



RESEARCH ARTICLE

HEALTH FACILITY AND HUMANRESOURCE FACTORS SUPPORTING UPTAKE OF CERVICAL CANCER SCREENING IN KAKAMEGA COUNTY, KENYA

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Manuscript Info

Manuscript History

Received: 28 August 2021

Final Accepted: 30 September 2021

Published: October 2021

Key words:-

Cervical Cancer, Kakamega County, Screening, Kenya, Health Facility, Human Resource

Abstract

Main objective was to describe health facility and human resource related factors supporting uptake of cervical cancer screening in Kakamega County. *Design*; descriptive cross-sectional study adopting quantitative methods. *Setting*; Kakamega County within 16 community units in 8 sub counties. *Sampling*; multistage sampling was used to sample 48 community health volunteers and 16 health facilities. Interviewer administered questionnaire was used to collect data from Community Health Volunteers and the heads of link health facilities. Validity and reliability of questionnaire was ensured through expert review. *Analysis* was by use of descriptive statistics. *Results*; Majority of participants were female (91.7%) aged between 30-50 years (75%), with primary level of education (47%) and had worked for more than five years as Community Health Volunteers (60%). More than 95% of Community Health Volunteers visited clients' homes on monthly schedule (77%). Regarding cervical cancer screening, 60% of Community Health Volunteers agreed that they were involved in referring women for cervical cancer screening. Almost all (92%) of Community Health Volunteers had not been trained on aspects of cervical cancer screening. Further, 94% of Community Health Volunteers confirmed that cervical cancer screening was part of the health education package they discuss with women. Approximately 81% of health facilities were health centers and offered cervical cancer screening services weekly (75%). *Conclusion*; Health facilities offer cervical cancer screening adequately. Community Health Volunteers have established network to reach women but lack capacity to sensitize women on cervical cancer screening. *Recommendation*: Community Health Volunteers should be empowered to mobilize women for cervical cancer screening.

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Introduction:-

Cervical cancer is of huge public health concern globally and in sub-Saharan Africa (SSA) including Kenya. It is the second most common cancer to breast cancer globally among women aged between 15 and 49 years (World Health

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organization, 2014). In Kenya, CC incidence and mortality has doubled over a 10-year period from 2354 reported cases and 1600 deaths annually in 2006 to 4802 reported cases and 2451 deaths annually in 2016 (Ministry of Health, 2015) (www.hpvcentre.net, 2017). Cervical cancer screening in all women is the single most powerful strategy for the early detection of cancer of the cervix when treatment is most effective in curing the disease. Data extracted from the county's District Health Information System-II, (DHIS-II) show that only 3% of women in Kakamega County were screened for cervical cancer in 2018. Out of this, 2.6% tested positive on VIA/VILI test hence the county contributes to 3.7% of the national cervical cancer incidence. Cervical Cancer Screening uptake in Kakamega is poor at 3% compared to the national screening rate of 3.2%. Possible reasons for low uptake could be related to resources (Ndejjo et al., 2016). Women only screen for cervical cancer when they experience signs and symptoms or when they are told by health care providers. Therefore screening for cervical cancer is opportunistic and erratic.

Resources could be looked at as human resources and health facility resources which have an influence on the utilization of CCS. Resources are an important factor in determining uptake of CCS and treatment. According to a study done in Zimbabwe to investigate health system constraints affecting uptake of treatment and care by women with cervical cancer (Tapera et al., 2019a), the following health system constraints were identified; limited or lack of training for healthcare workers, weak or lack of surveillance system for cervical cancer, limited access to treatment and care, inadequate healthcare workers, reliance of patients on out-of-pocket funding for treatment services, lack of back-up for major equipment, high costs of treatment and care, lack of knowledge about cervical cancer and bad attitudes of health workers, few screening and treating centers located typically in urban areas, lack of clear referral system resulting in inflexible processes, and limited screening and treating capacities in health facilities due to lack of resources. This is in agreement to findings by Maseko et al., (2015) in a study done in Malawi on health systems challenges in cervical cancer prevention program in which it was established that there existed health system challenges in areas of health workforce and essential medical products and technologies. Only 30% of health facilities provided both screening and treatment. There was inadequate service providers, those available were poorly supervised, lack of basic equipment and stock-outs of basic medical supplies in some health facilities and inadequate funding of the program. In most of the health facilities, service providers were not aware of the policy which govern their work and that they did not have standards and guidelines for cervical cancer screening and treatment (Maseko et al., 2015).

