you for your cooperation.

Annex III: English version Questionnaire

Part 1: Demographic characteristics

S.N	Question	Response
1	Participant ID	
2	Residence of participant	1.Urban 2. Rural
3.	Age	-----Years
4.	What is your marital status?	1.single 2.married 3.divorced 4.widowed
5	What is your educational status?	1.Cannot read and write 2.Can read and write 3.First cycle (1-4) 4.Second cycle (5-8) 5.High school (9-10) 6.Preparatory school (11-12) 7.College and above
6	Type of employment	1. House wife 2.Daily labor 3.Governmental employee 4.Private employee 5. Merchant 6.Non-governmental organization
7	Average monthly income of your family (Estimate)	_____Birr
8	Do you Have Children?	1.Yes.....Number of children 2.No

9	Have you Ever been used contraceptive?	
10	Do You have family/friend history of breast/cervical cancer?	

Part 2: Screening Attendance

S.N	Question	Response
11	Have You ever been screened for Cervical Cancer at least once in your Life?	1.Yes 2. No
12	Have you ever been screened for breast cancer at least once in your life?(by health professional)	1.Yes 2. No

Part 3: Screening Intention

S.N	Question	Response				
		Very Unwilling	Unwilling	Some Willing	Willing	Very willing
13	Are You willing to participate in Breast/cervical Cancer screening in the future?	1	2	3	4	5

Part 4: Health Literacy

S.N	Question	Response				
	Health care	Very Easy	Fairly Easy	Neutral	Fairly Difficult	Very Difficult
14	Finding out what to do in case of cancer suspected					
15	Understanding how to deal with cancer					
16	Judging the advantages and disadvantages when some cancer treatment available					

17	Identifying opinions of people around you and leading lifestyle to prevent cancer occurrence					
	Prevention					
18	Finding out how to undergo cancer screenings					
19	Understanding what behaviors and lifestyles increase a cancer risk					
20	Judging the advantages and disadvantages of cancer screenings					
21	Avoiding lifestyles that increase a cancer risk based on your knowledge					
	Promotion					
22	Finding information on how your local government deals with cancer preventions					
23	Understanding what political changes affect cancer preventions					
24	Judging what initiatives for cancer prevention from your local government are appropriate					
25	Sharing correct cancer knowledge and prevention methods with friends and people around you					

Part 5: Protection Motivation Theory Construct

Item construct	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
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Perceived Risk	26. I am more likely to get breast/Cervical cancer compared with others.					
	27. Someone once reminded me to be careful of getting breast/cervical cancer.					
Perceived severity	28. Getting breast/cervical cancer will seriously affect my health. 29. Once I have breast/Cervical cancer, my life will change significantly. 30. The impact of breast/Cervical cancer on my whole family is huge.					
Fear arousal	31. When I think of breast/Cervical cancer, I get nervous. 32. I will worry about getting breast/Cervical cancer					
Response efficacy	33. Only by doing screening, can breast/cervical cancer be detected early. 34. Through Screening examination, I can figure out whether I have breast/cervical cancer. 35. If someone wants to cure breast/Cervical cancer, she can't do it without screening					
Response cost	36. I feel embarrassed to receive screening for breast/cervical cancer 37. Doing screening examination is too time-consuming. 38. Doing Screening examination is too wasteful of money.					
Self-efficacy	39. I have enough time to do breast/cervical cancer Screening examination.					

40. Breast /cervical cancer screening is very easy for me to accept.					
41. Even if others say that Breast/cervical cancer screening is not necessary, I will do it myself.					
42. Even if I have to pay for it, I will go for Breast/cervical cancer screening					

Part 6: Knowledge of symptom:

Can you tell me if you think the following could be signs of something serious or that something is wrong, such as breast cancer or cervical cancer?"

