Health Service Factors Influencing Uptake of Cervical Visual Inspection with Acetic Acid in Selected Health Facilities in Embu County, Kenya

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Abstract

BACKGROUND

Cervical cancer is the second most common cancer among females in developing countries. Despite widespread screening efforts for cancer of the cervix and training on VIA/VILLI, deaths due to cervical cancer remain high. This study aimed to determine Health Service Provider factors influencing the uptake of cervical cancer screening by VIA in selected health facilities in Embu County, Kenya.

METHODOLOGY

Data were collected from 14 healthcare providers who were the initial study respondents from 7 purposively selected health facilities. Data collection tools were self-administered questionnaires and structured interviews for key informants. Additional secondary data were obtained from the health facility records and KDHS 2014. For data analysis, both quantitative and qualitative techniques of analysis were applied.

RESULTS

Lack of awareness creation on VIA, lack of skills to do VIA, lack of supplies for VIA, cost and fear of speculum examination by women were some factors leading to low uptake of cervical cancer screening.

CONCLUSIONS AND RECOMMENDATIONS

Increasing awareness of VIA needs to be done such as through recruitment of male champions for cervical cancer screening to mobilize and participate in awareness campaigns. Moreover, there needs to be an increase in the number of health care providers trained in VIA and cryotherapy and creating a pool of trainers of other health service providers. Additionally, the provision of VIA supplies needs to be ensured and VIA services offered free of charge. MOH and county governments' departments of health should ensure support supervision at least once per quarter to the health care workers trained on VIA.

Keywords*: Cervical cancer, Health Service Providers*

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Introduction

The social and individual barriers to women's uptake of cervical cancer screening services are well-defined. Significant barriers to screening include services that are not patient-friendly, socio-cultural beliefs, gender roles, poor public health educational programs and individual challenges[1]. A study in England by Wardle, et. al. (2019) established that whereas 85 % of women were having their index test, 15 %

were uncomfortable, while 2.6 % had never had a laboratory smear. In the study, feeling shameful (29%), intending to go but not getting around to it (21%), fearing pain (14%) and worrying about the possible findings (12%) were some of the common reasons cited by the participants as obstacles to screening[2]. However, among these obstacles, only 4 were significantly associated with screening including the struggle to make an appointment, being sexually inactive and lack of trust with the test itself [3].

Previous studies have indicated that offering convenient, low cost and quality services could increase women's uptake of cervical cancer screening. The findings showed that cost was a big factor in a woman deciding whether to get a screen test or not for cervical cancer [4]. Therefore, complementary interventions that create awareness and social support for screening will allow women to make informed decisions about their options. Additionally, the presence of friendly and competent staff was important to the screening of patients. An observation was done from studies targeting women from Asia and Africa, which reported that having a private screening room and a female provider would also make them more comfortable with the service. Similarly, convenience, speed and low cost were other critical factors in deciding to seek services[5].

Literature has also shown that counselling before screening was appreciated during the demonstration project and almost all women who had been taken through the process had better expectations. In addition, they were more tolerant of discomfort, information and communications about the value of cervical cancer screening and can help generate not only community support but also reduce the stigma, which makes the service easier to access and more appealing to women[6].

Previous studies across various regions of the world found that husband's support to also be a key motivating factor. In some contexts like in Malaysia and rural Zimbabwe, spousal support was especially helpful if it gave women the financial independence to pay for services [7]. The importance of cancer of cervix prevention over screening has been confirmed. However, despite the socio-demographic populations of females who are likely to join in screening having been numbered, the underlying reasons why females do not use screening services availed to them have not been well designated[8]. Nevertheless, among women in developing countries, lack of awareness, inadequate knowledge on cervical cancer, preventive services, stigma, misconceptions of female gynecologic diseases, cancer, poor socioeconomic status, inadequate infrastructure, national prioritized services and guidelines to carry out screening are some of the common barriers to cervical cancer screening [9]. These factors have hampered screening efforts across health facilities in Kenya [11] In his study in Kitui, Kenya, [12] reported that lack of awareness of VIA/VILLI services was a major factor hindering the uptake of cervical screening, the health care providers rarely informed women of this service.

