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Barriers to Cervical Cancer Screening in Rural Kenya: Perspectives from a Provider Survey

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Abstract

Although cervical cancer is highly preventable through screening, it remains the number one cause of cancer-related death in Kenyan women due to lack of funding and infrastructure for prevention programs. In 2012, Family AIDS Care and Education Services in partnership with the Kenya Ministry of Health began offering free screening at eleven rural health facilities. We sought to explore why screening coverage remains low at some sites. We examined the barriers to screening through a survey of 106 healthcare staff. The most frequently cited barriers to service delivery included staffing shortages, lack of trained staff, insufficient space, and supply issues. The patient barriers commonly perceived by the staff included inadequate knowledge, wait time, discomfort with male providers, and fear of pain with the speculum exam. Despite multilateral efforts to implement cervical cancer screening, staff face significant challenges to service provision and increased education is needed for both providers and patients.

Keywords

Cervical cancer screening; Provider attitudes; Sub-Saharan Africa; Service barriers; Patient barriers

Introduction

Cervical cancer is the second leading cause of cancer and the number one cause of cancer-related mortality among women in Kenya, despite the fact that it is highly preventable with screening and treatment of precancerous lesions [1, 2]. While the rate of cervical cancer in the US and Europe has dropped dramatically since the introduction of screening programs, incidence and mortality remain high in Sub-Saharan Africa, largely due to the lack of

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screening and early treatment. Estimated screening coverage in Sub-Saharan Africa is only 2–20 % in urban areas and 0.4–14 % in rural areas [3].

Although poor access to services has been an important factor in the low coverage rates in Africa, new strategies are making it easier to provide screening in resource-limited settings. Screening services are expanding through the use of “see-and-treat” programs, mobile units that reach more rural areas, and the integration of cervical cancer prevention with HIV and family planning services [4–6]. Visual Inspection with Acetic Acid (VIA) is a low-cost alternative to cytology and is becoming a preferred screening technique in resource-limited settings [7]. VIA has been demonstrated to be at least as sensitive and only slightly less specific than the Pap smear [8]. Furthermore, VIA does not require specimen collection, transport or interpretation; it can be performed effectively by non-physician clinicians, and results are available to the patient immediately.

However, even with this simpler screening technique, logistical challenges to service delivery remain, including equipment and human resource limitations. In a survey of healthcare providers in Bolivia, over 40 % of providers surveyed did not think VIA-based screening was feasible in their health facility. The main challenges included lack of equipment, lack of facility capacity, and few health professionals in the health center [9]. An evaluation of a VIA-based screening program in Indonesia also identified staff availability and supply issues as challenges to service provision [10]. In Sub-Saharan Africa, staffing shortages pose a chronic problem, and in Kenya there are only 40 registered nurses and 81 enrolled nurses per 100,000 people [11, 12]. Patient awareness about cervical cancer screening is also low throughout Sub-Saharan Africa, and multiple patient factors, including lack of knowledge, stigma, and fear, inhibit patient uptake of screening services [13–16].

In October 2007, Family Aids Care and Education Services (FACES) initiated a VIA-based cervical cancer screening and prevention (CCSP) program at a large HIV clinic in Kisumu, Kenya. Kisumu is the capital of the Nyanza Province, the third largest city in Kenya and has a catchment area of approximately 500,000 people [17]. In March 2012, CCSP at FACES piloted a scale-up of services to eleven smaller, government-run facilities in Suba and Mbita, two rural districts around Lake Victoria. These two districts cover 1055 square kilometers, with a catchment area of approximately 150,000 [17]. Although over 2500 women were screened in Suba and Mbita in the first year, screening rates were significantly lower than anticipated. In this paper we look at healthcare workers’ perceptions of the barriers to CCSP implementation at these rural sites.

Methods

As part of an overall program evaluation, staff members at FACES/Ministry of Health (MoH)-supported CCSP sites in Suba and Mbita districts of western Kenya were asked to fill out an anonymous written provider survey. All staff members at health facilities offering CCSP, including clinicians, health educators and ancillary staff, were invited to participate, regardless of their position or involvement in CCSP. The survey was developed based on other surveys among cervical cancer screening providers [9, 10] and topics identified by

CCSP staff members. The final survey was piloted by seven core CCSP personnel and adapted based on their feedback prior to use in this evaluation.

Multiple-choice and fill-in-the-blank questions were used to determine staff characteristics, including CCSP involvement and personal screening history. Staff participation in and preferences for training in CCSP patient education (all staff) and performing VIA/VILI (clinicians only) were also assessed by multiple-choice and fill-in-the blank questions. Staff confidence in counseling patients about CCSP and clinician confidence in screening women for cervical lesions were measured using a five-point Likert-scale (1 = not at all confident, 3 = confident with supervision, 5 = confident without supervision).