S.N	Knowledge of symptom	Yes	NO	Don't Know
43	A change in the size of the nipple, not when pregnant or breast feeding			
44	A change in the shape of the nipple, not when pregnant or breast feeding			
45	Nipple rash			
46	Discharge from the nipple, not when pregnant or breast feeding			
47	Bleeding from the nipple			
48	A lump or thickening in the breast			
49	Vaginal bleeding between menstrual periods			
50	Persistent lower back pain			
51	A persistent smelly vaginal discharge			
52	Discomfort or pain during sex			
53	Menstrual periods that are longer or heavier than usual			
54	Persistent lower abdominal/pelvic pain			

55	Vaginal bleeding during or after sex			
56	Unexplained weight loss			
57	Itching in the vagina			

Part 7: Anticipated Help seeking Time

S.N	Question	Response
58	If you had a symptom coming from your cervix or womb/ breast, how soon would you visit the pharmacy/clinic/health center/hospital?	Never
		< 1 week
		>_ 1 week< 1 month
		>_1 month<3 month
		>_3 month

Part 8: Self-rated Health status

SN		Poor	Fair	Good	Very good	Excellent
59	How do you rate your health status					

Part 9: Source of information

SN	Question	Response
60	Most commonly used source for health related information	Mass media (Television/Radio) Relative Friend health care provider

አባሪ I; የጥናት ማብራሪያ (መረጃ) ቅፅ

እንድምን አደሩ/ ዋሉ?

ሰላም

በጌዲአ ዞን ደቡብ ኢትዮጵያ በ 2023 የሴቶችን የጡት እና የማህፀን በር ካንሰር ምርመራ ላይ የመገኘት፣ የፍላጎት፣ የጤና እውቀት እና ተያያዥ ምክንያቶች ላይ ጥናት ለማካሄድ የታሰበውን መጠይቅ ስናቀርብላችሁ በደስታ ነው። እባክዎን ጥያቄዎቹን በጥንቃቄ በመመለስ ይህንን ጥናት በተሻለ መንገድ እንድንሰራ ይተባበሩን።

ይህ በእንዲህ እንዳለ፣ የምናገኘው መረጃ ለዚህ ጥናት ዓላማ ብቻ እንደሆነ እና መረጃው በተመራማሪው በሚስጥር እንደሚጠበቅ ልንገልጽ እንወዳለን። ስለዚህ በዚህ ጥናት የመሳተፍ ወይም ያለመሳተፍ መብት አለዎት። ለጥያቄዎቹ ምላሽ ለመስጠት ያለዎት ፍላጎት እና ድጋፍ ለዚህ ጥናት ስኬት ትልቅ አስተዋጾ ይኖረዋል። ለጥያቄዎቹ ምላሽ ለመስጠት 20 ደቂቃ አካባቢ ሊወስድ ይችላሉ።

የመረጃው ስብሰባ ስም: _____ ፊርማ: _____ ቀን: _____

ዋና ጥናት አጥኚ ስም: አቤል ደሳለኝ

ሞባይል ስልክ ቁ: +251-900-53-10-10

ኢሜይል: adesalegn2513@gmail.com

አባሪ II: የፈቃደኝነት መጠየቂያ ቅጽ

ስለ ጥናቱ አላማ ገለጻ ተደርጎልኛል እንዲሁም በዚህ ጥናት ውስጥ መሳተፍ ምንም አይነት ጉዳት እንደሌለው ተረድቻለሁ።
ከዚህ በታች በጥናቱ ላይ ለመሳተፍ ያለዎትን ስምምነት ወይም አለመግባባት እንዲጠቁሙ በአክብሮት እንጠይቃለን።
ለመሳተፍ ፍቃደኛ ከሆኑ እባኩትን ፊርማዎን ወይም የአውራ ጣት አሻራዎን ከዚህ በታች ባለው ክፍት ቦታ ላይ ያስቀምጡ
የተሳታፊ ፊርማ ወይም የግራ አውራጣት ህትመት: _____

ለትብብርዎ እናመሰግናለን?