Community Health Volunteers (CHVs), are part of the human resources at the community level. They have been used successfully in the community to encourage women access maternal and Child Health services. As a result, there is improved utilization of skilled delivery, family planning services, immunization and antenatal services. Therefore, CHVs are a potential human resource that can be used in task shifting to reach eligible women for screening. Within the Kenyan context, CHVs operate under Community health strategy. This is an initiative of the ministry of health to empower communities to participate in their own health promotion activities through CHVs. The Ministry of Health developed and adopted it as a basic component of the Kenya Essential Package for Health (KEPH) in 2006 (Ministry of Health, 2014). In some other countries, the method is known as the Community Health Worker Program (CHWP). Under this arrangement, Community Health volunteers (CHVs) are the members of the community who provide the services (Olaniran et al., 2017). The establishment and deployment of CHVs was spurred by governments' inability to reach the Millennium Development Goals (MDG) and a continuous scarcity of Human Resource for Health (HRH) in low and middle income countries (LMIC) (World Health Organization, 2007). Evidence has accumulated on the usefulness of CHVs in delivering various health interventions (Lewin et al., 2010). Community Health Strategy (CHS) serves as a conduit between the community and the health-care system. It has governance structures provided by Community Health Committees (CHC) (Kimani-Murage et al., 2016). Under CHS, the community is stratified into Community Units (CUs) and further into Villages. Within a community Unit, there are 10 villages. Each village comprises of 30 to 100 households. One CHV is in charge of one village. One Community Health Extension Worker (CHEW) supervises ten CHVs. For outreach at the community level, Kenya's community health strategy relies on community health Extension workers and Community Health Volunteers (CHEWs and CHVs). Through the detection and referral of cases by CHVs, CHS serves as a link between the community and public health facilities and also brings services closer to the people that need them. CHVs have a role to mobilize community members to utilize these services. These responsibilities, however, do not include specific and standardized cervical cancer and screening (CCS) communication to eligible women. CHVs can be utilized as part of Kenya's community health strategy to organize, educate, and raise awareness about cervical cancer among eligible women in the community, resulting in increased demand for and use of CCS services (Ministry of Health, 2014).

The main objective was to describe the existing resources that either support or have the potential to support screening of cervical cancer in Kakamega County. Specifically the study sought to describe capacity of CHVs to participate in CCS and capacity of health facilities in providing cervical cancer screening services within Kakamega County.

Materials and Methods:-

Study Design

The study adopted descriptive cross-sectional research design employing quantitative approaches, where interviewer-administered questionnaire was used to collect data from both heads of link health facilities and community health volunteers. This was part of a larger cluster randomized trial (CRT) on integrating cervical cancer awareness creation for screening in community health strategy in Kakamega County.

Study setting:

The study was carried out in Kakamega County, Kenya. Kakamega County is in the western side of Kenya. It borders Siaya, Busia, Bungoma, Trans Nzoia, Vihiga, and Kisumu counties. Women aged 25 to 49 years constitute 208,905 (11.3%) (KNBS, 2016) & (KNBS, 2013). The County health system avails Cervical Cancer Screening services through a network of 299 public health facilities including; 1 County Referral Hospital, 9 sub-county hospitals, 32 health centers, 140 dispensaries and outreach clinics. In addition, it has 39 and 72 faith-based and private health facilities respectively, (DHIS-II, 2017). The county has 12 sub counties and 422 community units. Each community unit has between 40 to 110 villages. Community health strategy within the county is well established and active. It is implemented through the 422 community units (CU) serving 355,679 households (HH) currently.

Sampling and Sample Size

Target Population

Heads of link health facilities and community health volunteers.

Sampling Design

A sample size of 48 community health volunteers and 16 heads of link health facilities was used. A multistage sampling method was used. Eight out of 12 sub counties were randomly selected. Two Community Units were randomly selected from each sub county. From each of the Community Unit, three villages were randomly selected. Each village had one Community Health Volunteer hence the respective CHVs from each village was selected. All health facilities which acted as link facilities for the community units were included.

Data Collection

Data was collected using interviewer administered questionnaires, from Community Health Volunteers and heads of link health facilities. The questionnaire gathered information on sociodemographic characteristics including age, gender, marital status, and education level. It also assessed information on human resource related factors and health facility related factors supporting delivery of cervical cancer screening.