In another study done in Vihiga, Kenya [13], 43.3% of respondents felt cervical cancer screening charges were affordable, while 56.7% reported the cost was not affordable. According to one study in Western Kenya by Ichimanya, [13], when a Health Care Provider (HCP) provider was clean in his/her presentation in terms of personal grooming, equipment, environment and overall organization, then the client was confident in them. Likewise, the availability of screening supplies and equipment was essential for continued VIA screening. According to [12], shortage of trained personnel at 45%, lack of materials and equipment at 35%, lack of support from relevant authorities at 55%, work overload at 65% and non-cooperating clients at 55%, were some of the factors affecting uptake of VIA in Kitui county in Kenya. In another study done in

Mexico on challenges of cervical cancer screening and treatment, the need to increase the number of providers adequately trained to perform screening and treatment procedures to escalate the uptake of screening services for cancer of the cervix was mentioned by participants [15]. Likewise in a study by [16] on factors associated with uptake of Visual Inspection with Acetic Acid (VIA) for cervical cancer screening in Western Kenya, the knowhow of how women were screened for cervical cancer was significantly associated with reduced uptake of cervical cancer screening. Despite cervical cancer being a preventable disease, it is the second major cause of cancer-associated morbidity and death among women in Kenya.

Methodology

Study design

This study was multi-phased and multi-site. In Phase One, a baseline survey was undertaken to assess the extent of the VIA positivity rate in Embu County in the selected facilities and the factors influencing VIA uptake in selected facilities. The study utilized an intervention study design. The healthcare workers were trained on VIA screening and treatment after the baseline phase. [18,19]

Study setting

The study was conducted in Embu County, Kenya. There are 75 public health facilities, 2 non-governmental facilities, 24 faith-based facilities and 41 private facilities. The health personnel ratios in Embu are 111 nurses for every 100,000 people, 21 doctors for every 100,000 people and 21 clinical officers for every 100,000 people. The screening services offered in Embu County mainly are VIA/VILLI and Pap smear. Cryotherapy is only done in facilities with the machine. Although cryotherapy was available in Embu County Referral Hospital, it was not functional at the time of this study. In general, the prevalence of cancers in Embu County is 0.5%, while that of cervical cancer is 0.2%. According to a report by DHIS, [17], on female cancer cases, the prevalence of cervical cancer in 2015, and 2016 was 7.9% and 13.2%, respectively.

Study population

The study included healthcare workers who do VIA, who were not likely to be transferred from their facility during the period of study and consented to participate in the study to ensure minimum attrition. All the healthcare workers who doubled up as facility managers in their healthcare facilities were excluded from the study.

Sampling techniques

The study adopted a purposeful sampling technique to select seven government health facilities already offering VIA in the county. There are 4 hospitals and 12 health centres owned by the government in this county. From the seven facilities selected purposefully, two nurses offering VIA from each facility were purposefully sampled.

Data collection techniques

Questionnaires and structured interviews for key informants were used in this study. Self-administered semi-structured questionnaires were used to collect quantitative data. Likewise, structured interviews for key informants. In addition, secondary data was obtained from KDHS, 2014 and facility cervical cancer screening and treatment registers.

Data analysis

The study adopted both qualitative and quantitative analysis techniques. The cleaning and coding of quantitative data from tools were done before transcribing the data into Statistical Package for Social Sciences analysis software version 21.0.

Ethical considerations

Ethical approval was obtained from the University of Nairobi Ethical Committee reference number KNH-ERCIA/332 and a research license from the National Commission

for Science and Technology research permit reference number 291817. Approval to conduct the study was obtained from the county commissioner of Embu County and Ministry of Education of Embu County and the Embu County director of health.