አባሪ III: የአማርኛ መጠይቅ

ክፍል 1: የሥነ ህዝብ ሁኔታ የሚዳስስ መጠይቅ

ተ.ቁ	ጥያቄ	ምላሽ
1	የተሳታፊ መለያ ቁጥር	
2	የተሳታፊ መኖሪያ ስፍራ	1. ከተማ 2. ገጠር
3	ዕድሜ	-----
4	የጋብቻ ሁኔታ	1. ያገባ 2. ያላላገባ 3. የፈታች 4. ባለቤቷ የሞተባት
5	የትምህርት ደረጃ	1. ማንበብ እና መጻፍ የማትችል 2. ማንበብ እና መጻፍ የሚችል 3. የመጀመሪያ ዙር (1-4) 4. ሁለተኛ ዙር (5-8) 5. ሁለተኛ ደረጃ ትምህርት ቤት (9-10) 6. መሰናጃ ትምህርት ቤት (11-12) 7. ኮሌጅ እና በላይ
6	የሥራ አይነት	1. የቤት እመቤት 2. ዕለታዊ የጉልበት ሥራ 3. የመንግስት ሰራተኛ 4. የግል ሰራተኛ 5. ነጋዴ 6. መንግሥታዊ ያልሆነ ድርጅት
7	የቤተሰብ አማካይ ወርሃዊ ገቢ (ግምት)	_____ ብር
8	ልጆች አሉሽ? ካሉ ሰንት?	1. አዎ 2. አይ

9	የወሊድ መከላከያ ተጠቅመሽ ታውኪያለሽ?	1.አዎ 2. አይ
10	ቤተሰብ/ጓደኛ በጡት/ማህፀን በር ካንሰር የተያዘ ሰው ታውቁያለሽ?	1.አዎ 2. አይ

ክፍል 2: የማህፀን በር እና ጡት ካንሰር ቅድመ ምርመራ አጠቃቀም የሚመለከቱ ጥያቄዎች

ተ ቁ	ጥያቄ	መልስ
11	በህይወት ዘመንሽ ቢያንስ አንድ ጊዜ የማህፀን በር ካንሰር ቅድመ ምርመራ አድርገሽ ታውኪያለሽ?	1.አዎ 2. አይ
12	በህይወትዎ ዘመንሽ ቢያንስ አንድ ጊዜ የጡት ካንሰር ቅድመ ምርመራ አድርገሽ ታውኪያለሽ?(በጤና ባለ ምያ)	1.አዎ 2. አይ

ክፍል 3: የማህፀን በር/ጡት ካንሰር ቅድመ ምርመራ ፍላጎት የሚመለከት ጥያቄ

ተ ቁ	ጥያቄ	መልስ				
		በጣም ፈቃደኛ ያልሆነ	ፈቃደኛ ያልሆነ	ትንሽ ፈቃደኛ የሆነ	ፈቃደኛ የሆነ	በጣም ፈቃደኛ የሆነ
13	የማህፀን በር/ጡት ካንሰር ቅድመ ምርመራ ወደ ፊት ለማድረግ ፈቃደኛ ኖት?					

ክፍል 3: ስለ ማህፀን በር/ጡት ካንሰር መረጃ የማግኘት፣ የመረዳት እና አመዛዝኖ ውሳኔ የመወሰን ችሎታን መመዘኛ መጠይቅ

ተ ቁ	ጥያቄ	መልስ				
		በጣም ቀላል	በተወስነ መልኩ ቀላል	ገለልተኛ	በተወስነ መልኩ አስቸጋሪ	በጣም አስቸጋሪ
14	ካንሰር ከጠረጠርሽ ምን ማድረግ እንዳለበሽ/መረጃ ከየት እንደምታገኝ					
15	ካንሰርን እንዴት መቋቋም እንደሚቻል መረዳት					