Service delivery challenges were explored by two five-point Likert-scale questions and a short response question. Respondents were asked to rank how consistently CCSP services were offered and available at their facility (1 = less than other services, 3 = same as other services, 5 = more than other services) and whether it was more difficult to adequately provide other clinic services when CCSP services were offered (1 = not at all more difficult, 3 = somewhat more difficult, 5 points = much more difficult). Additionally, respondents were asked to list 3–5 barriers to delivering CCSP services at their health facility.

Staff perceptions of patient barriers were assessed by a single Likert-scale question and a short response question. Respondents were asked to rank how willing patients were to receive CCSP services compared to other services (1 = less than other services, 3 = same as other services, 5 = more than other services) as well as list 3–5 barriers to patients accepting CCSP services.

Finally, respondents were asked to list the single most important barrier to cervical cancer screening from their list of service delivery and patient barriers. They were also asked to list 3–5 ways to improve screening along with the single most important way to improve screening.

All written responses were subsequently entered into tablets using Open Data Kit software [18] and analyzed using STATA SE statistical software (version 12.1; College Station, Texas). Two members of the research team coded short answers in an iterative process and then collapsed these into six service delivery themes and 17 patient barrier themes; these same themes were used to code the primary barrier to screening. Responses that did not appear more than twice were categorized under “other”. Service delivery barriers that were written under patient barriers were coded as service delivery barriers and visa versa. After all responses were coded, themes repeated more than once by a single respondent were dropped so that numbers reported here represent the actual number of individuals indicating a certain theme. Ideas for increasing screening provision and uptake were coded and collapsed into 12 themes; responses that did not appear more than once were categorized under “other”.

Relationships between perceived barriers and staff gender, staff position, facility, and perception of service consistency were assessed by Chi square and *t* tests. Logistic and linear regression, adjusting for staff gender, position, and facility, were used to evaluate associations between (1) training history and confidence performing CCSP tasks, (2) service delivery barriers and perceptions about CCSP service delivery, and (3) the four main patient

barriers and staff perception of patient acceptance. The association between primary barriers and primary suggestions for improvement were analyzed using Fisher's exact test.

Free and informed consent was obtained from all subjects. Ethical approval was obtained from the Kenya Medical Research Institute and the University of California, San Francisco.

Results

Staff Characteristics

At the eleven CCSP sites, 106 staff members completed the survey, including 30 clinicians (nurses or clinical officers), 59 health educators (Community Clinical Health Assistants—CCHA's, Community Health Workers—CHW's, Peer Educators—PE's, Counselors, Mentor Mothers, and Volunteers), and 17 ancillary staff (pharmacy, laboratory, cleaning staff, and cough monitors). Of those completing the survey, 86 % reported involvement in CCSP service delivery of which 64 % had been involved in CCSP activities in the past week. Among the respondents indicating gender (n = 88), 51 (58 %) were female and 37 (42 %) male. The majority of female staff members (41/51; 80 %) reported having been screened for cervical cancer. Reasons for not having been screened included lack of information, screening offered by male providers, perceived lack of treatment availability, not having time, and currently pregnant. Additionally, 30 (81 %) of the male staff members reported having at least one female family member screened. (Table 1)

Staff Training

Twenty-six (87 %) of the 30 clinicians reported training in performing VIA/VILI. However, only 8 (27 %) attended a formal training session, 17 (59 %) felt comfortable performing VIA/VILI without supervision (mean Likert score = 4.1 ± 1.0), and 27 (90 %) desired additional training, preferably through a formal training session (63 %) over on-the-job training (23 %). Clinicians who had attended at least one formal training session rated their confidence performing VIA/VILI 0.9 points higher than those who had not attended a formal training session ($p = 0.04$). Among the 59 health educators, only 15 (25 %) reported any training in CCSP-specific counseling, with 8 (14 %) having attended a formal training session. The majority (N = 45, 76 %) felt comfortable counseling patients on CCSP without supervision (mean Likert score = 4.4 ± 1.1), regardless of history of training in CCSP counseling. Nearly all (97 %) health educators desired additional training, with a preference for formal training sessions (85 %) over on-the-job training (15 %).

