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RESEARCH ARTICLE

Socioeconomic Disparities in Self-Reported Breast and Cervical Cancer Diagnosis and Treatment Among Women of Reproductive Age: A National Survey

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Abstract

Background: Breast and cervical cancers are leading causes of morbidity and mortality among women worldwide, with disproportionate burdens in low- and middle-income countries. Socioeconomic disparities influence awareness, diagnosis, and treatment, yet population-level evidence from sub-Saharan Africa remains limited. This study examined the prevalence, socio-demographic patterns, and treatment uptake of self-reported breast and cervical cancer among women of reproductive age using nationally representative survey data.

Methods: Secondary data from the Demographic and Health Survey (DHS) were analyzed, including 32,156 women aged 15–49 years. A weighted subsample of 16,716 women with complete cancer-related data was used to assess self-reported breast and cervical cancer diagnoses. Descriptive statistics summarized socio-demographic and health-related characteristics using frequencies and percentages. Bivariate associations between explanatory variables and outcomes were assessed using design-adjusted Pearson's chi-square tests.

Results: Self-reported prevalence of breast and cervical cancer was low, at 0.17% (n = 29) and 0.19% (n = 31), respectively. Among women with a reported diagnosis, 27.54% of breast cancer cases and 45.87% of cervical cancer cases reported receiving treatment. Among women who received breast cancer treatment, the majority resided in rural areas (84.2%), compared with 65.5% among those who did not receive treatment. The poorest wealth quintile accounted for over half of both treated (52.5%) and untreated women (54.2%); however, the richest wealth quintile was more represented among treated women (25.6%) than untreated women (6.9%). Cervical cancer treatment likewise varied according to selected socio-demographic and reproductive characteristics. A greater proportion of treated women resided in rural areas (59.5%) than in urban areas (40.5%). Treatment uptake was highest among women in the middle wealth quintile (34.3%) and richer quintile (41.9%).

Conclusion: Socioeconomic disparities influence self-reported breast cancer, while gaps in treatment uptake for both cancers highlight structural barriers in care. Strengthening early detection, equitable access to treatment, and public awareness programs is critical. It is important to note that the results are exploratory and descriptive. Further research including clinically verified diagnoses and broader age groups is needed to better understand patterns of cancer diagnosis and healthcare utilisation.

Keywords: Breast cancer, Cervical cancer, Socioeconomic disparities, Self-reported diagnosis, Treatment uptake, DHS, Sub-Saharan Africa

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Introduction

Breast and cervical cancers remain major public health concerns globally and are the leading causes of cancer-related morbidity and mortality among women, with the highest burden of deaths occurring in low- and middle-income countries (LMICs)[1-4] . Despite advances in early detection and treatment, substantial disparities persist in cancer burden and access to care across socioeconomic and geographic contexts [5].

In sub-Saharan Africa, this continues to rise due to demographic transitions, urbanization, and changing reproductive and lifestyle patterns [6, 7].Cervical cancer is largely preventable through human papillomavirus (HPV) vaccination and regular screening, yet limited access to screening services and treatment contributes to high incidence and mortality rates in the region [8, 9]. Similarly, breast cancer outcomes in LMICs remain poor, largely due to late presentation, low awareness, inadequate diagnostic infrastructure, and financial barriers to treatment [10].

Socio-demographic and reproductive factors including residence, wealth status, parity, pregnancy status, and nutritional status have been associated with cancer risk and healthcare utilisation in various settings [11, 12]. Socioeconomic inequalities, in particular, play a critical role in influencing awareness, screening uptake, timely diagnosis, and access to treatment services [13, 14]. However, evidence from nationally representative population-based datasets in many African countries remains limited, especially regarding self-reported diagnosis and treatment patterns [15, 16].

The Demographic and Health Surveys (DHS) provide an opportunity to examine population-level patterns of disease and healthcare access using standardized and nationally representative data[17,18]. While DHS surveys traditionally focus on maternal and child health, fertility, and nutrition, recent surveys have incorporated modules capturing non-communicable disease indicators, including self-reported cancer diagnoses and treatment.

Understanding the prevalence of self-reported breast and cervical cancer, as well as the socio-demographic factors associated with diagnosis and treatment uptake, is essential for informing national cancer control strategies and addressing inequities in care. Therefore, this study aimed to (1) describe the socio-demographic characteristics of women aged 15–49 years, (2) determine the prevalence of self-reported breast and cervical cancer, (3) examine factors associated with cancer diagnosis, and (4) assess patterns of treatment uptake among diagnosed cases using nationally representative DHS data.

By identifying key disparities in cancer diagnosis and treatment, the findings of this study may contribute to evidence-based policy development and targeted interventions to improve early detection and equitable access to cancer care.

