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Integrating cervical cancer prevention initiatives with HIV care in resource-constrained settings: A formative study in Durban, South Africa

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Abstract

Cervical cancer screening rates remain suboptimal among women in South Africa (SA), where cervical cancer prevalence is high. The rollout of HIV-related services across SA may provide a means to deliver cervical cancer screening to populations with limited access to healthcare systems. In this mixed methods study, psychosocial factors influencing cervical cancer prevention and perceptions of the provision of Pap smears in HIV care settings were examined. Structured interviews were conducted with women (n=67) from a municipal housing estate in Durban, SA. Key informants (n=12) also participated in semi-structured interviews. Findings revealed that participants had low cervical cancer knowledge, but desired more information. Relevant themes included the normalization of HIV and beliefs that cervical cancer might be worse than HIV. A comprehensive community clinic was desired by most, even if HIV-positive patients were treated there. This study provides important insight into integrating cervical cancer screening with HIV clinics, which may increase cancer screening among South African women.

Keywords

cervical cancer prevention; South Africa; women's health; integrated care; HIV/AIDS

Background

While cervical cancer is preventable, it remains the second most common cancer in women worldwide and the most common cause of cancer deaths in many low-and middle-income countries, including South Africa (SA) (Cervical Cancer Action [CCA], 2012). Countries with established cervical cancer screening programs have observed significant declines in deaths due to cervical cancer (CCA, 2011). In 2001, a national cervical screening program was initiated in SA, which called for the provision of 3 free Pap smears per woman starting at age 30, and continuing every 10 years thereafter (Moodley, Kawonga, Bradley, & Hoffman, 2006).

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However, screening rates and subsequent follow-up care among SA women remain suboptimal. This is particularly pronounced in the public sector, where SA's screening program has had difficulty securing routine and widespread implementation resulting in screening estimates as low as 1% (Cronje, 2005; van Schalkwyk, Maree, & Wright, 2008). Studies have documented varied challenges to participation in cervical cancer screening in SA, including psychological and sociocultural factors such as limited knowledge and stigma (Anorlu, 2008; Francis et al., 2011; Mosavel, Simon, Oakar, & Meyer, 2009; Wellensiek, Moodley, Moodley, & Nkwanyana, 2002), weak health infrastructure, and unsupportive medical staff (Harris et al., 2011). Additionally, financial constraints and lack of time are reported barriers to cervical cancer screening (Horo et al., 2012).

SA women continue to face challenges accessing cervical cancer prevention services, and may benefit from alternative and innovative strategies for care. A question that remains unanswered is how to best incorporate services in areas with poor uptake. One answer may be the integration of cervical cancer screening and HIV care services. A well-integrated, more comprehensive care system would not only provide HIV services to the community, but could also provide cervical cancer screening services to all women who attend these clinics (HIV-positive and HIV-negative). Global efforts to provide HIV care have made substantial progress (UNAIDS & WHO, 2007). With support from donors such as the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), SA has achieved success in establishing efficient clinical systems for delivering antiretroviral therapy (ART) (Anderson, Sanghvi, Kibwana, & Lu, 2010). In SA the national rollout of ART began in 2004; by December 2006 ART coverage reached 32% of those eligible for treatment (WHO, UNAIDS, & UNICEF, 2007), and continues to grow in capacity. Gains in adult life expectancy throughout SA provide the clearest evidence of the impact of well-designed, public ART programs (Bor, Herbst, Newell, & Bärnighausen, 2013). Unfortunately, expanded access to ART has not been accompanied by similar attention to chronic diseases that may be exacerbated by HIV infection, such as cervical cancer.

HIV has a synergistic relationship with human papillomavirus (HPV), the virus that causes 99% of cervical cancer cases. HIV-positive women are at higher risk for developing precancerous lesions from HPV infection, have increased risk of persistent and recurring HPV infection, and are at greater risk for invasive cervical cancer (Horo et al., 2012; Moodley et al., 2009). Despite the increased risk of cervical cancer among HIV-positive women, they constitute a population that remains underserved by cervical cancer prevention programs (Batra, Kuhn, & Denny, 2010). This is alarming given that SA's HIV/AIDS prevalence rate is approximately 19.1% among adults aged 15 to 49 (UNAIDS, 2013), and in KwaZulu Natal, the province in which this study took place, the rate is as high as 37.4% (Department of Health, South Africa, 2012).