16	አንዳንድ የካንሰር ህክምና ሲገኝ ጥቅሞቹን እና ጉዳዮቹን መለየት					
17	በአካባቢያ ያሉትን ሰዎች አስተያየት መለየት እና የካንሰርን ክስተት ለመከላከል የአኗኗር ዘይቤን መምራት					
18	የቅድም ካንሰር ምርመራ የት/አንዴት ማድረግ እንዳለብሽ መረጃ ማግኘት					
19	ምን አይነት ባህሪያት/የአኗኗር ዘይቤዎች የካንሰር ተጋላጭነትን እንደሚጨምር መረዳት					
20	የካንሰር ምርመራዎችን ጥቅሞች እና ጉዳዮች ግምት ውስጥ በማስገባት መወሰን					
21	በእውቀትዎ ላይ በመመስረት የካንሰር አደጋን የሚጨምሩ የአኗኗር ዘይቤዎችን ማስወገድ					
22	የአካባቢያ አስተዳደር ካንሰርን ለመከላከል እያደረገ ያለው ተግባር ለማወቅ መረጃ ማግኘት					
23	ምን አይነት የፖለቲካ ለውጦች የካንሰር መከላከያዎችን ሊጎዱ እንደሚችሉ መረዳት					
24	የአካባቢያ መንግሥት ካንሰርን ለመከላከል የሚያደርጋቸውን ተግባራት ትክክለኛነታቸውን መወሰን					
25	ስለካንሰር ትክክለኛ እውቀቶችን እና የመከላከያ ዘዴዎችን በአካባቢያ ካሉ ጓደኞች እና ሰዎች ጋር መጋራት					

ክፍል 5: ስለ ማህፀን በር/ጡት ካንሰር ቅድመ ምርመራ ያላቸውን ግንዛቤ እና ተያያዥ

ጉዳዮችን መመዘኛ መጠይቅ

ተ.ቁ	ጥያቄ	በጠም አልስማማም	አልስማማም	እርግጠኛ አደላሁም	እስማማለሁ	በጠም እስማማለሁ
26	ከሌሎች ጋር ሲነጻጸር በጡት/በማህፀን በር ካንሰር የመያዝ እድሌ ከፍተኛ ነው።					
27	በጡት/በማህፀን በር ካንሰር እንዳልያዝ ጥንቃቄ እንዳደርግ ስውቢያስታወሰኝ።					
28	በጡት/ማህፀን በር ካንሰር መያዝ ጤናዬን በእጅጉ ይጎዳል።					

29	አንድ ጊዜ በጡት/ማህፀን በር ካንሰር ከተያዘኩ ሙሉ ሕይወቴ በ ከፍተኛ ሁኔታ ይጎዳል/ይቀየራል።					
30	በጡት/ማህፀን በር ካንሰር መያዝ በመላው ቤተሰቤ ላይ የሚያሳድረው ተጽዕኖ ከፍተኛ ነው።					
31	ስለጡት/ማህፀንበር ካንሰርን ሳስብ እጨነቃለሁ።					
32	በጡት/ማህፀን በር ካንሰር ልያዝ እችላለሁ ብዬ እጨነቃለሁ።					
33	የጡት/ማህፀን በር ካንሰር አስቀድሞ ሊታወቅ የሚችለው ቅድመ ምርመራ በማድረግ ብቻ ነው					
34	ቅድመ ምርመራ በማድረግ የጡት/ማህፀን በር ካንሰር አስቀድሞ ሊታወቅ ይችላል					
35	ቅድመ ምርመራ በማድረግ ከጡት/ማህፀን በር ካንሰር ሊዳን ይቻላል					
36	የጡት/ማህፀን በር ካንሰር ቅድመ ምርመራ ማድረግ ያሳፍራል					
37	የጡት/ማህፀን በር ካንሰር ቅድመ ምርመራ ማድረግ ብዙ ጊዜ የሚወስድ ነው					
38	የጡት/ማህፀን በር ካንሰር ቅድመ ምርመራ ማድረግ ገንዘብ ማባከን ነው					
39	የጡት/ማህፀን በር ካንሰር ቅድመ ምርመራ ለማድረግ በቂ ጊዜ አለኝ					
40	የጡት/ማህፀን በር ካንሰር ቅድመ ምርመራ ማድረግ በጣም ቀላል ነው።					
41	ሌሎች የጡት/ማህፀን በር ካንሰር ቅድመ ምርመራ አስፈላጊ አይደለም ቢሉም እኔ ራሴ አደርገዋለሁ					
42	ለጡት/ማህፀን በር ካንሰር ቅድመ ምርመራ መክፈል ቢኖርብኝ እንኳን እሄዳለሁ					

ክፍል 6: ስለማህፀን በር/ጡት ካንሰር ምልክቶች ያላቸውን እውቀት መመዘኛ መጠይቅ

ከዚህ በታች ከተዘረዘሩት ምልክቶች ውስጥ የጡት/ማህፀን በር ካንሰር ሊሆኑ ይችላሉ ብለው የሚያስበውን ይንገሩን?”