Methodology

Study Design, Data Source and Setting

This study used secondary data from the 2022 Kenya Demographic and Health Survey (KDHS), part of the DHS-8 phase, a nationally representative cross-sectional survey conducted under the Demographic and Health Surveys (DHS) Program. The KDHS provides standardized data on population health, fertility, maternal and child health, nutrition, and selected non-communicable diseases, ensuring comparability across countries through uniform protocols. The 2022 KDHS was implemented by the Kenya National Bureau of Statistics in collaboration with ICF International. The data are publicly available through the DHS Program and provide estimates at national and subnational levels. The sample was drawn from the Kenya Household Master Sample Frame using a two-stage stratified sampling design. In the first stage, 1,692 clusters (enumeration areas) were selected from urban and rural strata using equal probability selection. In the second stage, households were selected systematically within each cluster. This analysis used the Individual Record (IR) dataset. The source population comprised women aged 15–49 years, and the final weighted sample included 32,156 women. Sampling weights adjusted for unequal selection probabilities, non-response, and other sampling biases. Although cervical cancer screening targets women aged 25–49 years, this study included women aged 15–24 years to capture early screening patterns across the full reproductive age range.

Sampling Procedure

The DHS employs a stratified two-stage cluster sampling design based on the most recent national population and housing census. In the first stage, enumeration areas (EAs) are selected using probability proportional to size within defined strata (typically region and urban–rural residence). In the second stage, households are systematically selected from each sampled EA. All eligible women within selected households are invited to participate. The survey design ensures national representativeness, as well as representativeness by region and place of residence. Sampling weights are provided in the DHS dataset to adjust for unequal probabilities of selection and non-response.

Study Population

The analysis included 32,156 women aged 15–49 years who had complete data on key socio-demographic, reproductive, and nutritional variables; this constituted the analytic sample for describing socio-demographic characteristics (Table 1). Of these 32,156 women, 15,440 (48.0%) were excluded from the cancer-related analyses

Table 1. Socio-demographic Characteristics

Variables	Weighted Frequency N (%)
Age	
15-24	12,026(37.40)
25-34	10,217(31.77)
35-49	9,912(30.83)
Highest Educational Level	
No education	1,769(5.50)
Primary	11,686(36.34)
Secondary	12,549(39.03)
Higher	6,149(19.12)
Type of place of residence	
Urban	13,143(40.87)
Rural	19,013(51.13)
Current marital status	
Never in union	10,437(32.46)
Married	15,482(48.15)
Living with partner	2,339(5.78)
Widowed	907(2.82)
Divorced	454(1.41)
No longer living together	2,534(7.88)
Wealth quantile	
Poorest	8,440(16.53)
Poorer	6,311(19.63)
Middle	6,528(20.30)
Richer	6,750(20.99)
Richest	7,249(22.54)
Nutritional status	
Currently pregnant	
No or unsure	30,394(94.52)
Yes	1,762(5.48)

Table 1. Socio-demographic Characteristics (cont'd)

Variables	Weighted Frequency N (%)
Births in last five years	
No births	18,544(57.67)
1 birth	10,179(31.65)
2 births	3,035(9.44)
3 births	368(1.14)
4 births	29(0.09)
5 births	1(0.00)
Body Mass Index	
Underweight	1,513(9.17)
Normal weight	8,656(52.50)
Overweight	3,995(24.23)
Obesity	1,680(10.19)
Morbid obesity	645(3.91)
Diagnosis	
Told they had breast cancer	
No	16,687(99.83)
Yes	29(0.17)
Told they had cervical cancer	
No	16,685(99.81)
Yes	31(0.19)
Treatment	
Receiving treatment for breast cancer (n=29)	
No	21(72.46)
Yes	8(27.54)
Receiving treatment for cervical cancer (n=31)	
No	17(54.13)
Yes	14(45.87)

because they had incomplete information on breast and/or cervical cancer diagnosis, leaving a weighted subsample of 16,716 respondents (52.0%) with complete cancer diagnosis data; this subsample was used for all breast and cervical cancer diagnosis analyses (Table 2). The exclusion was therefore entirely attributable to missing cancer-diagnosis data rather than any other eligibility criterion. Analyses of treatment uptake were further restricted to women who self-reported a diagnosis of breast cancer (n = 29) or cervical cancer (n = 31). The flow of participants through these successive analytic samples is summarised in Figure 3.

Study Variables

Outcome Variables

The primary outcomes were:

1. Self-reported diagnosis of breast cancer (coded "1" as Yes and "0" No).
2. Self-reported diagnosis of cervical cancer (coded "1" as Yes and "0" No).
3. Receipt of treatment among women who reported a diagnosis of breast or cervical cancer (coded "1" as Yes and "0" No).