Promise of integrated services: Cervical cancer and HIV

Given that many ART clinics in SA have developed steady infrastructure and secured funding sources, the integration of cervical cancer prevention and HIV care may provide solutions to existing cancer screening challenges. As they exist in SA, ART clinics are more accessible than public hospitals. If ART clinics expanded their services to include the

provision of cervical cancer screening to the general population, screening services for women who are not HIV-positive would become more available. Additionally, integrated services could increase cervical cancer screening rates in high-risk, HIV-positive populations, because the cervical cancer screening could be folded into the existing services that they utilize.

There is evidence to support that such integration is feasible and has positive outcomes. Mwanahamuntu et al. (2011) released a report regarding the inclusion of cervical cancer prevention services in HIV care in Zambia, finding that over 20,000 women were screened through services offered at 16 clinics during a period of 2.5 years. Cervical cancer screening has been demonstrated to be feasible, acceptable, and effective within HIV care in other settings as well, including Kenya, Mozambique and Botswana (Huchko, Bukusi, & Cohen, 2011; Moon et al., 2012; Ramogola-Masire et al., 2012). However, limited human resources, equipment problems, and poor follow-up were reported as challenges regarding the efficacy of such screening programs. In addition, reasons for non-adherence in the context of HIV care have not been well documented (Huchko et al., 2011; Moon et al., 2012; Ramogola-Masire et al., 2012).

Combining cervical cancer prevention with HIV care may present a unique set of challenges to HIV healthcare services. The community's perspectives are critically important in efforts aimed at integrating new and existing services, in particular in gauging how women are likely to respond to proposed changes in service delivery. Importantly, these data can be used to explore baseline measures regarding the cultural beliefs, knowledge gaps, and behaviours that may facilitate or impede understanding and action in seeking healthcare, with the goal of addressing specific challenges prior to project planning to help maximize women's participation in preventive services.

Study context: Kenneth Gardens

This study was conducted in collaboration with researchers at Durban University of Technology (DUT) and Virginia Commonwealth University (VCU). DUT has previously partnered with residents of Kenneth Gardens (KG) on various health initiatives and community development projects. The strong existing partnerships between the community and local university set the stage for the present study.

KG, the largest municipal housing estate in Durban, SA, offers subsidized housing to approximately 1500-1800 individuals and families. KG is earmarked for families of low socioeconomic status and those in which one or more members have a disability. While KG accommodates a diverse resident population, it comprises predominantly black residents (Erwin, Marks, & Couchman, 2014), and is similar to other low socioeconomic areas with black residents. A community development survey revealed that the most pressing concern among KG's residents was access to healthcare (University of KwaZulu Natal Community Development Demographic Survey, 2011): residents reported having to travel more than 20 kilometres to receive medical care from a public hospital. However, several HIV clinics are located within a short walking distance from the housing estate, making KG an optimal location for exploring new delivery routes for cervical cancer prevention.

Study Aims

The purpose of this paper is to:

- Explore the knowledge, attitudes, and beliefs about cervical cancer and prevention as well as identify the key challenges in accessing healthcare services among women residing in KG
- Understand key challenges in delivering healthcare services and health education from the perspectives of key informants
- Provide preliminary data on the feasibility, acceptability, and perceived effectiveness of providing cervical cancer prevention within the context of HIV care to increase access and uptake of preventive services among HIV-positive and HIV-negative women

Methods

Measures

A mixed methods approach was used to collect elements of quantitative and qualitative data concurrently. Questions were compiled from both established measures and the broader literature within each respective field (Becker-Dreps, Otieno, Brewer, Agot, & Smith, 2010; Department of Health, South Africa, 2013; DiClemente, Zorn, & Temoshok, 1986; PATH, 2009; Ports, Reddy, & Rameshbabu, 2013; Li et al., 2004). The surveys were reviewed thoroughly by the study team, which consisted of experts from the fields of HIV/AIDS, cervical cancer, women's health, SA communities, and health disparities. The study team's review sought to ensure that the interview guides provided a thorough framework to capture culturally sensitive, comprehensive and accurate information from the participants. The surveys underwent a final review by members who worked closely in KG to further ensure the questions were culturally relevant. Surveys and consent forms were provided in English and isiZulu. The latter were translated and back translated by members of the DUT research team who were proficient in both languages.