Perception of Service Delivery Barriers

Respondents felt that CCSP services were offered and available less consistently than other services (mean Likert score = 2.4 ± 1.2) and that delivering CCSP services made it somewhat more difficult to provide other clinic services (mean Likert score = 2.3 ± 1.1). The primary barriers to service delivery included inadequate staffing (62 %), insufficient training or limited numbers of trained staff (60 %), poor staff motivation (25 %), inadequate space for screening activities (35 %), and supplies (31 %) or autoclaving challenges (9 %) (Table 2). Barriers cited did not vary by staff gender or position. Facility was a consistent predictor of service delivery challenges, including insufficient room ($p < 0.01$) and lack of staff ($p =$

0.01). Autoclave challenges ($p = 0.09$) and lack of staff motivation ($p = 0.07$) appeared to vary by facility, though this was not statistically significant. Respondents who indicated lack of staff as a barrier to screening were more likely to indicate that CCSP services were offered less consistently than other services ($p < 0.01$), even when adjusting for facility, staff gender, and staff position ($p = 0.04$).

Perception of Patient Barriers

Respondents felt that patients were slightly less likely to accept CCSP services compared to other clinic services (mean Likert score = 2.5 ± 1.2). Perceived patient factors inhibiting cervical cancer screening uptake revolved around four central themes: lack of awareness, practical challenges, fear, and stigma or cultural concerns. The most common perceived patient barriers were lack of knowledge (57 %), wait time (35 %), discomfort with a male provider (32 %), fear of pain with the speculum exam (26 %), stigma (19 %), and distance from the facility (17 %). (Table 3) Perceived patient barriers did not vary significantly by provider position or facility. Female respondents were more likely to indicate fear of pain with the speculum exam in unadjusted models ($p = 0.01$) and in models adjusting for facility and staff position ($p = 0.02$), while male respondents were more likely to indicate lack of patient knowledge in both unadjusted and adjusted models ($p < 0.01$). Respondents who listed wait time as a patient barrier were more likely to indicate that patients were less likely to accept CCSP services compared to other services in both unadjusted ($p = 0.04$) and adjusted ($p = 0.03$) models.

Single Most Important Barrier to Screening

Of the 100 staff members who identified what they saw as the single most important barrier to CCSP uptake, 56 indicated service delivery challenges and 44 indicated perceived patient barriers. The most commonly identified barriers were lack of staff (n = 30), insufficient training (n = 12), lack of patient knowledge (n = 17), and discomfort with a male provider (n = 7). The most important barrier identified by staff members did not vary significantly by facility, provider position, gender, time working at the facility, or hours spent on CCSP in the previous week.

Suggestions for Improving Screening

The most common suggestion for improving the CCSP program was increased community mobilization, which was noted by 78 % of respondents and identified as the most important improvement by 31 % of respondents. The majority of respondents (69 %) also suggested additional staff training, with 25 % of respondents identifying this as the most important way to improve screening. Increasing staff numbers was identified by 38 % of respondents in general and cited as the most important improvement by 16 % of providers. (Table 4) The most important improvement suggested often reflected the most important barrier identified by a respondent, e.g. lack of staff and increasing staffing ($p = 0.03$), lack of patient knowledge and community mobilization ($p < 0.01$), and insufficient space and create additional room ($p < 0.01$).

Discussion

Our study of health care providers and support staff in rural, government-run health care facilities in western Kenya identified several major barriers to cervical cancer screening. The main barriers to service provision were staffing shortages and insufficient staff training. The staff also felt that lack of knowledge, long clinic wait times, and fear of the exam would be barriers for women to access screening.

We carried out this study to obtain information crucial to the successful implementation and sustainability of a cervical cancer screening program. We were able to achieve a high participation rate and honest responses because the questionnaires were administered in an anonymous fashion by research staff not connected with supervisors. There were limitations to the study, however. It is possible that people with more involvement in CCSP may have been more likely to complete the questionnaire. It is unclear whether this bias accounts for the high staff screening rates compared to other surveys of East African healthcare workers [19], or if these high rates are due to high screening awareness and availability among this population of healthcare workers. Despite this limitation, the high proportion of staff involved in CCSP activities likely gives a more accurate picture of CCSP-specific challenges. The other primary limitation of this study is that the patient barriers noted are based on providers' perceptions, rather than patient-reported barriers to screening uptake.

The service delivery challenges identified by staff in this study are consistent with surveys of other healthcare staff at sites offering VIA/VILI in low-resource settings [9, 10]. However, the results show that despite overarching challenges in staff and supply maintenance, the service delivery barriers experienced by staff varied by site, even in a single geographical area and under a single umbrella program. These results also highlight the complementary nature of service delivery challenges and patient barriers, such as staff shortages and longer wait times, inadequate facility space and patient privacy concerns, and insufficient provider training and lack of patient knowledge and fear of the speculum exam.