Table 2. Factors Associated with Self-Reported Breast and Self-Reported Cervical Cancer

Variables	Self-Reported Breast Cancer		X^2	p-value	Self-Reported Breast Cancer		X^2	p-value
	Weighted No (%)	Weighted Yes (%)			Weighted No (%)	Weighted Yes (%)		
Residence			0.694	0.405			0.219	0.640
Urban	6,842(41.0)	9(29.3)			6,836(41.0)	14(46.2)		
Rural	9,845(59.0)	20(70.7)			9,849(59.0)	17(53.8)		
Wealth quantile			13.247	0.010			6.600	0 .159
Poorest	2,725(16.3)	16(53.7)			2,738(16.4)	2(8.8)		
Poorer	3,215(19.3)	2(6.6)			3,216(19.3)	2(5.1)		
Middle	3,494(20.9)	3(12.4)			3,491(20.9)	6(19.9)		
Richer	3,427(20.5)	5(15.3)			3,416(20.5)	16(50.9)		
Richest	3,824(22.9)	3(12.0)			3,823(22.91)	5(15.4)		
Nutritional status								
Currently pregnant			0.927	0.336			0.056	0.813
No or unsure (Ref)	15,758 (94.4)	929 (5.6)			15,754(94.4)	29 (92.2)		
Yes	25(85.8)	4(14.2)			931(5.6)	2 (7.8)		
Births in last five years			9.487	0.091			2.431	0.787
No births (Ref)	9,675(58.0)	9(30.5)			9,661(57.9)	22(74.0)		
1 birth	5,222(31.3)	13(45.0)			5,229(31.3)	6(20.2)		
2 births	1,580(9.5)	7(24.5)			1,586(9.5)	1(2.2)		
3 births	190(1.1)	0			189(1.1)	2(3.7)		
4 births	18(0.1)	0			18(0.1)	0		
5 births	1(0.0)	0			1(0.0)	0		
Body Mass Index			4.051	0.399			0.821	0.936
Underweight (Ref)	1,511 (9.2)	1 (4.13)			1,510(9.2)	2(5.8)		
Normal weight	8,637(52.5)	19(66.7)			8,639(52.5)	17(56.9)		
Over weight	3,987(24.2)	8(26.3)			3,985(24.2)	9(31.5)		
Obesity	1,679(10.2)	1(2.9)			1,679 (10.2)	2(4.8)		
Morbid obesity	644(3.9)	0			644(3.9)	1(1.1)		

Independent Variables

Explanatory variables were selected based on prior literature and data availability and included:

a. Place of residence (urban/rural)
b. Wealth quintile (poorest, poorer, middle, richer, richest)
c. Current pregnancy status (yes/no or unsure)
d. Number of births in the last five years (0, 1, 2, 3, 4, 5)
e. Body Mass Index (BMI) categorized as underweight, normal weight, overweight, obese, and morbidly obese

Socio-demographic characteristics such as age, education level, marital status, and wealth index were also described.

Data Management and Statistical Analysis

Data were analyzed using Stata version 17. Sampling weights were applied to account for unequal selection probabilities, non-response, and the complex survey design, including clustering and stratification, to obtain nationally representative estimates. Descriptive statistics summarized socio-demographic and health-related characteristics using frequencies and percentages. Bivariate associations between explanatory variables and outcomes were assessed using design-adjusted Pearson's chi-square tests (svy: tab). All analyses focused on women aged 15–49 years, consistent with DHS survey coverage. This restriction limits generalisability to older women, who may have a higher burden of cancer. Finally, the self-reported nature of cancer diagnosis and treatment introduces potential misclassification and reporting bias, likely leading to underestimation of true prevalence due to limited screening access and diagnostic confirmation in the surveyed population.

Results

Socio-demographic Characteristics

A total of 32,156 women were included in the analysis. Most were aged 15–24 years (37.40%), followed by 25–34 years (31.77%) and 35–49 years (30.83%). Secondary education was the most common attainment (39.03%), followed by primary (36.34%), higher (19.12%), and no formal education (5.50%). Slightly over half resided in rural areas (51.13%), while 40.87% were urban residents. Regarding marital status, 48.15% were married, 32.46% had never been in a union, and the remainder were cohabiting (5.78%), widowed (2.82%), divorced (1.41%), or separated (7.88%). Wealth status was relatively evenly distributed across quintiles, ranging from 16.53% in the poorest to 22.54% in the richest group. Most respondents were not pregnant at the time of the survey (94.52%), and 57.67% reported no births in the preceding five years. In terms of nutritional status, 52.50% had a normal BMI, 24.23% were overweight, 10.19% obese, 9.17% underweight, and 3.91% morbidly obese.

Among women with complete cancer data (n = 16,716), self-reported prevalence was 0.17% for breast cancer (n = 29) and 0.19% for cervical cancer (n = 31). Of those diagnosed, 27.54% of breast cancer cases and 45.87% of cervical cancer cases reported receiving treatment.