Results

Demographic characteristics

Out of the fourteen health care providers, the majority were male 92.9% (*n*=13), 78.6% (*n*=11) had a diploma level of education, half 50% (*n*=7) of the respondent had served in the same facility for more than five years and 50% (*n*=7) were of the Protestant faith. Table 1

Health service factors influencing uptake of VIA

Slightly more than half of the health service providers tell their clients about the availability of VIA in their facilities at all times, others tell only the MCH/FP clients while others completely forget to inform them about VIA. The majority of the respondents had either been screened for VIA or their partner. The majority of the health facilities lack cervical cancer screening in their service charter board outside the facility.

Half of the HCP counselled their patients until they were satisfied and understood using visual aids. The findings also show that the majority of the clients pay for VIA and cryotherapy screening. Some of the mechanisms used to create awareness of VIA screening outside the facilities in Embu are the use of community health volunteers in their community units, churches, and schools and word of mouth from the clients. A few facilities use community health volunteers in creating VIA awareness in the community and the facility. In addition, it is clear to note that the majority of the community health workers in Embu (85.7%) had not gone through any form of VIA/VILLI community mobilization training and awareness creation.

Some of the factors contributing to low VIA uptake were that women fear speculum examination, lack of supplies to sustain the program, women need consent from husbands, many myths in the community about cervical cancer, and most women are not aware of VIA screening. Figure 1.

Table 1:

Demographic Data for Health Care Providers in Embu County

Variables	n=14	Percentage
Gender		
Female	13	92.9%
Cadre		
Nurse	14	100.0%
Highest education level		
Diploma	11	78.6%
Bachelor's degree	2	14.3%
Master's degree	1	7.1%
Religion		
Catholic	7	50.0%
Protestant	7	50.0%
How long have you been in this facility		
Less than 1 year	1	7.1%
1-5 years	6	42.9%
More than 5 years	7	50.0%

Table 2:

Factors Influencing VIA Uptake among Health Care Workers in Embu County

Variables	Responses	Frequency	(%)
How often do you tell eligible clients about the availability of VIA in your clinic?	I tell them all the time	8	57.1%
	I tell only the MCH/FP clients	4	28.6%
	Most of the time I forget to tell them	2	14.3%
Have you (if female) or your partner (if male) ever been screened for cervical cancer by VIA?	Yes	12	85.7%
	No	2	14.3%
If No to question above, why?	Fear of procedure	2	100%
	Anticipated discomfort	0	0
Is cervical cancer screening in your service charter board outside the facility?	Yes	6	42.9%
	No	8	57.1%
How long do you take to Counsel a woman in need of cervical cancer screening?	About 5 minutes	3	21.4%
	About 10 minutes	4	28.6%
	Until I am satisfied she has understood	7	50.0%
Do you think the appearance of the health facility and VIA clinic arrangement determines clients take up of the service?	Yes	10	71.4%
	No	4	28.6%
Do you think a well-groomed healthcare provider attracts women to screening?	Yes	11	78.6%
	No	3	21.4%
Do you use Visual Aids to counsel clients?	Yes	9	64.3%
	No	5	35.7%
Who creates VIA awareness within the facility?	Nurses during morning health education	1	7.1%
	Nurses when attending clients' other health care needs	8	57.1%
	Nurses during morning health education and when attending clients' other health care needs	3	21.4%
	Nurses during morning health education and when attending clients' other health care needs and community health workers	1	7.1%
	Nurses when attending to clients' other health care needs and Community health workers	1	7.1%

Theme 1: Staff Competency

"*Capacity, competency issues is one of the hindrances to scale up uptake of cervical cancer screening. Most staffs are not trained and hence they do not take initiative to screen clients. Resources, like the issue of lack of supplies that are used in Visual inspection with acetic acid and lugols iodine*."

