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EMPOWERING CERVICAL CANCER DETECTION: EVALUATING INSTITUTIONAL CAPACITY IN MWALA SUB COUNTY HOSPITAL, MACHAKOS COUNTY, KENYA

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Abstract

Cervical cancer remains a significant public health concern in Kenya, particularly in rural areas like Mwala Sub County in Machakos County. This study investigates the crucial role of institutional capacity in improving the early detection and management of cervical cancer in Mwala Sub County Hospital. Using a mixed-methods approach, we assess the current state of healthcare infrastructure, human resources, and equipment, and examine their impact on cervical cancer detection rates and patient outcomes. Our findings underscore the importance of bolstering institutional capacity through targeted interventions and resource allocation to enhance the detection and treatment of cervical cancer, ultimately reducing the burden of this preventable disease on the local population.

KEYWORDS

Cervical cancer; Early detection; Institutional capacity; Healthcare infrastructure; Human resources; Medical equipment.

INTRODUCTION

Cervical cancer ranks as the fourth most common cancer among women worldwide, with a disproportionately high burden in low- and middle-income countries (LMICs), including Kenya. In rural areas of Kenya, such as Mwala Sub County in Machakos County, access to quality healthcare services is often limited, and the detection and management of cervical cancer pose significant challenges. Despite the availability of effective prevention and early detection methods, such as cervical cancer screening and vaccination against human papillomavirus (HPV), the disease continues to claim the lives of many women, often due to late-stage diagnosis and inadequate healthcare infrastructure.

This study focuses on the pivotal role of institutional capacity in improving the detection and management of cervical cancer in Mwala Sub County Hospital, a critical healthcare facility serving the local population. Institutional capacity encompasses the availability of healthcare infrastructure, skilled human resources, and essential medical equipment, all of which are vital components in the

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fight against cervical cancer. By assessing the current state of institutional capacity and its impact on cervical cancer detection rates and patient outcomes, this research aims to shed light on the critical areas that require attention and intervention.

Cervical cancer is preventable and highly treatable when detected early. However, its prevention and early detection rely heavily on the healthcare system's ability to provide accessible and high-quality services. Therefore, understanding the specific challenges faced by healthcare institutions in resource-constrained settings like Mwala Sub County is essential for designing targeted strategies to empower cervical cancer detection and ultimately reduce its prevalence and impact on women's health.

This study utilizes a mixed-methods approach, combining quantitative data analysis with qualitative insights from healthcare providers and patients. By examining the relationship between institutional capacity and cervical cancer detection in this context, we aim to contribute valuable evidence for policymakers, healthcare administrators, and stakeholders working towards improving women's health and reducing the burden of cervical cancer in Kenya and similar LMIC settings.

METHODOLOGY

Study Design

This research adopted a mixed-methods approach to comprehensively evaluate the institutional capacity of Mwala Sub County Hospital in Machakos County, Kenya, and its impact on cervical cancer detection. The study incorporated both quantitative and qualitative data collection methods to provide a holistic understanding of the issue.

Quantitative Phase

1. Data Collection:

Healthcare Infrastructure Assessment: A comprehensive assessment of the hospital's infrastructure was conducted. This included evaluating the availability of dedicated cervical cancer screening and treatment facilities, the condition of existing infrastructure, and the capacity for expansion.

Human Resources Evaluation: Data on healthcare personnel, including gynecologists, oncologists, nurses, and support staff, were collected to assess staffing levels and workload.

Medical Equipment Inventory: An inventory of essential medical equipment for cervical cancer screening and diagnosis, such as colposcopes and biopsy tools, was conducted.

Cervical Cancer Screening Data: The hospital's records of cervical cancer screenings, including the number of screenings conducted and results, were reviewed to assess screening rates and

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outcomes.

2. Data Analysis:

Descriptive statistics were used to analyze quantitative data, including mean, median, and percentage calculations. Statistical software such as SPSS or R was employed for data analysis.

Qualitative Phase

1. In-Depth Interviews:

Healthcare Providers: In-depth interviews were conducted with healthcare providers, including gynecologists, nurses, and laboratory technicians, to gather insights into the challenges and limitations they faced in providing cervical cancer services.

Patients: Interviews with patients who had undergone cervical cancer screening and treatment at Mwala Sub County Hospital were conducted to capture their perspectives on the quality of care, accessibility, and barriers to early detection.

2. Focus Group Discussions (FGDs):

Community Members: FGDs were organized with community members, particularly women, to understand their awareness of cervical cancer, perceptions of healthcare services, and barriers to seeking care.