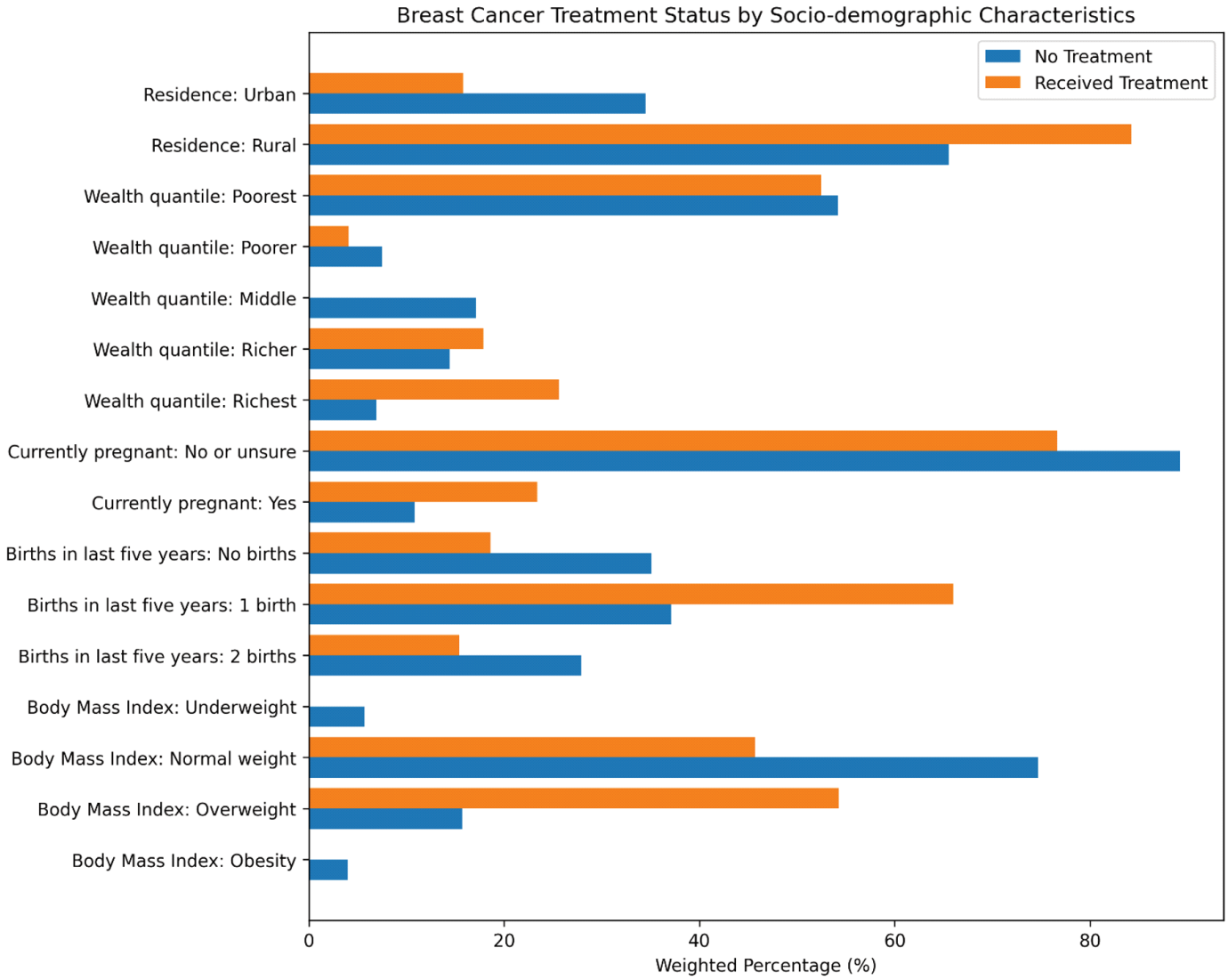

Figure 1: Weighted percentage distribution of selected socio-demographic and reproductive characteristics among women self-reporting a breast cancer diagnosis (n = 29), comparing those who received treatment with those who did not. Percentages are DHS-sampling-weight-adjusted column percentages calculated within each treatment group (Yes/No). .

Overall, self-reported cancer prevalence was low, while treatment coverage among diagnosed cases remained suboptimal (Table 1).

Prevalence of Self-Reported Breast Diagnosis

Among women who self-reported breast cancer, 70.7% resided in rural areas, while 29.3% lived in urban areas. More than half of the breast cancer cases (53.7%) were observed among women in the poorest wealth quintile, followed by the richer (15.3%), middle (12.4%), richest (12.0%), and poorer (6.6%) wealth quintiles. Regarding reproductive characteristics, 45.0% of women with breast cancer had one birth in the preceding five years, 30.5% had no births, and 24.5% had two births. With respect to nutritional status, most breast cancer cases occurred among women with normal body mass index (66.7%), followed by overweight (26.3%), underweight (4.1%), and obese women (2.9%) (Table 2).

Prevalence of Self-Reported Cervical Cancer Diagnosis

Among women who self-reported cervical cancer, 53.8% resided in rural areas and 46.2% in urban areas. The highest proportion of cervical cancer cases was observed among women in the richer wealth quintile (50.9%), followed by the middle (19.9%), richest (15.4%), poorest (8.8%), and poorer (5.1%) wealth quintiles. Regarding reproductive history, cervical cancer cases were distributed across women with varying numbers of births in the preceding five years, with no marked differences between categories. Most cervical cancer cases occurred among women with normal body mass index (56.9%), followed by overweight (31.5%), underweight (5.8%), obese (4.8%), and morbidly obese women (1.1%) (Table 2).

