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The role of institutional capacity on detection of cervical cancer in Mwala sub county hospital, Machakos County, Kenya

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Abstract
Cervical Cancer remains the number one cause of cancer death for women in developing countries including Kenya. It was once among the leading causes of death in developed countries like America; however, incidences of invasive Cervical Cancer have declined steadily over the years in these countries. The decline is primarily attributed to increased use of Pap smear, a screening test procedure that detects cervical changes (Precancerous) before cancer develops. In many of the Kenya Health facilities there is lack of preparedness to detect cervical cancer. The study sought to establish whether Mwala Health facilities were prepared for cervical cancer screening. A descriptive cross sectional study design was used involving both qualitative and quantitative methods of data collection. All health facilities in Mwala Sub County were studied. A structured questionnaire was administered to Health personnel who were in charge of the facility. This was to determine whether they received any funding from the governments to equip the health facilities with the cancer screening equipments and reagents. Checklists were also used to counter check the availability of materials and instruments for screening. The checklists on the other hand were for recording availability of equipments and supplies in health facilities for cervical cancer screening. Data were analyzed using descriptive statistics and presented in frequency tables. The finding was that many of the health facilities lacked equipments and supplies for cervical cancer screening. Therefore Mwala Sub County health facilities were not prepared for cervical cancer screening since the equipment and reagents were not available in most of the health facilities. It therefore means that government should provide funds for procurement of equipments and reagents for cervical cancer screening.

Keywords: cancer, cervix, county, capacity, detection, colposcopy

1. Introduction
Cervical cancer is a malignant neoplasm of the cervix uteri or cervical area. It may present with vaginal bleeding, but symptoms may be absent until the cancer is in its advanced stages. Treatment consists of surgery (including local excision) in early stages and chemotherapy and radiotherapy in advanced stages of the disease [1]. If pre-malignant disease or cervical cancer is detected early through screening, it can be monitored or treated relatively non-invasively. Central to the success of any screening programme is its ability to identify, reach and screen the defined target population [2] Most cancer develops slowly in the lining of the cervix and it could take years (at most 10 years) for the precancerous lesions to develop into invasive Cervical Cancer [3].

Cancer of the cervix is the most common cancer among women in 45 countries, with global reports of more than 500,000 new cases of Cervical Cancer annually for each death from cancer of the cervix, it has been estimated that on average 17 potential years of life before 70 years of age are lost. This means that worldwide, about 3.4 million women-years of life before 70 years of age are lost annually due to the existence of the problem of cervical cancer. In addition, settings with lower prevalence of cervical cancer such as Singapore report that the direct cost of treating invasive cervical cancer could be in excess of 58 million dollars over 25 years [4] which is way above most sub-Saharan African national budgets. Therefore early detection and treatment of precancerous cervical lesions are the most cost-effective interventions for prevention of cervical cancer. However, only 5% of women in developing countries have ever been screened for cervical cancer compared to 84% of their counterparts in developed countries [5].

Cervical cancer deserves special attention as on a global scale, it might be the most preventable major form of cancer. It was once among the leading causes of death in developed countries like America; however, incidences of invasive Cervical Cancer have declined steadily over the years in these countries. The decline is primarily attributed to increased use of Pap smear, a screening test procedure that detects cervical changes (Precancerous) before cancer develops [6].

In developing countries, 270,000 deaths (85%) new cases and 90% deaths [7].

In Eastern Africa is the region most affected with Cervical Cancer with age standardized incidence rate and mortality of 25.3 and 43.5 per 100,000 women per year respectively (WHO, 2010a) [6].

In Kenya cervical cancer is second leading with 25 per 100,000case Due to lack of awareness; —Inadequate diagnostic facilities; —Lack of treatment facilities; High cost of treatment; High poverty Indexes [8].

Cervical Cancer is a preventable disease yet it is the leading cause of cancer related morbidity and mortality among women in Kenya with 2625 cases and 2111 deaths

being reported annually. If no intervention is instituted, Cervical Cancer cases and deaths are expected to rise by 55% and 36% respectively by the year 2025 [6] to reach 4261. In Kenya, Cervical Cancer is the most frequent cancer and the leading cause of cancer related death among women. It is estimated that only 3.2% of the women in Kenya aged 18-69 years have been screened. Cervical Cancer has an annual crude incidence rate of 16.5 per 100,000 women and a corresponding age standardized incidence of 28.7 per 100,000 women (WHO 2010a) [6]. Like most developing countries, Kenya lacks financial and human resources to implement a nationwide cytology based screening program [9].

Cervical Cancer is a deadly disease once it reaches its invasive stages but out of all the female genital tract cancers, it is the only preventable cancer if detected at its early stages. This is probably why a lot of work and researches have been carried out concerning this cancer since it can save thousands of lives which unnecessarily die each year. Therefore early detection is one of the most valuable ways which guarantees her safety as she enjoys life into the future.