To increase validity and reliability of the instrument, the questionnaire was evaluated by experts from the department of reproductive health, Kakamega County Referral Hospital. Based on feedback, the final questionnaire was prepared for pre-test. The pretest study was conducted on 3 CHVs and two heads of facility in one community Unit which was not included in the study. The questionnaire on human resource and health facility had Cronbach's α of 0.729 and 0.639 respectively.

Ethical Approval

Ethical approval was obtained from Masinde Muliro University of Science and Technology Ethics Review Committee, National commission for science, technology and Innovation, NACOSTI and permission granted by County government of Kakamega.

Data Analysis

Data analysis was done using the statistical program for social sciences (SPSS) version 25. Descriptive statistics were used to analyze both human resource and facility related resource factors.

Results:-**Socio-demographic characteristics of Community Health Volunteers**

Table 1 shows the socio-demographic characteristics of Community Health Volunteers. The characteristics described include gender, age, education level, marital status, and period worked as CHV. There were a total of 48 CHVs included in the study, all responded to the questionnaire hence 100% response rate. Almost all participants were female (91.7%) aged between 30-50 years (75%). Majority had primary education as their highest level of education (47%) followed by those who had post primary education (39%). Most participants were married (81%) and had worked for more than five years as CHVs, (60%).

Table 1:- Demographic characteristics of community health volunteers.

	Characteristic (N=48)	Frequency (%)
Gender	Female	44 (92)
	Male	4 (8)
Age group	20-30 yrs.	8 (16)
	31-40 yrs.	16 (33)
	41-50 yrs.	20 (42)
	Over 50 yrs.	4 (8)
Education level	Informal	6 (13)
	Primary	23 (48)
	Post primary	19 (39)
Marital status	Single	2 (4)
	Married/Living together	39 (81)
	Divorced/separated	2 (4)
	Widowed	5 (10)

Human Resource factors supporting uptake of cervical cancer Screening

Table 2 describes experiences and practices of Community health volunteers which are considered as useful attributes of human resources to support cervical cancer screening. This information is important to establish capacity of CHVs to mobilize community members in utilizing Health care services. Currently, CHVs are lay health workers involved in mobilizing community members in utilizing maternal and Child Health Primary services (safe motherhood). As shown in the table, majority of CHVs had worked for more than 5 years as CHVs, served less than 100 households and almost all (96%) had a scheduled home visit to their clients. Of those with scheduled home visits, 77% visited the households monthly.

Table 2:- Human resource factors supporting uptake of cervical cancer Screening.

Variable (n=48)		Frequency (%)
Years worked as CHV	Up to 5 years	19 (40)
	> 5 years	29 (60)
Number of House Holds served	100 HH and less	28 (58)
	> 100 HHs	20 (42)
Mode of contacting clients	Home visit on request of client	2 (4)
	Scheduled Home visit	46 (96)
Frequency of contacting each household	Weekly	9 (19)
	Monthly	37 (77)
	Only when needed	2 (4)
Heard of CCS	Yes	48 (100)
	No	0
Source of information	Media	6 (14)
	Friend	2 (3)
	Health care worker	40 (83)
Your work as a CHV involve referring women for CCS?	Yes	29 (60)
	No	19 (40)
CCS messages in Health education package	Yes	0
	No	48 (100)

Been trained on cervical cancer screening	Yes	4 (8)
	No	44 (92)
Key health messages given to clients	Antenatal, post natal, child health and family planning	48 (100)
	Cervical cancer screening health messages	0
Perform CCS	Yes	0
	No	48 (100)

All CHVs (100%) had heard of cervical cancer screening, mainly from Health Care Workers (83%). Most (60%) CHVs reported that their work involved referring women for cervical cancer screening. All (100%) CHVs confirmed that cervical cancer and screening was not included in the health education package they discuss with women. None of the community health volunteers had been trained on Cervical Cancer Screening. Similarly, none of the CHV reported to perform cervical cancer screening. When asked which key health messages they give to clients, 88% (n=42) reported that they gave maternal, child health and family planning messages only.

Health Facility factors supporting Cervical Cancer Screening

Table 3 shows the proportion of health facility related factors supporting Cervical Cancer Screening in terms of type of health facility, whether it offers CCS, has referral forms to refer cervical clients, training approach required to improve staff on CCS, and frequency of conducting outreach services for cervical cancer screening. This information was important to assess the capacity of Health facilities to conduct CCS within the respective catchment areas. A total of 16 Health facilities participated in the study out of which 81% were health centers. Majority of the health facilities (75%) offered cervical cancer screening services on a particular day per week within a designated clinic (75%). Approximately 63% of health facilities had referral forms designed for cervical cancer patients. About 94% of link-health facilities conducted outreach services for cervical cancer screening monthly.