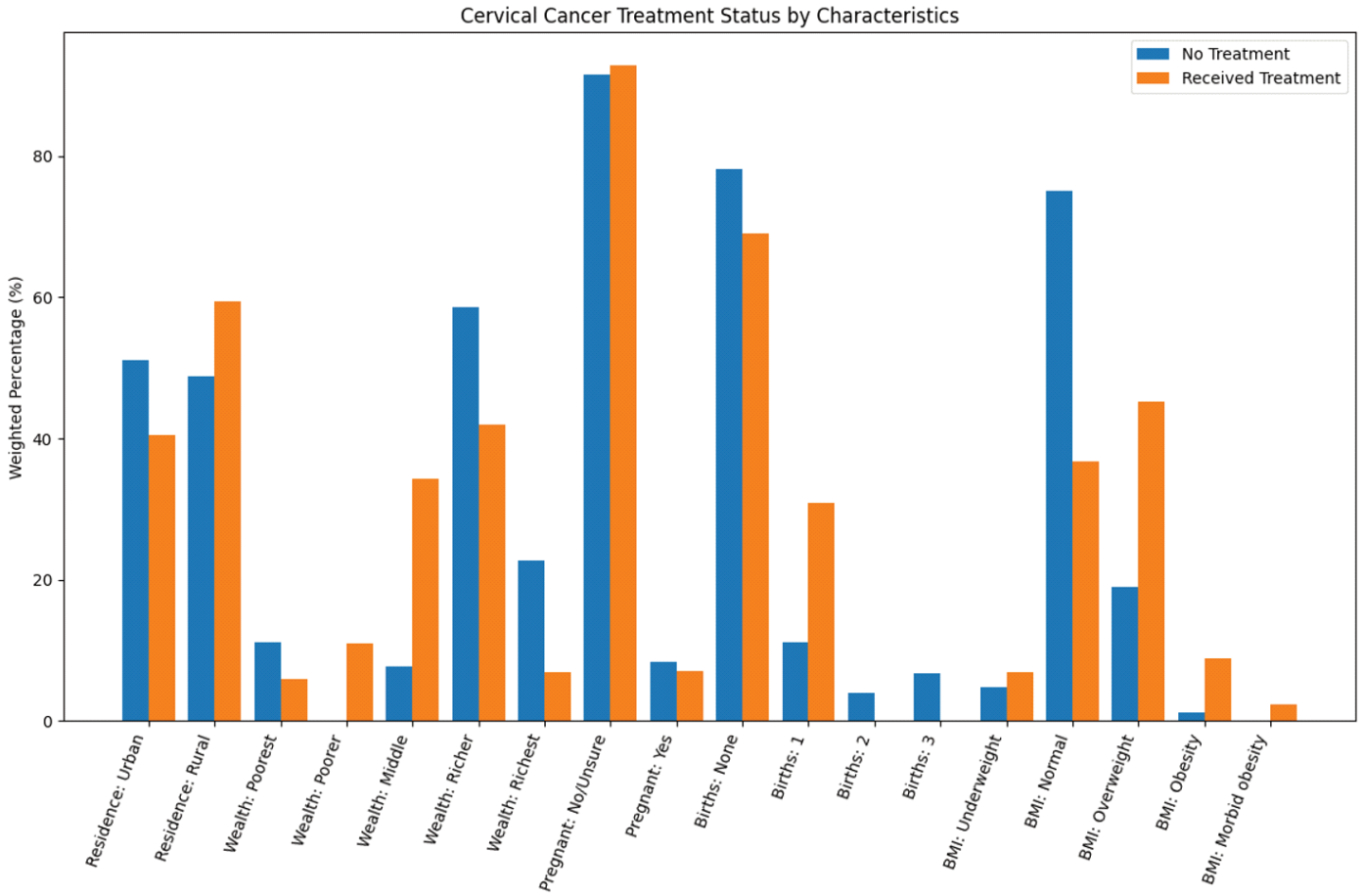

Figure 2: Weighted percentage distribution of selected socio-demographic and reproductive characteristics among women self-reporting a cervical cancer diagnosis (n = 31), comparing those who received treatment with those who did not. Percentages are DHS-sampling-weight-adjusted column percentages calculated within each treatment group (Yes/No). BMI = Body Mass Index.

Factors Association with Self-Reported Breast Cancer diagnosis

There was no statistically significant association between place of residence and self-reported breast cancer (χ^2 = 0.694, p = 0.405). Wealth quintile was significantly associated with breast cancer (χ^2 = 13.247, p = 0.010). Current pregnancy status was not significantly associated with breast cancer (χ^2 = 0.927, p = 0.336). Likewise, the number of births in the past five years showed no statistically significant association (χ^2 = 9.487, p = 0.091). Body mass index was also not significantly associated with breast cancer (χ^2 = 4.051, p = 0.399) (Table 2).

Factors Association with Self-Reported Cervical Cancer diagnosis

There was no statistically significant association between place of residence and cervical cancer (χ^2 = 0.219, p = 0.640). Wealth quintile was not significantly associated with cervical cancer (χ^2 = 6.600, p = 0.159). Similarly, current pregnancy status (χ^2 = 0.056, p = 0.813) and the number of births in the past five years (χ^2 = 2.431, p = 0.787) showed no statistically significant associations with cervical cancer. Body mass index was also not significantly associated with cervical cancer (χ^2 = 0.821, p = 0.936) (Table 2).

