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

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Extended abstract

Introduction: 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, particularly in sub-Saharan Africa (SSA) [1, 2]. In Ghana, breast cancer is a major public health challenge. The World Health Organization - cancer country profile of Ghana 2020 indicated that breast cancer is the most common type of cancer among women, with 20.4% incidence and 12.4% mortality rate [3].

The higher mortality rate of breast cancer in SSA has been attributed to many factors, including inadequate knowledge about breast cancer among women, negative socio-cultural beliefs about cancers, and the absence of effective screening, which results in late detection [4]. Most breast cancer patients in the African region usually present the disease in health facilities at a late stage, and this primarily results in significantly larger tumors that are difficult to treat [5, 6]. It is, therefore, essential to focus on early detection and treatment of breast cancer.

Breast cancer screening is an efficacious approach to mitigate the impact of breast cancer. However, there is a paucity of studies on breast cancer screening in Ghana. The few studies on breast cancer screening in Ghana are not nationally representative [7-9]. Hence, we assessed the prevalence and predictors of breast cancer screening among reproductive-aged women in Ghana using nationally representative data.

Methods: This study is a secondary analysis of 15,014 women aged 15-19 from the 2022 Ghana Demographic and Health Survey. 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-aged women in Ghana. All variables are considered statistically significant at 95% confidence interval.

Results: The prevalence of breast cancer screening was 18.4%. Women's age, place of residence, education, religion, parity, employment status, household wealth status, National Health Insurance status, and ever tested for breast cancer were significant predictors of breast cancer screening (See Table 1). From Table 1, the uptake of breast cancer screening increased as age increased (25-34 years (AOR = 1.290, 95% CI = 1.075 - 1.448), and 35-49 years (AOR = 1.703, 95% CI = 1.355 -

2.141). Respondents who had attained JHS/Middle (AOR = 1.794, 95% CI = 1.401 - 2.298), secondary (AOR = 2.600, 95% CI = 1.966 - 3.438), and higher (AOR = 5.888, 95% CI = 4.260 – 8.140) education had a higher likelihood of being screened for breast cancer compared to those with no formal education. Again, respondents from rich households were more likely to undergo breast cancer screening compared to those from poor households (AOR = 1.425, 95% CI = 1.107 - 1.835). Respondents who had one or more children (a child AOR = 1.461, 95% CI = 0.988 - 1.388), 2 - 3 children (AOR = 1.588, 95% CI = 1.281- 1.968), 4 or more children (AOR = 1.451, 95% CI = 1.113 - 1.890) had a higher probability of being screened for breast cancer compared to those who had no children.

On the other hand, residing in a rural area decreases the likelihood of breast cancer screening compared to residing in urban areas (AOR = 0.797, 95% CI = 0.652 – 0.973). Also, Muslims (AOR=0.820, 95% CI=0.679 – 0.990) and traditionalists (AOR = 0.396, 95% CI = 0.195 - 0.804) were less likely to uptake breast cancer screening compared to Christians. Furthermore, respondents with no national health insurance were less likely to uptake breast cancer screening than those with national health insurance (AOR = 0.753; 95% CI = 0.590 – 0.854). Unemployed respondents were less likely to uptake breast cancer screening than those employed (AOR = 0.709; 95% CI = 0.590 - 0.854). Respondent who had never tested for breast cancer were less likely to uptake breast cancer screening than those who have ever tested for breast cancer

Table 1: Predictors of breast cancer screening

			95% CI	
Breast cancer screening	**AOR**	**P-value**	**Lower**	**Upper**
Age				
15-24 years (RC)				
25-34 years	1.290	0.006	1.075	1.548
35-49 years	1.703	<0.001	1.355	2.141
Place or residence				
Urban (RC)				
Rural	0.797	0.026	0.652	0.973
Education				
No education (RC)				
Primary	1.224	0.160	0.923	1.624
JSS/Middle	1.794	<0.001	1.401	2.298
Secondary	2.600	<0.001	1.966	3.438
Tertiary	5.888	<0.001	4.260	8.140
Religion				
Christian (RC)				
Muslims	0.820	0.039	0.679	0.990
Traditionalist	0.396	0.010	0.195	0.804
No religion	0.644	0.153	0.353	1.178

Household wealth quintile				
Poor (RC)				
Middle	1.193	0.153	0.936	1.521
Rich	1.425	0.006	1.107	1.835
Employment status				
Working				
Not working	0.709	<0.001	0.590	0.854
Having National Health Insurance				
Yes (RC)				
No	0.753	<0.001	0.659	0.861
Parity				
0 (RC)				
1 child	1.461	<0.001	1.207	1.769
2-3 children	1.588	<0.001	1.281	1.968
4+ children	1.451	0.006	1.113	1.89
Ever tested for breast cancer				
Yes (RC)				
No	0.148	<0.001	0.118	0.187

AOR = Adjusted Odds Ratio, CI = Confidence Interval, RC = Reference Category

Note: Ecological zone, marital status, and distance to a health facility were not statistically significant. Therefore, they were not included in Table 1.

Conclusion: These findings suggest that the prevalence of breast cancer screening was generally low. Also, individual (e.g., age, place of residence, and education), household (wealth status) and health-related (National Health Insurance status and ever tested for breast cancer) factors influence the uptake of breast cancer screening among reproductive-aged women in Ghana. Hence, policymakers should consider these factors in the design of interventions to promote breast cancer screening.

Keywords: Breast cancer screening, reproductive age, women, Ghana

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