Theme 2: Inadequate resources

"*The stock outs are a real challenge. Some machines are not actively used because they are no people with skills to use them, like the cryotherapy machine. There is also shortage of supplies and frequent stock outs for VIA, and it takes long to get these supplies back in stock*"

"*We have 8 cryotherapy machines in Embu but only one is functional. So we do not have single visit approach for cervical cancer screening in as many facilities as we would want to. Currently it is only Embu level 5 hospital that we are having the single visit approach since it has a cryotherapy machine*"

"*Cost is a factor because some facilities charge VIA, most people will not afford that fee. Human resources is also a hindrance because many nurses are not trained on VIA."*

Table 2: Continued

Variables	Responses	Frequency	(%)
Do you charge VIA and cryotherapy?	Yes	10	71.4%
	No	4	28.6%
Do you inform the clients of the cost of VIA screening or the lack of it when informing them about the service?	Yes	7	50.0%
	No	7	50.0%
How is VIA screening awareness created outside the facility?	Community health volunteers in their community units	6	42.9%
	Word of mouth by clients already screened	4	28.6%
	Community health volunteers in their community units, churches, and school and Word of mouth by clients already screened	1	7.1%
	Community health volunteers in their community units, churches and Word of mouth by clients already screened	3	21.4%
Do you use community health volunteers to create VIA awareness in the facility and the community?	Yes	5	35.7%
	No	9	64.3%
Have the community health volunteers in your facility gone through any form of VIA/VILLI training and awareness creation	Yes	2	14.3%
	No	12	85.7%

Theme 3: Low mobilization of clients for VIA

"*There is low mobilization of clients for VIA. Health care professionals do not fully inform/create awareness to their patients hence lesser clients show up for the service. Attitude on practice is also an issue. Some health care providers do not have the right attitude towards screening, this doesn't help in uptake of the services". "There is no good avenues to do social mobilization for VIA and cryotherapy. For example, we need to be organizing medical camps and doing intensive mobilization to increase uptake*"

Discussions

Previous studies have shown that VIA uptake in Kenya and some sub-Saharan countries is still low. This study, therefore, sought to establish some of the healthcare-related factors that may reduce or influence the acceptability and uptake of visual inspection with acetic acid as a method of cervical cancer screening.

Findings from this study showed that the majority of the HCPs frequently shared information about cervical screening by VIA with clients, while others did it whenever the opportunity arose.