Characteristics of Women Receiving and Not Receiving Breast Cancer Treatment

Among women who received breast cancer treatment, the majority resided in rural areas (84.2%), compared with 65.5% among those who did not receive treatment. The poorest wealth quintile accounted for over half of both treated (52.5%) and untreated women (54.2%); however, the richest wealth quintile was more represented among treated women (25.6%) than untreated women (6.9%). Current pregnancy was reported by 23.4% of treated women compared with 10.8% of untreated women. Most treated women had one birth in the previous five years (66.0%), whereas untreated women were more evenly distributed across no births (35.1%), one birth (37.1%), and two births (27.9%). Regarding BMI, overweight women constituted the largest proportion of the treated group (54.3%), while normal-weight women predominated among untreated women (74.7%). Overall, treated women were more likely than untreated women to reside in rural areas, belong to the richest wealth quintile, be currently pregnant, have had one recent birth, and be overweight (Figure 1).

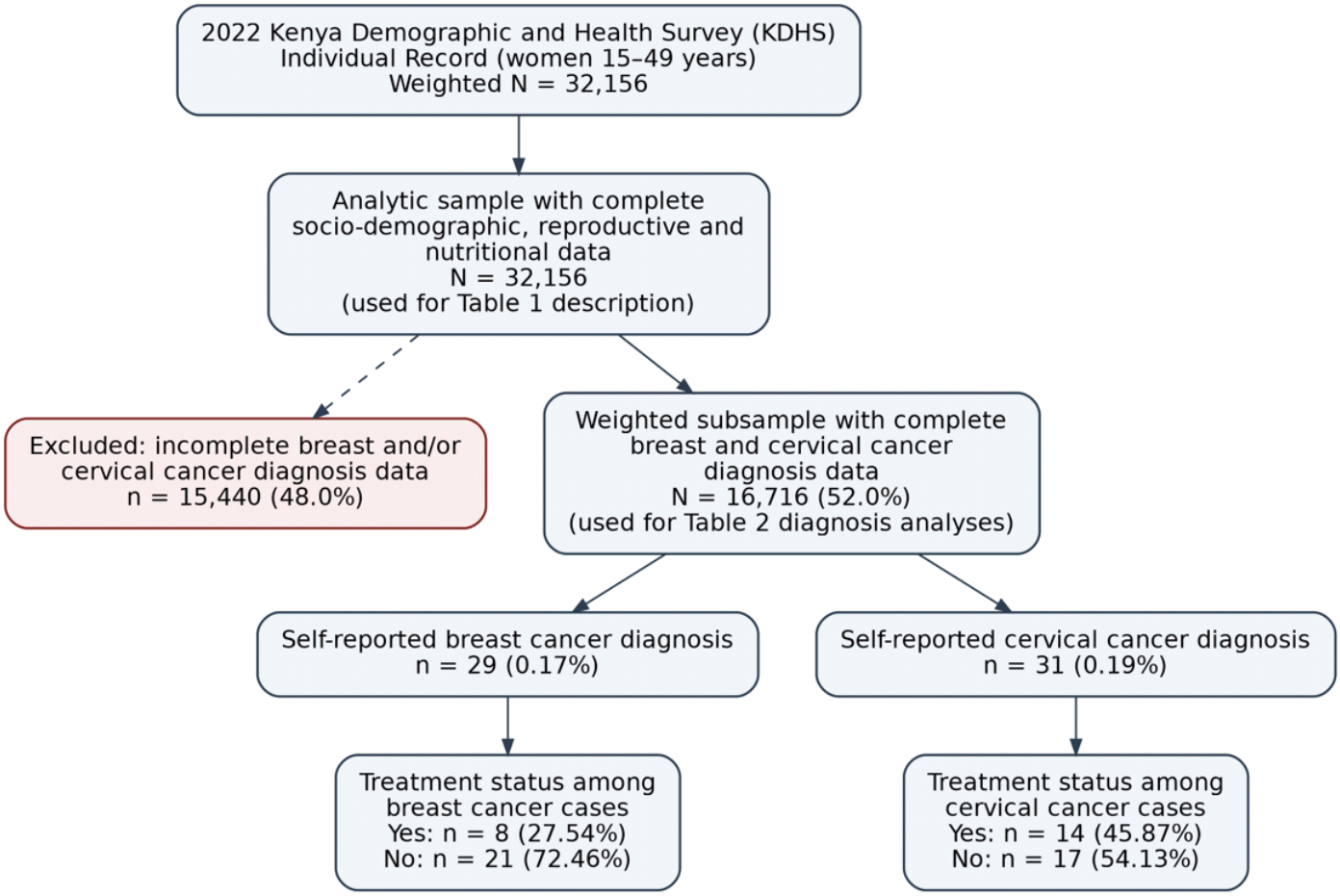

Figure 3: Flow diagram of the analytic sample. Women aged 15–49 years with complete socio-demographic, reproductive and nutritional data (N = 32,156) formed the sample described in Table 1. Of these, 15,440 (48.0%) were excluded from the cancer-related analyses because they had incomplete breast and/or cervical cancer diagnosis data, leaving a weighted subsample of 16,716 (52.0%) women with complete diagnosis data, used for the diagnosis analyses in Table 2. Treatment-uptake analyses were further restricted to women who self-reported a diagnosis of breast cancer (n = 29) or cervical cancer (n = 31).