ተ.ቁ	ጥያቄ	አዎ	አይ	አላውቅም
43	ከእርግዝና/ጡት ከማጥባት ውጭ ባለው ጊዜ በጡት ጫፍ ላይ የሚታይ የመጠን ለውጥ			
44	ከእርግዝና/ጡት ከማጥባት ውጭ ባለው ጊዜ በጡት ጫፍ ላይ የሚታይ የቅርፅ ለውጥ			
45	በጡት ጫፍ ላይ የሚታይ ሽፍታ			
46	ከእርግዝና/ጡት ከማጥባት ውጭ ባለው ጊዜ ከጡት የሚወጣ ፈሳሽ			
47	ከጡት ጫፍ የሚወጣ ደም መፍሰስ			
48	የጡት ማበጥ ወይም መጠጠር			
49	ከወር አበባ ውጭ ባለው ጊዜ የሚታይ የደም መፍሰስ			
50	የማያቋርጥ የጀርባ ህመም			
51	የማያቋርጥ ሽታ ያለው ፈሳሽ			
52	በግብረ ሥጋ ግንኙነት ወቅት የሚከሰት ህመም ወይም ምቹት ማጣት			
53	ከወትሮው የበለጠ የወር አበባ ጊዜ መርዘም/ከባድ መሆን			
54	በታችኛው የሆድ ክፍል/የዳሌ አጥንት ውስጥ የማያቋርጥ ህመም			
55	በጾታዊ ግንኙነት ወቅት ወይም በኋላ ደም መፍሰስ			
56	ምክንያቱ የማይታወቅ የክብደት መቀነስ			
57	የብልት ማሳከክ			

ክፍል 7: ምልክት ሲከሰት ወደ ጤና ተቋማ ለመሄድ ያላቸውን ምላሽ መመዘኛ መጠይቅ

ተ.ቁ	ጥያቄ	
58	ከማህፀን/ጡት ምልክቶች ካዩ፣ በምን ያህል ጊዜ ውስጥ ወደ ፋርማሲ/ክሊኒክ/ጤና ጣቢያ/ሆስፒታል ይሄዳሉ?	<p>በጭራሽ አልሄድም</p> <p>< 1 ሳምንት</p>

		>_ 1 ሳምንት < 1 ወር
		>_1 ወር <3 ወር
		>_3 ወር

ክፍል 8: የራስን የጤና ሁኔታ መመዘኛ መጠይቅ

ተ.ቁ	ጥያቄ	ደካማ	መካከለኛ	ጥሩ	በጣም ጥሩ	እጅግ በጣም ጥሩ
59	የእርስዎን የጤና ሁኔታ እንዴት ይገልጹታል/ ያስቀምጧታል					

ክፍል 9: የጤና መረጃን የሚመለከት መጠይቅ

ተ.ቁ	ጥያቄ	
60	ስለ ጤና መረጃ ለማግኘት በብዛት የሚጠቀሙት የመረጃ ምንጭ የቱ ነው	መገናኛ ብዙሀን (ቴሌቪዥን/ሬዲዮ) ዘመድ ጓደኛ ጤና ባለሙያ

Gollumma I: Qo'neti ifishshinx (tarjinx) wonsha

Galje/ hosti nagaange?

Ashshamma

Gede'inxe zoone'n bita'ike Tophpha'n 2023 dubartetika ununiikka nna ilati bis qarqar luuxixe towe'n afenshatixxa, fedhitixxa, fayyuntetixxa ege'na nna fakkaatta buutuwwa'n qo'ne me'isate'e hedendeexxa qorte ha'noba'a shiqinsanno wodda gammashshotiten. Maganneten qortumuwwa seerik hiissat tenne qo'ne elogarinn hunjonna'a gargaarre.

