A cross-sectional study of predictors of breast cancer screening among reproductive women in Ghana

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Extended abstract

Introduction: Breast cancer is defined as the proliferation of abnormal breast cells that undergo uncontrolled growth and develop into tumors. Without intervention, these tumors have the potential to metastasize and result in mortality (WHO, 2023). Breast cancer is a global phenomenon, and it is one of the most prevalent forms of cancer. In 2020, 2.3 million women were diagnosed with breast cancer worldwide, out of which 685,00 died. Mortality rates from breast cancer are significantly higher in low- and middle-income countries (Ferlay et al., 2015; WHO, 2022). The risk factors for breast cancer encompass, among others, sex, age, alcohol and tobacco use, and age of menarche (WHO, 2023).

Though studies have documented high awareness of women about breast cancer screening in Ghana (Afaya et al., 2022; Kudzawu et al., 2016), there are mixed findings on the uptake of breast cancer screening among women in Ghana (Afaya et al., 2022). On the one hand, studies have reported high uptake of breast cancer screening among women in Ghana (Amegbedzi et al., 2022; Amenuke-Edusei et al., 2020), while others reported low uptake of breast cancer screening (Mensah et al., 2022; Kudzawu et al., 2016).

Early detection of breast cancer through screening is a successful approach for lessening their impact by ensuring prompt interventions, thereby improving the chances of survival for those impacted (Ghartey Jnr et al., 2016; WHO, 2022). The uptake of breast cancer screening among reproductive women will contribute to Ghana's attainment of SDG Target 3.4, which seeks to reduce by one-third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

In Ghana, there are limited studies on breast cancer screening (Ayanore et al., 2020; Ghartey Jnr et al., 2016; Kudzawu et al., 2016; Mensah et al., 2022). For instance, Ghartey Jnr et al.' (2020) study among women in the Volta, Greater Accra, Brong Ahafo, Western and Ashanti regions of Ghana found that 3.4% of women had ever tested for breast cancer. Also, Kudzawu et al.'s (2016) study among market women in Makola shopping mall found that 27% of respondents had ever self-examined their breasts.

Additionally, a few of these studies used nationally representative data to examine breast cancer screening (Ayanore et al., 2020). The limited studies on breast cancer screening limit policymakers' understanding of the factors influencing the uptake of breast cancer, which inhibits the development of appropriate interventions to increase the uptake of breast cancer screening. To bridge this knowledge gap, this study examined the prevalence and predictors of breast cancer screening among reproductive women in Ghana by considering individual- and structural-level factors.

Methods: This study used the 2022 Ghana Demographic and Health Survey (GDHS). Overall, 15,014 reproductive women were involved in the study. Breast cancer screening was measured by asking the question: Has a doctor or healthcare provider examined your breast to check for breast cancer? A binary logistic regression model was used to examine the predictors of breast cancer screening among reproductive women in Ghana.

Results: The prevalence of breast cancer screening was 18.4 percent. Also, the findings showed that the uptake of breast cancer screening increased as age increased (25-34 years (aOR = 1.571, 95% CI = 1.325 - 1.863), and 35-49 years (aOR = 2.211, 95% CI = 1.780 - 2.746) (Table 1). Respondents who had attained JHS/Middle (aOR = 1.789, 95% CI = 1.397 - 2.290), secondary (aOR = 2.621, 95% CI = 1.998 - 3.438) and higher (aOR = 6.913, 95% CI = 5.087 -9.395) education, those from rich households (aOR = 1.523, 95% CI = 1.179 - 1.966), and those who had one or more children (a child (aOR = 1.637, 95% CI = 1.362 - 1.966), 2 - 3 children (aOR = 1.718, 95% CI = 1.393 - 2.118), 4 - 5 children (aOR = 1.524, 95% CI = 1.182 - 1.963), 6 or more children (aOR = 1.719, 95% CI = 1.261 - 2.343) had a higher probability of screening for breast cancer.

On the other hand, residing in rural areas (aOR = 0.800, 95% CI = 0.657 - 0.974), those affiliated with traditional religion (aOR = 0.319, 95% CI = 0.148 - 0.688), having National Health Insurance (aOR = 0.732, 95% CI = 0.644 - 0.833), not eating unhealthy diet (aOR = 0.817, 95% CI = 0.711 - 0.938) had a lower probability of screening for breast cancer.

Table 1: Predictors of breast cancer screening

	Odds Ratio	95% CI		P-value
Age				
15-24 years (RC)				
25-34 years	1.571	1.325	1.863	0.000
35-49 years	2.211	1.780	2.746	0.000
Place or residence				
Urban (RC)				
Rural	0.800	0.657	0.974	0.026
Education				
No education (RC)				
Primary	1.230	0.934	1.620	0.140
JSS/Middle	1.789	1.397	2.290	0.000
Secondary	2.621	1.998	3.438	0.000
Tertiary	6.913	5.087	9.395	0.000
Religion				
Christian (RC)				
Muslims	0.852	0.709	1.023	0.086
Traditionalist	0.319	0.148	0.688	0.004
No religion	0.575	0.293	1.128	0.108
Household wealth quintile				
Poor (RC)				
Middle	1.245	0.971	1.596	0.083

	aOR	\[95% CI Lower\]	\[95% CI Upper\]	p-value
Rich	1.523	1.179	1.966	0.001
Having National Health Insurance				
Yes (RC)				
No	0.732	0.644	0.833	0.000
Eating unhealthy diet				
Yes (RC)				
No	0.817	0.711	0.938	0.004
Parity				
0 (RC)				
1 child	1.637	1.362	1.966	0.000
2-3 children	1.718	1.393	2.118	0.000
4-5 children	1.524	1.182	1.963	0.001
6 or more children	1.719	1.261	2.343	0.001

aOR = Adjusted Odds Ratio, CI = Confidence Interval, RC = Reference Category
Source: 2022 GDHS

Note: Ecological zone, ever smoked cigarette, consumed alcohol in the past month, distance to a health facility and age of menarche were not statistically significant. Therefore, they were not included in Table 1.

Conclusion: This study found that the prevalence of breast cancer screening in Ghana was low, and individual- (such as women's age, parity, education, and place of residence) and structural-level (distance to health facility) factors influenced the uptake of breast cancer screening. These findings highlight the urgent attention of policymakers to embark on health promotion interventions, taking into consideration the individual- and structural-level factors, to encourage the uptake of breast cancer screening and early detection of breast cancer.

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