Distribution of Cervical Cancer Treatment Status by Selected Characteristics

Cervical cancer treatment likewise varied according to selected socio-demographic and reproductive characteristics. A greater proportion of treated women resided in rural areas (59.5%) than in urban areas (40.5%). Treatment uptake was highest among women in the middle wealth quintile (34.3%) and richer quintile (41.9%). Most women receiving treatment were not pregnant at the time of the survey (92.9%) and had no births within the previous five years (69.1%). Overweight women constituted the largest proportion of treated participants (45.2%). Overall, a greater proportion of treated women were rural residents, of middle-to-higher wealth status, had one recent birth, and were overweight, compared with untreated women (Figure 2).

Discussion

This study examined the prevalence of self-reported breast and cervical cancer, factors associated with these cancers, and patterns of treatment uptake among women of reproductive age using nationally representative survey data. Overall, the prevalence of both cancers was low, with only 0.17% of women reporting a breast cancer diagnosis and 0.19% reporting a cervical cancer diagnosis. Furthermore, treatment coverage among diagnosed women remained poor, with only 27.54% of women with breast cancer and 45.87% of those with cervical cancer reporting that they were receiving treatment. These findings should be interpreted as reflecting awareness of diagnosis and access to diagnostic services rather than the true population prevalence of cancer among women aged 15–49 years. Because diagnoses were self-reported and restricted to women of reproductive age, the observed prevalence likely underestimates the actual prevalence, particularly among older women who are at substantially greater risk of both cancers. Underdiagnosis, low screening coverage, and limited awareness may have further contributed to the low prevalence observed in this study [19,20].

The bivariate analysis further demonstrated that wealth status was the only characteristic significantly associated with self-reported breast cancer, whereas residence,

pregnancy status, recent parity, and body mass index were not associated with self-reported breast cancer diagnosis. More than half of women with breast cancer belonged to the poorest wealth quintile, suggesting that socioeconomic disadvantage may influence breast cancer diagnosis or the distribution of disease within this population. Previous studies have shown that socioeconomic position influences breast cancer awareness, participation in screening, timely diagnosis, and access to healthcare services through differences in education, financial resources, and health-seeking behaviour [21–23]. Nevertheless, because the present study relied on self-reported diagnoses and identified only a small number of breast cancer cases, these findings should be interpreted cautiously. The significant association with wealth may partly reflect disparities in healthcare utilisation or diagnostic opportunities rather than true differences in disease diagnosis.

In contrast, none of the selected characteristics, including residence, wealth status, pregnancy status, parity, and body mass index, showed statistically significant associations with self-reported cervical cancer. Although descriptive results indicated that cervical cancer cases were proportionally more common among women in the richer wealth quintile and among rural residents, these differences did not reach statistical significance. This finding suggests that, within this nationally representative sample, self-reported cervical cancer diagnosis was relatively similar across socioeconomic and reproductive groups. However, the small number of diagnosed cases substantially reduced statistical power and may have limited the ability to detect meaningful associations. Similar observations have been reported in low- and middle-income countries where low screening coverage and delayed diagnosis obscure underlying socioeconomic differences in cervical cancer prevalence [24–28].

Despite the low prevalence of self-reported diagnosis of both cancers, treatment coverage remained suboptimal, particularly among women with breast cancer, where fewer than one-third reported receiving treatment. Likewise, more than half of women diagnosed with cervical cancer were not receiving treatment. These findings highlight persistent gaps across the cancer care continuum, including delayed diagnosis, inadequate referral systems, limited availability of oncology services, financial barriers, transportation challenges, and sociocultural factors influencing healthcare utilisation [21–23]. Similar barriers have been documented across many low-resource settings where specialised cancer services remain concentrated in major urban centres and are often inaccessible to large segments of the population.

With respect to breast cancer treatment, descriptive findings suggested variation across socioeconomic and reproductive characteristics. A greater proportion of treated women resided in rural areas compared with untreated women, while women in the richest wealth quintile represented a larger proportion of treated cases than untreated cases despite most diagnosed women belonging to the poorest wealth quintile. In addition, treated women were more likely to be currently pregnant, have had one birth within the previous five years, and be overweight. These patterns may indicate that contact with maternal health services and greater financial resources facilitate earlier referral and treatment initiation. Pregnancy and recent reproductive healthcare encounters may increase opportunities for clinical examination, counselling, and referral, while higher socioeconomic status may improve the ability to afford diagnostic investigations and treatment costs [29–32]. However, because these observations are descriptive and based on a very small number of treated women, they should not be interpreted as evidence of causal relationships.