The only problem we are faced out with now, is that even though there is Cervical Cancer screening, the morbidity and mortality rates continues to be a burden especially in developing countries like Kenya. According to the World Health Organization[6], successful cervical cancer screening and treatment programmes must have high coverage of the at-risk population, appropriate follow-up and management for patients with abnormal test results, effective links between programme components, and adequate, high quality resources.[10] WHO has recommended its member countries to develop and integrate cervical cancer screening into their health systems depending on the local social, cultural and economic contexts [11] Data from hospital based registries in Kenya indicated that cancer of the cervix accounted for 70-80% of all cancers of the genital tract and 8-20% of all cancer cases for the 10 year period of 1981-1990. It has been reported that there are 10-15 new cases of Cervical Cancer in Nairobi each week (Kenya cancer registry). Despite the magnitude of the problem in Kenya and the fact that it is easily preventable, the Cervical Cancer screening coverage in Kenya for all women between 18-69 years of age is only 3.2% which means that the majority of the at risk population, an estimated 10-plus million This will ensure a defined referral system for diagnosis, treatment and follow up. The national health policy in Kenya however does not have a screening policy for cervical cancer; priority is given to infectious diseases such as malaria, tuberculosis, leprosy, diarrheal diseases, acute respiratory infections and sexually transmitted infections all of which have individual control programs.[12] The ministry has also produced policies and guidelines in its reproductive health facilities such as Ante–natal, family planning and post-natal clinics to conduct Pap smear screening tests as routine examinations so as to attract more women as possible for the test. Additionally are the organizing Pap smear screening activities out in the communities by some organizations like the Marie stopes and APHA 11 Kamili. Despite these, many women are also seen to be presenting late signs and symptoms of the disease and most of them have not had a Pap smear test at any one time in their lives. In Mwala district hospital the current medical camp conducted on 20th march 2012 by APHA II Kamili on 183 patients, 6 had Cervical Cancer [13].

This study is aimed at establishing the role of institutional capacity on detection of cervical cancer in mwala sub county hospital so as to reduce the incidence and mortality rates of cervical cancer in Mwala district.

2. Materials and Methods

Study Site

Mwala District Hospital is a Government health facility located in Mwala Sub-location, Mwala location, Mwala Division, Mwala Constituency in Machakos County. It has a bed capacity of 18. Some of the basic services offered include Anti-Retroviral Therapy, Community-based Integrated Management of Childhood Illnesses, Family Planning, and Home Based Care, in Patient Department.

Study design and Methods

This study adopted a descriptive cross sectional study design that used both quantitative and qualitative methods in order to establish the institutional capacity in detection of Cervical Cancer in Mwala district. This study design was used because of rapid data collected to help understand Mwala district institutions from a part of it suitable for extensive research.

All the 31 health facilities in Mwala Sub County, comprising of: 1 Sub County hospital, 6 health centers, 17 dispensaries, and 7 clinics were selected and studied. A semi-structured questionnaire was administered to health facility administrators and a check list was completed for each health facility in Mwala Sub County.

Data Management

Data were cleaned, coded and entered into Statistical Package for Social Sciences (SPSS) for analysis. Data was analyzed using descriptive statistics and presented in frequency tables. Qualitative descriptive data were summarized and reported.

Ethics approval

Approval was obtained from the Kampala University and Sub county Medical officer of health and health facility administrators. All information obtained was confidential and used for the sole purpose of the study. The study protocol was explained to each of the health facilities administrators, and a written consent was obtained from each prior to interview. No identifying data was collected from the participants.

3. Results

Information on Health Facilities

Thirty one health facilities were visited. Three quarters (77.4%) of the facilities were owned by the government. A quarter (22.5%) was privately owned. In terms of levels, over half (74.2%) of the health facilities were in level 3, Less than half (22.6%) comprised of level 2 while 3.2% was level 4.Over half of the facilities were dispensaries (54.8%), the other half was shared among

clinics (22.6), health centre (19.4%) and the least percentage was for the hospital (3.2%) as reflected on table 1.

Table 1: Characteristics of health facilities

Institution type	Frequencies(n=31)	Percentages
Public	24	77.4
Private	7	22.5
Institution level		
level 2	7	22.6
level 3	23	74.2
level 4	1	3.2
Nature of institution		
Hospital	1	3.2
health center	6	19.4
dispensary	17	54.8
clinic	7	22.6

Source: Primary Data

Table 2: Equipments and reagents availability in Health Facilities

Equipments Frequency (30) %		
Above minimum	3	10%
Below minimum requirement	27	90%
Equipment in use	1/3	0.33%
Equipment not in use	2/3	0.67%
Availability of reagents		
Available	7	17.9%
Not available	28	71.7%
Reasons for reagents unavailability		
No government supplies	18	64.3%
No trained personnel's	7	25%
Ability of health facility to offer Cervical Cancer Screenings	3	10.7%
Frequency of renewal of reagents (as given by MCH staff)		
Daily	16	41.0%
Weekly	8	20.5%
Monthly	15	38.4%

Source: Primary Data

Equipment and reagent availability

In the study 30 health institutions were visited**.** Most of the health facilities (90%) were not having minimum requirements for cervical cancer screening (speculum, portable light, Lugol's iodine and vinegar reagents.) 1 out of the three (0.33%) health facilities had the equipments and reagents in use while 2out of three (0.67%)had them not in use.