Tinni hexxeeshshann alfe'naanek tarji tenne qo'neke yaadi'a calla kado'a nna tarji qon'sallocke'n maqot heqqemaaxxa ifisate'e eenaannen. Tenne'a tenne qo'ne'n hordofatixxa yookin hordofa gophatixxa fedhi'l affine'en. Qortumuwwake'e hiissichcho uwwate'e affineexx fedhi nna kiphi tenne qonnexxe bakka geya'a lumoxxe bakka affeen. Qortumuwwake'e hiissichcho uwwate'e 20 daqiiq qico a'late'e dande'an.

Tarja bukki assatika summa.....Beesisa.....Barra.....

Illichch qo'nisalli summa: Abeeli Dessaalegnike

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Gollumma II: Fedhunteetixxe qortexxa wonsh

Qo'net yaadi ani'a ifiseme'en ittanni tenne qo'ne'n hordofa heene ko'onna affebaaxxa qalbeeffateennen. Konneechchinn butti'a qo'nere'n hordofate'e afeenexxa fedhi yookin giba ebelchitinaashsha ulfinnik qorraannen. Hordoftete'e fedhii affinaale maganneten beesisa ha'nooka yookin lumooke qubichchika beesisa kunneechchinn butti'a hedheeke duww booncho'n uggurre.

Hordofanjinka beesisa yookin bitaika lumooqubichch beesisa.....

Asitineeke gargaarsia galateefantannon.

Gollumma III: Gedeuff'a Qortumanjo

kuta 1: Ardiinka jechcha tuqaaxxa qortte

Laakkoossa	Qortuma	Hiissichcho
1	Hordofuoleyetikka-ayuuntetika laakoossa	
2	Hordofuoleyetikka hedhotixxa bakka	1.Qachcha 2. Gaxare
3	Wogga	-----
4	Bulteti jeeja	1.Aadhebaake/heedhundebaaxxe 2.Aadheeke/Heedhundeebbe 3.Weli tikeeke/xxe 4.Are/Aro'i rerteeke/xxe
5	Barachchot koobbo	1.Yaansisannaborreessa dande'abaaki/xxi 2.Yaansisannaborreessa dande'aak/xxi 3.Taakkaaka Ba/koobbo (1-4) 4.Langaka Ba/koobbo (5-8) 5.Langaka Ba/koobbo (9-10) 6.Bobbaasinka/qophpheessatika Ba/koobbo (11-12) 7.Kolleejennaokkoneechchinni iima'a
6	Hujetixxa bifa	1. Miniixxa ama 2.Barratixxa hunnatixxa huje 3.Mootummatixxa hujallo 4.Ifika hujallo 5.Daddalto

		6.Mootummatixxe kaddebaaxxe orguwwa'n
7	Atike maatumayika avereeje agenjoke'n alfaaxxa karra (Kada dandeetaan)	_____ Maallaqa
8	Oose affeette?	1. Eeti me'e? 2. Waawwati
9	Ila faachcheefatati qorsa/miya la'offatte egendette?	1. Eeti 2. Waawwati
10	Hadoke'n/jaaluwwake'n ununiikke/ilatike bisike cufanike luuxinni abidemeeka manjo egendettek hedhee?	1. Eeti 2. Waawwati

kuta 2: ilatikke bisixxe hulaxxanna ununiike luuxika edile memekissa la'ofachcho tuqaaxxa qortte

Laakkoossa	Qortuma	Hiissichcho
11	Atike hedhotike baro'n shiixxexxee hinoole mittele ilatike bisixxe hulake luuxixxa edile uudensha ci'lotike mine'n uudendee egendette?	1.Eeti 2.Waawwot
12	Atike hedhotike baro'n shiixxexxee hinoole mittele ilatike bisixxe hulake luuxixxa edile uudensha ci'lotike mine'n uudendee egendette?	1.Eeti 2.Waawwot

kuta 3: ilatikke bisixxe hulaxxanna ununiike luuxika edile memekissa halssa tuqaaxxa qortte)

Laakkoossa	Qortuma	Hiissichcho

		Haranga fedhii afeebe'no	Fedhii afeebe'no	Shiixxo qico fedhii afeenne	Fedhii afeenne	Haranga fidhii afeenne
13	Ununiikkanna ilatike bisixxe hulake luuxxixxa uudensha munde uwwe uudematee'e fedhii affine?					