Similarly, cervical cancer treatment varied across selected characteristics. Treated women were more likely to reside in rural areas and belonged predominantly to the middle and richer wealth quintiles. Most treated women were not pregnant, had no births within the previous five years, and were overweight. Although rural populations are frequently reported to experience substantial barriers to specialised healthcare, including long travel distances and shortages of oncology services, the greater proportion of treated rural women observed in this study may reflect successful referral pathways, targeted health interventions, or differences in healthcare-seeking behaviour among women who had already received a diagnosis [24–28]. Likewise, the higher representation of women from middle and richer wealth households among treated cases supports previous evidence that economic resources influence access to diagnostic services, treatment initiation, and continuity of care by reducing both direct and indirect healthcare costs [29–32]. Nevertheless, because wealth status was not significantly associated with self-reported cervical cancer diagnosis and the number of diagnosed women was limited, these descriptive differences may simply reflect random variation rather than true socioeconomic inequalities in treatment uptake [33–37].

Furthermore, reproductive characteristics appeared to show little influence on cervical cancer treatment. Most treated women were not pregnant and had no recent births, although descriptive differences were observed between treated and untreated groups. These findings suggest that reproductive factors may play a limited role in determining treatment uptake once cervical cancer has been diagnosed. Likewise, overweight women constituted the largest proportion of treated cervical cancer cases, whereas women with normal body weight represented the largest proportion of untreated cases. Although overweight and obesity have been associated with differences in healthcare utilisation and cancer outcomes in some settings, body mass index was not significantly associated with self-reported cervical cancer diagnosis in this study [38–43]. Consequently, these descriptive differences should be interpreted cautiously given the limited sample size.

Taken together, the findings indicate that although socioeconomic characteristics particularly wealth status may influence the prevalence of self-reported breast cancer and patterns of treatment uptake for both cancers, statistically significant associations were largely absent, especially for cervical cancer. The consistently low treatment coverage observed for both breast and cervical cancer underscores important deficiencies in access to timely diagnosis and effective treatment among women of reproductive age. Strengthening screening programmes, improving referral systems, expanding equitable access to oncology services, and reducing financial barriers remain critical priorities for improving cancer outcomes in low-resource settings. Future studies incorporating clinically verified diagnoses, larger numbers of confirmed cancer cases, and longitudinal follow-up are needed to better understand determinants of self-reported cervical cancer diagnosis and treatment uptake and to identify effective strategies for improving access to comprehensive cancer care [44, 45].

Strengths and Limitations

A major strength of this study is the use of nationally representative survey data, which enhances the generalisability of the findings to women of reproductive age. The large sample size, standardized data collection procedures, and rigorous sampling design provide reliable population-level estimates of prevalence of self-reported diagnosis of breast and cervical cancer and treatment uptake. Additionally, the study simultaneously examined disease diagnosis, associated characteristics, and treatment patterns, providing a broader understanding of the cancer care continuum among women of reproductive age.

However, several limitations should be acknowledged. First, both breast and cervical cancer diagnoses were self-reported rather than clinically verified, making the findings susceptible to recall bias, reporting bias, and potential misclassification. Second, the analysis was restricted to women aged 15–49 years, excluding older women who bear the greatest prevalence of both cancers. Third, the cross-sectional design precludes causal inference between the selected characteristics and self-reported cervical cancer diagnosis or treatment uptake. Finally, the very small number of women reporting breast or cervical cancer substantially limited statistical power, reducing the precision of the estimates and the ability to detect significant associations. Consequently, the findings relating to treatment patterns and associated characteristics should be interpreted cautiously and confirmed using larger studies with clinically confirmed diagnoses.

Implications for Policy and Practice

The findings suggest potential gaps in cancer awareness, diagnosis, and treatment among reproductive-age women. Strengthening prevention efforts should prioritise improved public awareness, expanded screening coverage, and integration of basic cancer services into primary healthcare systems. Given observed socioeconomic differences in reported outcomes, policies that reduce financial and geographic barriers to care may improve access to diagnosis and treatment. Expanding HPV vaccination and early detection services is also important for reducing future disease prevalence in this population.

Conclusion

This study highlights important socioeconomic patterns in self-reported breast cancer and reveals gaps in treatment uptake for both breast and cervical cancers among women of reproductive age. Although few identified cases of self-reported cancers, the findings emphasize the importance of strengthening early detection systems and addressing structural barriers to cancer care. Further research with clinically verified diagnoses and broader age groups is needed to better understand the patterns of cancer prevalence and treatment access.

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Author contribution

Conceptualization, K.K.A; Data curation, G. A, B. A. K, E.K.O, L.A; Formal analysis, K.K.A, G. A, B. A. K, E.K.O, L.A; Methodology, G. A, B. A. K, E.K.O, L.A; Writing– original draft, K.K.A; Writing – review & editing. G. A, B. A. K, E.K.O, L.A.

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Ethical Considerations: The DHS protocol received ethical approval from the relevant national ethics review committees and the Institutional Review Board (IRB) of ICF. Written informed consent was obtained from all participants prior to data collection. Permission to use the dataset was obtained from the DHS Program. The current analysis was based on anonymized, publicly available secondary data and therefore did not require additional ethical approval.

Data Availability: The datasets analyzed in this study are not included in the manuscript. They are publicly available from the DHS Program (https://dhsprogram.com) upon reasonable request and approval.

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