On the frequency of testing, three quarters (79.4%) of the health facilities reported that they were not screening, 5.1% screened weekly. 71.7% of the health facilities had reagents for cc available and 17.9% did not have where more than half (64.3%) reported that the government had failed to supply, 25% had no trained personnel and 10.7% did not offer cervical cancer services as reported by the MCH staff which showed that most if the health facilities were not screening for cervical cancer as shown in table 2.

Table 3: MCH staff characteristics

Variable	Frequency (n=39)
Sex	
Male	12(30.7%)
Female	21 (21.0%)
Length of service	
Less than 1 year	7 (17.9%)
2 years	21(53.8%)
3 years	4(10.0%)
More than 4 years	3(7.7%)
Cervical cancer Screening on clients	
Asking clients about Cervical cancer testing status	
Agree	9(23.0%)
Disagree	29(74.3%)
Clients' responses	
Afraid to test, not ready to test, have not yet tested	2(22.2%)
Worried about seeing my private parts	6(66.6%)
Complain about persistent bleeding	1(11.1%)
Reasons for failure to ask clients about CCS	
Forgot to ask due to work load	9(75.0%)
No need to ask as we do not offer such services	3(25.0%)

***Source*:** Primary Data

Characteristic of MCH staff

A total of 39 MCH staff was interviewed from the successfully completed questionnaire in different heath facilities. The sample comprised of predominantly male (30.7%) with females representing (21%) of the sample. In terms of length of service at the MCH services, over half (53.8) of the MCH staff had served for 2 years,17.9% had served for less than 1 year and 7.7% had served for more than 4 years.

As reported by the MCH staff, more than half of the sample, (74.3%) reported that they had cervical cancer testing discussions with the clients who reported that most of the clients (66.6%) reported that they did want to be tested because they were worried of their private parts being seen, 11.1% reported that they had persistent bleeding and 22.2% feared the test.

The MCH staff who did not discuss the cervical cancer test with the clients, 75% reported that they had heavy duty and did have enough time, 25% reported that they did offer the services and so they did see the reasons to discuss with the clients (Table 3).

4. Discussion

Health facility information

A total of 31 health facilities were visited for the study. About Seventy seven percent of these institutions are owned by the government while 22.5 % are privately owned. The highest percent of 54.8% were dispensaries, 19.4% were health centers while 22.6% were clinics and 3.2% was a hospital.

Equipment and reagent availability

The study established that the largest number of the respondents, 90% of the health facilities had below minimum requirements of cervical cancer screening equipment and reagents which included speculum, portable light, lugols iodine and vinegar. According to ACCP [14] Kenya suffers from lack of adequate screening, diagnostic and treatment facilities. Chivianje[15] also add that 56% of government health facilities had basic equipment for cervical cancer screening. According to this study only 105 had the minimum requirements for cervical cancer screening.

Denny[16] explains that many developing countries lack infrastructure for screening and diagnosis services. Therefore precancerous lesions fail to be detected early and advance to invasive cervical cancer. This is supported by 71.9% of the health facilities which did not have reagents required for cervical cancer screening as reported by the MCH staff in this study accessible.[17]

Characteristics of MCH staff

Most of the respondents of the MCH staff were males (30.7%) and female were 21%. Low experience of the health workers was reported where 53.8% had served at the MCH services for 2years and 7.7% had served for less than a year.

On whether the MCH staff discusses cervical cancer issues with clients, 74% reported that they did not. Out of the MCH mothers who were discussed with by the MCH staff on cervical cancer test, 66.6% reported that they were worried about people seeing their private parts, 22.2 % feared to be tested because they were scared to be found with the disease which consent with Collins wambasa that most women in Kenya decline for screening because of fear that they might be found to have the disease.

The MCH staff (75%) reported that they did not discuss issues on cervical cancer with the clients because they were having a heavy duty which according to Musibi [18] there is a shortage of health staff which hinders screening of cervical cancer.[19] explains that there is lack of adequate staff available to screen and treat women who inhibit timely screening diagnosis and treatment of cervical cancer in early stages. About seventy four percent of the MCH staff reported they were not offering any cervical cancer services in their health facilities which contradict Mutyaba those health facilities must make services available for cervical cancer and accessible. The cost of treatment is not subsidized; hence it is out of reach for most. According to many informants, the system for indigent care only covers screening, not treatment, so the follow-up with these patients ends with the communication of results.

5. Conclusion

In this study 90% of the health facilities did not have the necessary equipments for cervical cancer screening and even the few that had the minimum requirement had the equipments only 33.3% in use.

High rates of lack of knowledge 92.3% among the MCH staff was found among participants. Out of all the 31 health facilities in Mwala district there is only one performing cervical cancer screening. The results of this study also indicates that there is a great deal of work to be done on institutional capability of cervical cancer in Mwala district, Machakos County. There seems to be a gap on how the institutions, staff and community should be prepared for cervical cancer screening. The government should provide funds to procure equipments and reagents for cervical cancer in Mwala district.

6. Authors' contributions

Lynnette Muthoki J. Kiambaa, Wilberforce Cholo and Prof. Christine Zirabamuzaale contributed equally to this work.

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