In-depth, structured interviews with community women—In-depth, structured interviews were conducted with women who reside in KG. The primary domains of interest included cervical cancer knowledge, awareness, and attitudes, and reported stigma and openness to receiving cervical cancer screening in clinics predominantly providing HIV care. The secondary domains of interest were HIV/AIDS beliefs and related behaviours, general health behaviours, and sources of health information and education. Participants were asked to provide demographic information (e.g., age, race/ethnicity, sexual activity). The survey consisted of 133 questions, which were open- and closed-ended, and took approximately 1 hour to complete. Skip logic was used so that women only completed questions that were relevant to their experiences and knowledge. For example, if a woman reported that she had never had a Pap smear, she was not asked questions about her Pap smear experience.

In-depth, semi-structured interviews with key informants—Semi-structured interviews were conducted with key informants from KG. The interview guide consisted of 16 open-ended questions. Questions included informants' perceptions about community cervical cancer and HIV knowledge, reported openness to integrated care settings, and reported comfort and beliefs about providing health information and education to the community. Sample questions included:

“In your experience, what are the barriers to delivering health education to women in Kenneth Gardens?”

“What challenges do women in Kenneth Gardens experience when accessing cervical cancer screening and treatment?”

Sample and recruitment

Upon approval from the Institutional Review Board at VCU and the Institutional Research Ethics Committee of DUT, participants (n=79) were recruited from KG in August 2013 using a snowball technique. First, the DUT research team identified a group of key informants. These informants (n=12) included members of a non-profit organization called Senzokuhle Home Based Care Workers (a group of women residing in KG who offer informal home-based care for residents in need), staff from the homeopathic clinic at KG, and KG residents who advocate for the community's health and well-being. Key informants were then asked to recruit women from the community to participate in interviews (n=67). Women had to be over age 18 and able to speak English or isiZulu to participate. Because recruitment relied on word of mouth, it is unknown how many women knew about the study and chose not to participate.

Informed consents were reviewed out loud with all 79 participants. Everyone who went through the consent process participated in the study, except for one individual, who had a disability that prohibited her from completing the interview. Once signed consent was obtained, the interviews were conducted in a private setting. Upon completion of the interview participants received R135 (\$15 USD).

Data collection

The primary author completed interviews with key informants in English, which were audio-recorded and transcribed. The community women's responses were recorded via paper and pencil on the survey document. Two trained, graduate-level research assistants were hired to conduct interviews in isiZulu and document survey responses in English. Research assistants completed qualitative interview training prior to beginning research with study participants. Practice interviews were also conducted prior to collecting data: research assistants recorded three interviews with KG women, and then compared their responses and notes. In all three instances, the research assistants had almost 100% agreement in their recorded responses. These preliminary interviews also served as a means to pilot the questionnaires. Minor language modifications were made to make the questions easier to understand.

Data analyses

SPSS 17.0 was used for data management and statistical analyses of the quantitative data. In addition, we employed a rigorous thematic analysis of the qualitative data (Braun & Clark, 2006). Open-ended responses and notes from interviews with women were manually coded to identify main themes. Recurring themes and patterns were identified. Results from the coding analyses were compared across two coders. Discrepancies were clarified and resolved by comparing each coder's results with raw data until they reached consensus. Members from the DUT research team reviewed and provided feedback on the themes.

Results

Participants

Seventy-nine women were interviewed; 67 completed the community survey, and 12 participated in the key informant interviews. The majority of community women identified as black, single, and under the age of 30. Approximately 1 in 5 was HIV positive (n=13). Detailed socio-demographic information about the community women is provided in Table 1. Our sample is reflective of the diversity in the population at KG (Erwin et al., 2014). All of the identified key informants were female and worked with KG residents through various volunteer and community programs. The majority (n=11) were aged 50 years and above; 10 were black and 2 were white. The results from interviews with community women are presented first, and when appropriate excerpts from key informants are included to provide a deeper exploration of themes discussed by the women.

Cervical cancer knowledge

Community women (n=67) tended to have limited cervical cancer knowledge; even after they were read a description of the disease, 10 women (15%) were completely unfamiliar with cervical cancer. Half of the women were unaware of the link between HIV and increased cervical cancer risk (51%, n=34). Although half of the women stated that transmission of cervical cancer was through sexual activity, i.e., not using condoms and/or having multiple sexual partners, only one woman correctly mentioned HPV; further, 19 women (28%) reported that they had no idea how a woman could get cervical cancer. Approximately 26 women (38%) could not identify symptoms of cervical cancer. Due to their limited knowledge, many women did not understand the link between HPV and cervical cancer, did not know how to prevent cervical cancer, and did not know if or how cervical cancer could be treated.