Kuta4:ilatikke bisixxe hulaxxana ununiike luuxika tarja alfa,qalbeefatatanna kiile uude murte uwwatixxa ege'na tuqaaxxa qortte

	Qortuma	Hiissichcho				
		Haranga shollaxxe	Heeno qico shollaxxe	Odditte	Heeno qico ha'wurto	Haranga ha'worto
14	Luuxi uushshoti iimi darre kadoole maassa assitattoxxa ege'na					
15	Luuxa hitta dandeenne he'naaxxa hubata					
16	Mitte mitte luuxxinxi ci'lo(hikkiminni) hexxaa wodda/head la'onna miidhama ege'a					
17	Loolake'n hedheeke ardika yaada gargar hiissanna luuxiinxeella faachcheeffatatee galdumika jeeja akeeka					
18	Luuxinx uushsho hitta assendaaxxa ege'na					
19	Luuxinke dhukkubixx abidemaashsha lebba'n metaashsha hitta hedheeki					

	adadinna galdumiink jeeji buuto kadaaxxa ege'na					
20	Luuxinxex uushshuwwaxxa la'ouwwanna miidhamuwwa herregi giddo e'yisha					
21	Ege'nate'n hundeessemat luuxxiinxax bala lebaaka galdumiinka jeejx balleessa					
22	Loolink galchalli luuxiinxax faachcheeffachcho hitta abida'neexxa tarjx alfa					
23	Huuni polotikinx jijjiirruwwa luuxxiinxax faachchuwwa tuqqaaxxa ege'na					
24	Loolinxex mootummabaa'n luuxax fachcheeffatate'e hiini tarkaaffuffax seerinxex kaddeexxa murteessa					
25	Dhugitte luuxiinxax ege'nuwwanna faachcheeffatatika maluwwa loolake'n hedheeke jaaluwwinnanna mannikex welt qoodema					

kuta 5: ilatikke bisixxe hulaxxana ununiike luuxikax edile memmekisixxax
hubeenanna wel afendeexxa yaane kiildaaxxax qortte

Laak koossax	Qortuma	Harangax weli aagabe' non	Weli aagax be'non	Od dittex	We li aagax anne	Addax weli aaganne

26	welik welt hokkokinsanno wodda ununiik/ilati bisixe hulak luuxinn abidenshatixx wodo jabaxxen					
27	Mitti manji mitte yanna'n ununiike/ilatke bisixxe hulake luuxi abidabaashshaxexxe'achcho assedhannoshsha qaabbachchiiseen					
28	Ununiike/ilatike bisixxe hulake luuxinni abidemiyyo fayyuunte yo'oshsha miitaan					
29	Mittele ununiike/ilatike bisixxe hulak luuxa afonnole hedho anxi lumo qicinni jijjiirendaan					
30	Ununiik/ilatike bisixxe hulak luuxi hado anke duuchcha'n geesisaak miidham lumoken					
31	Ununiika/ilatike bisixxe hulaka luuxa hedanno wodda yaadannon					
32	Ununiika/ilatike bisixxe hulaka luuxinni abidemannaxxee yaadannon					
33	Edile uushsho assat callinni ununiika/ilatike bisixxe hulaka luuxi ediseen ege'nema dande'aan					
34	Mitti manji ununiika/ilatike bisixxe hulaka luuxinaa'n fayyo'a hasoole qulleessebaak uudemiyyo dande'abaan.					
35	edise memmekisematti . ilatikke bisixxe hulakena'ninna ununiinke luuxibaa'n fayya dandeenaa?					
36	ununiik/ilatike bisixxe hulak luuxi'a mundetebaa'n ikkile uushsho hasissaan					
37	ununiik/ilatike bisixxe hulak luuxi'a mundetebaa'n ikkile uushsho yo'oxxa yanna a'litaaxxen					