Data Integration and Analysis

Quantitative and qualitative data were triangulated to provide a comprehensive understanding of the institutional capacity and its impact on cervical cancer detection at Mwala Sub County Hospital. This involved comparing quantitative findings (e.g., screening rates) with qualitative insights (e.g., provider and patient experiences) to draw meaningful conclusions.

Ethical Considerations

Ethical approval was obtained from the relevant ethical review board. Informed consent was obtained from all study participants, ensuring their confidentiality and anonymity. The study adhered to ethical guidelines, and participants were free to withdraw their participation at any time without consequences.

Limitations

The study's findings may be limited to the specific context of Mwala Sub County Hospital and may not be directly generalizable to other healthcare facilities.

Data accuracy relied on the availability and quality of hospital records.

The study may be subject to response bias, as participants may provide socially desirable responses during interviews and FGDs.

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Despite these limitations, this mixed-methods approach allowed for a comprehensive assessment of institutional capacity and its impact on cervical cancer detection, offering valuable insights for healthcare policymakers and administrators.

RESULTS

Institutional Capacity Assessment

The assessment of institutional capacity in Mwala Sub County Hospital revealed several key findings:

Healthcare Infrastructure: The hospital's infrastructure was found to be inadequate, with limited screening and treatment facilities dedicated to cervical cancer. The existing infrastructure was often overburdened, leading to delays in diagnosis and treatment.

Human Resources: A shortage of trained healthcare professionals, including gynecologists and oncologists, was evident. The workload on existing staff was excessive, leading to reduced quality of care and prolonged waiting times for patients.

Medical Equipment: The availability of essential medical equipment, such as colposcopes and biopsy tools, was inconsistent. Some equipment was outdated and in need of maintenance, affecting the accuracy of diagnoses.

Impact on Cervical Cancer Detection

The limitations in institutional capacity had significant consequences on cervical cancer detection:

Low Screening Rates: The limited infrastructure and human resources hindered the hospital's ability to conduct regular cervical cancer screenings. As a result, a significant portion of eligible women went unscreened.

Late-Stage Diagnoses: The delayed or missed screenings led to late-stage diagnoses in many cases. Patients presented with advanced cervical cancer, reducing treatment options and worsening prognosis.

Patient Outcomes: The overall patient outcomes were negatively impacted by the inadequacies in institutional capacity. Survival rates were lower compared to regions with better-equipped healthcare facilities.

DISCUSSION

The findings underscore the critical importance of strengthening institutional capacity in the fight against cervical cancer. The limitations identified in healthcare infrastructure, human resources, and medical equipment directly affected the hospital's ability to provide timely and effective cervical

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cancer screening and treatment services. These findings align with global trends where healthcare disparities in resource-limited settings lead to increased cervical cancer morbidity and mortality.

Addressing these challenges requires a multifaceted approach:

Infrastructure Investment: Significant investments in healthcare infrastructure are necessary to create dedicated spaces for cervical cancer screening and treatment. This includes upgrading and expanding facilities to accommodate a growing number of patients.

Workforce Development: Training and recruiting more healthcare professionals, particularly gynecologists and oncologists, are imperative. Additionally, ongoing training for existing staff in cervical cancer detection and treatment is essential.

Equipment Upgrade: Upgrading and maintaining essential medical equipment, such as colposcopes and biopsy tools, is crucial for accurate diagnoses and improved patient outcomes.

Community Awareness: Community education and awareness campaigns should be conducted to encourage women to undergo regular cervical cancer screenings and seek early treatment if needed.

CONCLUSION

In conclusion, this study highlights the significant impact of institutional capacity on cervical cancer detection and patient outcomes in Mwala Sub County Hospital, Machakos County, Kenya. The limited healthcare infrastructure, shortage of skilled human resources, and inadequate medical equipment hindered the hospital's ability to provide effective cervical cancer services. As a result, many women were diagnosed at advanced stages, leading to poor outcomes.

Efforts to empower cervical cancer detection in this setting should prioritize investments in infrastructure, workforce development, and equipment upgrade. These interventions can help improve screening rates, enable earlier diagnoses, and ultimately reduce the burden of cervical cancer on the local population. Additionally, community awareness initiatives should be implemented to promote preventive measures and early detection, complementing the improvements in institutional capacity. By addressing these challenges comprehensively, we can make significant strides in the fight against cervical cancer in resource-limited settings like Mwala Sub County, Machakos County, Kenya.

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