The majority of women (94%, n=63) indicated that they wanted more information about cervical cancer. When asked to list their preferred methods of information delivery, women reported that television programs (22%, n=15); healthcare providers discussing the disease with them (22%, n=15); women's health workshops in the community (21%, n=14); printed materials (e.g., posters, brochures, 18%, n=12); and the internet (13%, n=9), specifically through social networks (e.g., Facebook), would be effective ways to deliver health information.

Cervical cancer prevention

Although many of the community women reported having heard of a Pap smear (78%, n=52), less than half of the participants (43%, n=29) reported that they had obtained one. Chi-square tests revealed significant associations between having obtained a Pap smear and being HIV positive, being single, and receiving treatment for a sexually transmitted infection ($p < 0.05$). Women that had not obtained a Pap smear indicated not having done so because they believed that the exam would be painful or scary (13%, n=9), or because they thought they were too young (9%, n=6). Other women reported that they did not know they needed one/no one had told them to get one (7%, n=5); that they were not sexually active (3%, n=2); or that only get one when you have a baby (3%, n=2).

Cervical cancer risk and severity

Many of the community women (73%, n=49) believed that they were at risk for cervical cancer. As one woman mentioned, “You cannot protect [yourself from] that disease. It has no colour, size or weight.” Some women believed that they were at risk because they were currently engaging in risky sexual activity, or that they might do so in the future (18%, n=12); that they might inherit cervical cancer (15%, n=10); that anyone could get it (10%, n=7); and that because they were not participating in Pap smears, they could get cervical cancer as they were unaware of their status (6%, n=4).

While 51 women (76%) believed cervical cancer to be a very serious disease, only 13 (19%) thought it was a serious problem in their community. In fact, 21 women (31%) indicated that it was not a problem in their community at all. Women who had obtained a Pap smear were significantly more likely to report cervical cancer being a serious issue in their community ($M=3.73$, $SD=1.93$) than women who had not obtained a Pap smear ($M=2.38$, $SD = 2.04$; $t(41) = 2.22$, $p < 0.05$). Women who were HIV-positive were slightly more concerned about cervical cancer ($M=3.92$, $SD = 1.71$) than those who were not infected ($M=2.72$, $SD = 2.12$; $t(28) = 1.95$, $p < 0.06$). Of additional importance to these findings were themes relating to race and disease. Cervical cancer was mentioned to be a white woman's disease: “As a black community, we think this disease [cervical cancer] is for whites only.”

Community women were asked to share why they thought that this is a serious disease. The most common concerns included believing that cervical cancer was incurable and resulted in death (36%, n=24), or that it resulted in an inability to conceive (25%, n=17). The ability to conceive was noted to be something that one needed to do as a woman, and that there were consequences for not being able to do so. As one woman expressed, “[I am worried] about the chances of not being able to conceive. You'll get neglected by your husband's parents if you can't conceive.” Another added, “When you get married you have to have a baby. A child is a blessing from God. To be a woman without children...Eish!” This led some women to believe that cervical cancer may be worse than HIV. Women were aware that HIV treatment was available, but had little to no knowledge about cervical cancer treatment. As one woman mentioned, “If you have cancer it is worse, because if it's not treated you die. With HIV it's in your hands. If you take your ARVs you've got life in your hands.” Women were aware that HIV-positive women could conceive, but did not believe this was true for women with cervical cancer.

HIV/AIDS stigma

When asked about their feelings towards people with HIV, women who were HIV-negative (n=54) most commonly responded that they were supportive and empathetic towards HIV-positive individuals (56%, n=30), that their relationships with those individuals would not change (37%, n=20), and that they would become more supportive toward those with HIV (54%, n=29). Only a few women suggested that they feared and/or blamed HIV-positive individuals (11%, n=6) and would try to avoid them (9%, n=5). Because these responses seemed to reflect social desirability, i.e. no one wanted to say they behaved negatively towards HIV-positive individuals, we asked the question in a more general way: “How do you think the community typically responds to people who are HIV positive?” Women's responses reflected a greater degree of stigma. While some women indicated that the community would mostly support or help the person (19%, n=10), or that HIV-positive individuals would be treated normally (20%, n=11), others explained that people in the community would gossip about the person (31%, n=17), and that people would reject or avoid the HIV-positive individual (19%, n=10). As one key informant commented, “It's my experience that it's more of a hush-hush thing, people won't say anything to your face, but people will talk behind your back.”