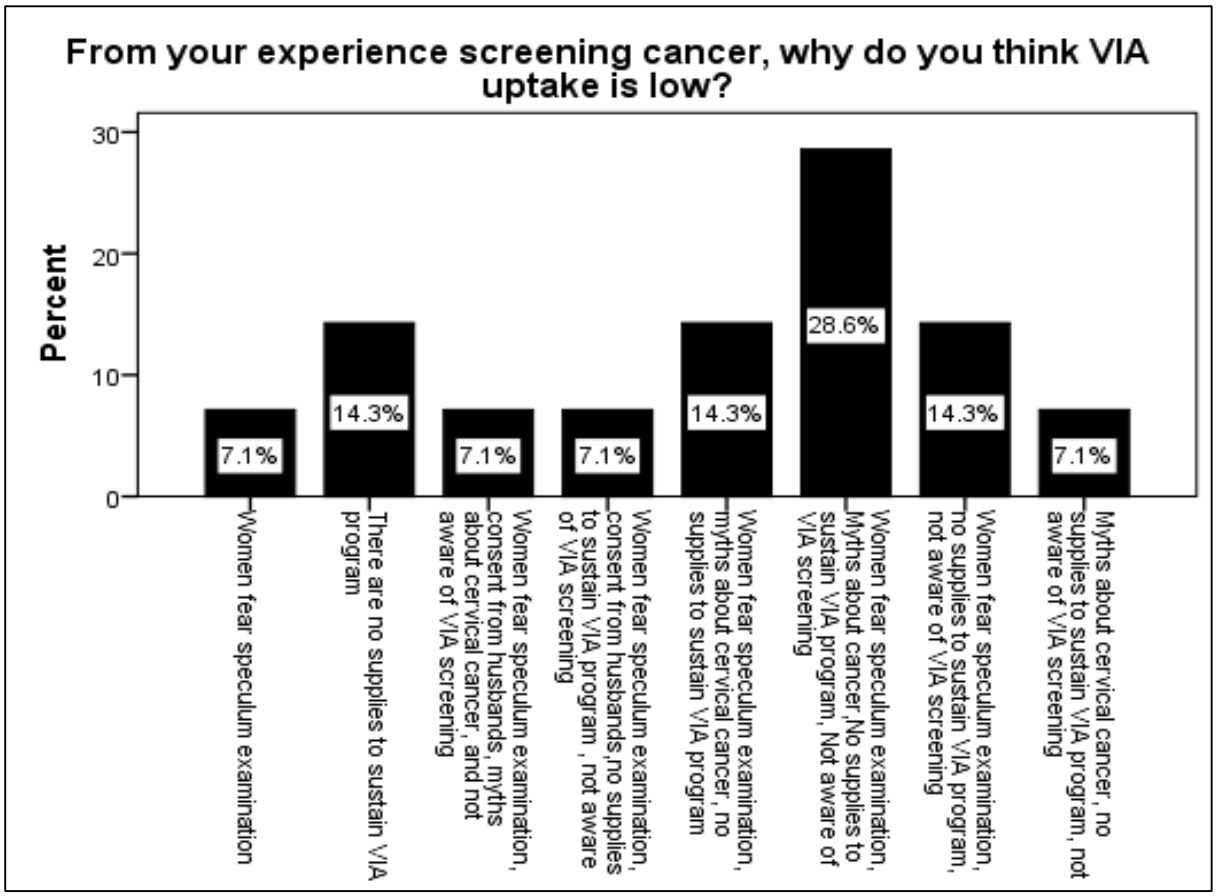

Figure 1:
Factors Contributing to Low VIA Uptake

A considerable number of HCPs however forgot to tell the clients most of the time. These concur with Sudenga *et al*. [20] that access to screening services is still limited and only about 3% of women in Kenya between 18 and 69 years have been screened for cervical cancer.

On whether the participants themselves or their female partners had been screened, the majority had been screened for cervical cancer. This shows that the acceptability and self-awareness of cervical cancer screening among the health care providers were high and well accepted. This finding is in agreement with [21] who found that feeling shameful, pain and worrying about the possible findings were some of the common reasons cited by the participants as obstacles to screening. Additionally, [22] revealed that cervical screening services were challenged by a lack of screening facilities in health facilities, nurses' perception and fear of screening technique, embarrassment, stigma, social influence, financial costs and available sources of information.

On whether the cervical cancer screening as a service was available in the facilities service delivery charter, 42.9% had that information displayed. Hence, service delivery charters can be used as one method of service availability awareness creation among the clients attending a health facility, yet more than half of the participating facilities had not explored that as a channel. On how long the health care provider took to counsel women on VIA screening, only 50% did counselling until they were satisfied that the client understood the procedure. Counselling for VIA requires the client to understand the nature of the procedure to fully understand and demystify any misinformation and rumour the client may have had. VIA clinic arrangement needs to ensure the privacy of the client to ensure acceptability of the VIA screening, and so is the general appearance of the facility, 71.4% of respondents agreed to this. The majority of the respondents 78.6% felt a well-groomed healthcare provider attracts women to screening. The finding concurs with those by [13] who found that when an HCP was adequately trained, she/he improved in his/her presentation in terms of personal grooming, equipment, and environment and the patient was more confident in them.