Other qualitative studies have identified lack of patient knowledge as a major barrier to cervical cancer screening [14, 15, 20]; to a lesser degree, stigma, fear of results and fear of the exam have also been identified as screening barriers [4, 13, 16, 21]. In this study, perceived patient barriers differed by staff gender, with females more likely to suggest fear of the speculum exam and males more likely to suggest a lack of knowledge. This gender difference suggests that provider perspectives on patient barriers may be more related to their own experiences rather than accurately reflecting true patient barriers. It is possible that female staff members drew on their own screening experiences to project patient barriers to screening. This potential difference between staff understanding of patient barriers and actual patient fears may impact the approach to patient education, counseling and service delivery and should be taken into account during training in service provision and counseling.

How a facility delivers a service plays an essential role in whether or not a patient uses a service. Service delivery and patient barriers to screening parallel one another and need to be addressed simultaneously. We need to explore ways to better equip facilities and healthcare

staff to provide quality services in a way that is accessible and acceptable to patients. The next step will be to obtain patient level barriers directly from the women in these communities, including women who may not regularly, or ever, attend clinics. With that information, we will be able to modify existing strategies to be more acceptable to healthcare workers and patients, and increase the availability and uptake of high-quality cervical cancer screening services.

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Table 1

Staff characteristics and CCSP involvement

	Number (%)
Duration working at the facility (mean ± S.D.)	1.6 ± 1.8 years
Gender (n = 88)	
Male	37 (42 %)
Female	51 (58 %)
Staff position (n = 106)	
Clinicians	30 (28 %)
Health educators	59 (56 %)
Other	17 (16 %)
CCSP involvement (n = 106)	
Any CCSP Involvement	91 (86 %)
Type of involvement (n = 91)	
Clinicians (n = 30)	
VIA/VILI Screening	19 (63 %)
Patient education	14 (47 %)
Filling intake forms	7 (23 %)
Health educators (n = 59)	
Patient education	44 (75 %)
Filling intake forms	31 (53 %)
Ancillary Staff (n = 17)	
Patient education	10 (59 %)
Filling intake forms	3 (18 %)
Level of involvement in the past week (n = 91)	
Performed any CCSP activities	58 (64 %)
Offered screening	28 (31 %)
Helped someone get screened	40 (44 %)
Median # hrs involved in CCSP (n = 58)	3 (95 % CI: 2.0–5.0)
Median # of women offered screening (n = 28)	3.5 (95 % CI: 2.3–5.7)
Median # of women helped get screened (n = 40)	3 (95 % CI 2.3–4.7)
Staff screening uptake	
Undergone screening (female staff) (n = 51)	41 (80 %)
At least one female family member screened (male staff) (n = 37)	30 (81 %)

Table 2

Barriers to CCSP service delivery

Service barrier	Number (%) of respondents (n = 105)
Staffing challenges	
Lack of staff	65 (62 %)
Insufficient training	63 (60 %)
Staff motivation	26 (25 %)
Equipment challenges	
Room/space	37 (35 %)
Supplies	33 (31 %)
Autoclave	9 (9 %)
Other	31 (30 %)

Table 3

Provider views of patient barriers

Patient barrier	Number (%) of respondents (n = 104)
Lack of awareness	
Lack of knowledge	59 (57 %)
Lack of motivation	5 (5 %)
Logistical issues	
Wait time	36 (35 %)
Distance from facility	18 (17 %)
Language barriers	9 (9 %)
Lack of confidence in facility to provide appropriate and consistent service	7 (7 %)
Lack of treatment at facility	5 (5 %)
Fear	
Fear of pain/speculum	27 (26 %)
Fear of results	16 (15 %)
Fear (general)	8 (8 %)
Stigma/cultural concerns	
Male provider	33 (32 %)
Stigma	20 (19 %)
Culture/attitude/tradition	13 (13 %)
Embarrassment	9 (9 %)
Privacy	9 (9 %)
Confidentiality	7 (7 %)
Needs spouse approval	4 (4 %)
Other	19 (18 %)

Table 4

Ways to improve CCSP program

	Number (%) of respondents (n = 101)
Address patient factors	
Community mobilization	79 (78 %)
Improve treatment accessibility	6 (6 %)
Train female providers	4 (4 %)
Reduce wait time	3 (3 %)
Mobile clinics	2 (2 %)
Address service delivery factors	
Train staff	70 (69 %)
Additional staff	38 (38 %)
Supplies	24 (24 %)
Room/space	23 (23 %)
Designated CCSP staff	4 (4 %)
Incentives/motivation	
In general	13 (13 %)
For staff	11 (11 %)
For clients	2 (2 %)
Other	29 (28 %)