Table 3:- Health Facility related factors supporting cervical cancer screening.

Characteristics	Frequency (%)
Type of health facility	
County hospital	1 (6)
Sub county hospital	2 (13)
Health center	13 (81)
Cervical cancer screening offered	
No	4 (25)
Yes	12 (75)
Designated clinic/room to conduct screening	
Yes	12 (75)
No	4 (25)
Availability of referral forms to refer cervical clients	
Available	10 (63)
Not available	6 (37)
Training required to improve staff on CCS	
A practical training	14 (87)
Theoretical training	2 (13)
Frequency of conducting outreach services for CCS	
Monthly	11 (68)
After 3 months	2 (13)
After 6 months	1 (6)
Annually	2 (13)

Discussion:-

The objective of the study was to describe health facility and human resource related factors supporting uptake of cervical cancer screening in Kakamega County. Majority of CHVs were aged between 35 to 51 years, married and had a secondary education. Being married and having a basic education are part of a criteria for one qualifying to be chosen as a community health volunteer (Ministry of Health, 2007). This is on assumption that those already married

in the area are unlikely to change residence. Further, the married are accorded respect by majority of community members hence can be confided with personal health information. The attribute enables the CHVs to interact with community members confidently. Further, most CHVs had more than 5 years working experience. Experience increases ones skill, confidence and trust by others. Almost all CHVs had not been trained on cervical cancer screening. Without training CHVs have poor knowledge regarding CCS and this can limit their potential to sensitize women on CCS. This is contrary to findings by Srisuwan et al., (2015) in Thailand among Village Health Volunteers in which participants had a high level of knowledge about cervical cancer screening with overall mean score of 0.70 points (Srisuwan et al., 2015). Being trained on CCS and hence knowledgeable on the same enables lay health workers sensitize women on CCS with confidence. This may contribute to high uptake of cervical cancer screening as reported by previous studies (Mukama et al., 2017). The study revealed that aspect of CCS is not included in the work manual of CHVs. This limits the scope of CHVs hence their capacity in community mobilization. This is supported by a study done at Kenyatta National Hospital by Njuguna et al., (2017) in which it was observed that Women were more likely to report CCS if recommended by a staff, and the main barrier to screening included lack of proper communication on screening procedures.

Most link health facilities had referral forms however the forms were not specific for referring cervical cancer cases. Lack of specific referral forms cause Cervical Cancer patients not to receive the immediate attention required. Health care referrals and services increases regular use of cervical cancer screening, which potentially results in a reduction in cancer treatment costs and in lives lost to cervical cancer among women (Borrayo et al., 2004).

Almost all health facilities conducted outreach services for cervical cancer screening monthly. Outreach services increase screening utilization because screening services are taken near to the women. This was supported by a study done under the FACES program in which the uptake of CCS services was impressive after a rigorous community awareness coupled with care giver capacity building. In a pre-test- post-test study design in Taiwan seeking to compare the up-take of cervical screening in a new outreach and pre-existing hospital-based setting to assess if an outreach service would lead to increased utilization; it was found that the outreach service independently provided screening to almost all eligible women (Chang et al., 2007). A research conducted among Iraqi immigrant women living in Malaysia showed that lack of awareness of the availability of screening services, cost of Pap smear, are one of the reasons for not doing Pap smear (Osman, 2013). Outreaches increases people's awareness of CCS. With regards to frequency of cervical cancer screening outreaches, it has been demonstrated that higher frequency has better results. In a study done by Jolly et al., (2015) in Portland, several factors were explored that could be associated with the uptake of cervical cancer screening. Regular awareness and visits by a healthcare provider, access to clinics, age, marital status, monthly income, knowledge, barriers, acculturation and insurance status were found to be significant predictors of uptake of screening.

Conclusion and Recommendation:-

The study established that health facility and human resource factors play an important role in uptake of cervical cancer screening by the public. Awareness on cervical cancer screening in the community should be increased through a multipronged strategy; health education, public awareness campaigns, and formal school intervention. Community Health Volunteers are a potential resource to increase knowledge and practice of cervical cancer screening. They need capacity building. The health facilities have the capacity to conduct and manage cervical cancer screening. Recommendations; community health volunteers need to be trained on aspects of cervical cancer screening in order to increase their capacity to mobilize communities on behavior change towards cervical cancer screening.

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