38	Ununiik/ilatike bisixxe hulak luuxi'a mundetebaa'n ikkile uushsho assa yo'oshsha maallaqa fangoossaten.					
39	ununiik/ilatike bisixxe hulak luuxi'a mundetebaa'n ikkile uudemonna'a geltaaxxa yanna afeennen					
40	ununiik/ilatike bisixxe hulak luuxiinxa uushsho a'latee'e/uudemate'e yo'oshsha shollaxxen					
41	weli ununiik/ilatike bisixxe hulak luuxixxi uushsho hasissaaxxebaan hiyyati aninni ifaanni uude ege'nannon hiyyaan.					
42	Uwwa asissaaki hiri hedhoole uwwe'e ununiika/ilatike bisixxe hulake luuxi'a munde anxebaa'n uwwe'e uudemate'e me'annon.					

kuta 6: ilatikke bisixxe hulaxxana ununiike luuxika ege'nisanjjixxa ege'na kiilatixxaa qortte

Itti aanaak beesisuww ununiikke luuxishsha yookin ilatike bisixxe hulake luuxishsha hexxeexxi ha'wirtitte yaane beesisuwwa kadda dandeettaan hitine'e addattinoole kuldino'a dandeettinaa?

Laakkoossa	Qortuma	Eeti	Waawwot	Ege'ne'no
43	Siiliinxe yookin ununa unuussatixxe yanna gadho ununiixxe qacce'n leellitaaxxi gargarunte			
44	Siilinxe yookin ununa unuussatixxe yanna kaddebaak ununiixxe qaccexxe dhaggaxxi jijjiirra			
45	Ununiixxi qacce qanxo'a			
46	Siila'witeexx yookin ununa unuussitaa wodda kaddebaak			

	ununiixxe qaccebaa'n yaataaxxi yaane/shamin fula			
47	Ununiinxee qaccebaa'n munde dunema			
48	Ununi giddo darsha yookin furdata			
49	Agenjiinxee jilaxxe yannuwwa'n dubartetike ilatike bisibaa'n munde dunema			
50	Hundidarrek duddurixx chittabaaxxi qarasse			
51	Citabaaka foole afeek dubartetike ilatike bisik shamin/dunendaaxxi yaane			
52	Labbakinni wel afenshatixxe yanna'n ilatike bisixxi qarasse yookin elle gopha			
53	Agenjiinxee jilaxxe yannuwwa'n edi qicii'n caaldeexxa qerraaxxe yookin yanna iitti ha'wirtitteten			
54	Hundidarrixxe godobiinxee kuta giddo cittaabaaxxi elagonphe			
55	Saalinxe afensha tixxe yanna wodda yookin afenshat uduma dubartetike ilatike bisibaa'n munde dunema			
56	Buuto ege'nedebaaxxi ha'wirre xe'isha			
57	Ilatike bisigiddo hoqooqisa			

kuta 7: ege'nisanjji leelaxxe yana'ni fayuuntetike minibaa me'atika hiisicho kiildaxxa qortte

Laakkoossa	Qortuma	Hiisichcho
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58	Ilatike bisike/ununik dagaak beesisuwwi leelloole maa fakkaattaaxxe-farimaase'n/Xeena xaabake'n/Hospitaalake'n uudemma?	Haranga uudemaa'non
		<1 torba
		<_1 torba< 1 agenjo
		<_1 abenjo< 3 agenjo
		<_ 3 agenjo

kuta 8: ifixxe fayuunteka jechcha kiildaaxxa qortte

Laakkoossa	Qortuma	Gophaaleessa	Oddichcha	Eloken	Adda eloken	Haranga eloken
59	Insa'neka fayyuuntetika jeeja hitta ofo'ishshina'ne					

kuta 9: fayyuntetika tarjja kiildaaxxa qortte

Laakkoossa	Qortuma	Hiissichcho
60	Fayyuntetike tarja alfate'e yo'oxxa yanna la'offatina'neexxi muumme heenete?	Baca weli afenshatika ora Hadokebaa'n Jaluwwakebaa'n Fayyuntetike