Nine (64.3%) of respondents used Visual aids to counsel the clients, while 35.7% did not use visual aids. Visual aids are important in VIA counselling as they give the client an idea of what to expect as far as their results are concerned, what a normal negative cervix looks like and what an abnormal positive cervix or cervix suspicious for cancer looks like. This helps to build a mental image that aids the clients in understanding the screening and this increases acceptability. This study established that most nurses at 57.1% create awareness about VIA screening when attending to clients' other health needs. The study, therefore, established that cervical cancer screening awareness was not adequately done in most of the facilities. It was only 7.1% of facilities utilized community health volunteers (CHV) for awareness creation on VIA. Yet, a facility-based VIA awareness creation together with the use of CHV could make an effective tool for community mobilization for VIA within the hospital. The finding concurs with reports that healthcare providers rarely informed women of VIA/VILLI services and most healthcare providers do not offer cervical cancer screening services unless the client asks for it.

On how community mobilization was done outside the facility, in the community, findings revealed its mainly done through CHV mobilization in the community, word of mouth by already screened clients or a combination of both CHVs and word of mouth by screened women. On whether the services of VIA and cryotherapy are charged, majority of respondents indicated there was a cost implication to the procedure although some facilities offered the service

freely. The cost has been documented as one of the barriers to VIA screening uptake. Screening for cervical cancer is a health promotion and preventive service and most women may not find the need to pay for such a service since they are not sick. About half of the respondents informed clients about the cost of VIA when informing them about the service. CHVs create cervical cancer screening awareness and education at the facility as well as community level in 35.7% of cases, whereas the rest 64.3% of respondents did not utilize community health volunteers for this demand creation.

The study also established that just a few community health volunteers had some form of training on VIA cervical cancer training and mobilization, while the majority did not have any form of training. This is necessary since the acquisition of knowledge on the subject creates confidence and this may increase the performance of community health mobilizers in mobilization efforts at both community and facility levels, which in turn ensures myths and misconceptions in the community that may lead to low uptake of cervical cancer screening are demystified. Other factors that influenced VIA uptake included lack of supplies to sustain the program, fear of speculum examination and myths around cervical cancer screening and women not being aware of screening services. Furthermore, [13] attributed low intake of VIA to a shortage of trained personnel lack of materials and equipment lack of support from relevant authorities, work overload and non-cooperating patients.

Conclusion

Lack of community mobilization, and awareness creation on VIA were some of the major factors hindering information circulation on the availability of the service. The health facilities also do not utilize service charter boards to sensitize the clients about VIA nor do healthcare workers voluntarily share the information on the availability of the screening service with their MCH/FP clients.

Cost is a major factor leading to low uptake of VIA services, since a candidate eligible for VIA screening is not necessarily sick, they might opt out of screening where cost implication is involved. The facilities also lack supplies for VIA, mostly acetic acid, cotton wool, wooden applicator sticks and good lighting to carry out the procedure.

Before this intervention, there was no "screen and treat" approach in Embu County, as either the healthcare workers did not have the skills to treat or there was a cryotherapy machine breakdown in the referral hospital.

Recommendations

This study recommends the recruitment of males as champions for cervical cancer screening through their involvement in mobilization and awareness campaigns. It also recommends an increase in the number of health care providers trained on VIA and cryotherapy, to create trainers of trainers. Providers from sites providing cervical cancer-prevention services should be trained as teams.

Additionally, existing facilities screening for VIA and doing treatment, that is “screen and Treat” approach should be upgraded to centres of excellence for VIA and treatment. Moreover, training of community health volunteers on VIA recruitment and social mobilization in the community and their affiliated facilities should be prioritized. This will ensure more women are aware of the VIA service and know the importance of cervical cancer screening and early detection and treatment of precancerous lesions.

Author contribution to the study

- Evah M Maina - Principal investigator (PI)
- Dr Abednego Ongeso - Supervisor and advisor
- Dr Innocent Maranga - Supervisor and advisor

- Dr. Emmah Matheka - Supervisor and advisor

Data availability

Data will be available upon request to the corresponding author

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