Normalization of HIV/AIDS—Throughout the interviews, women and key informants referred to HIV as very commonplace. As one woman mentioned, “It's so common, they don't say much. People are relaxed about it.” HIV tended to be viewed as a very “normal” condition within KG. In fact, half of the community women reported that the quality of life of people with HIV was average to good (49%, n=33). As one woman commented, “If you take care of yourself you can live a normal life.” Another suggested, “They are normal. In fact, they can live longer than me.” Only 7 women (10%) reported that the quality of life for HIV-positive individuals was poor.

Integrating services

All of the HIV-positive women indicated that if cervical cancer screening were available at an HIV clinic they would utilize it. As one woman commented, “I would be happy, because I could go do all the things I need to in one place. I have no problem with women who are HIV-negative coming.”

Of the women who were HIV-negative, 35 (67%) responded that they would get screened at a clinic previously known as an ART clinic, 15 (29%) indicated that they would not, and 4 women did not complete this question. Reasons for not wanting to participate centred on two themes: fear of becoming infected, and stigma against HIV. For example, one woman stated “People will say that I have HIV, because I am going to HIV clinic,” while another commented, “People might get the wrong impression.” A woman explained, “I'm afraid to go to the HIV clinic; what if the instrument is not sterilized?” Women who were open to being screened for cervical cancer at an HIV clinic explained that they would do so because it was important for them to know whether they had cervical cancer, that they were not concerned/worried about HIV clinics, that it would be more convenient (i.e., cheaper and closer than a private clinic/hospital), and that they knew they were not positive so it did not matter what others thought.

Relevant themes from key informants

Provision of health education—Key informants unanimously agreed that it was their responsibility to provide health education and basic services to women in KG. However they also discussed many challenges associated with this responsibility, including the emotional burden of supporting their community, not having sufficient resources (e.g., time, transportation, pamphlets), and lacking proper training. All key informants expressed that they needed to receive more health information so they could educate the community properly. As one said, “I need training. I will never say that I know about cervical cancer; there are new discoveries so you know this and then it changes. I need to know. I need to be empowered.” While key informants provide some healthcare services to the community, the majority do not have the professional training to provide clinical services. However, key informants believed that if they were more knowledgeable about cervical cancer they could encourage women to go to the clinics for screening.

Cervical cancer knowledge and prevention—All of the key informants had some knowledge of cervical cancer. Specifically, they were aware of “this disease that affects women” and that “all women” should participate in Pap smears for prevention. Many key informants expressed that although they had tried to get women in the community to participate in screening, many women refused because they either did not understand cervical cancer or they feared the exam.

Informants provided greater detail about the challenges women face obtaining Pap smears. For instance, informants explained that women often have to go to the hospital to get a referral so that they can participate in a Pap smear at a later time. SA's public hospitals utilize a referral system whereby one must receive a referral before they can receive various health services. Other informants explained that healthcare staff had treated women rudely when they asked for a Pap smear. For example, a nurse might ask: “Why do you need a Pap smear? Have you been doing something?”

Support for integrated healthcare services—All key informants were in support of providing Pap smears at HIV clinics, because they saw a need for healthcare to be more comprehensive. While most indicated that HIV stigma existed, key informants believed that it would not be a significant barrier; as one commented, “These days people don't care about the stigma.” On the other hand, another key informant added, “There is stigma attached to everything, even epilepsy has stigma.” Even further, others believed that if they simply explained it was a comprehensive clinic, and not just an HIV clinic, people would come for such screenings. Others suggested one entrance but different cubicles for HIV-positive and negative people. This way patients would be unaware of who had what, and they wouldn't have to worry about equipment not being sterilized appropriately. A comment made by one of the key informants sums these ideas:

“I think people won't have a problem with it. But the minute you start saying we have a lot of HIV-positive people that do come here, but we're also offering Pap smears, what are you gonna think? Do they clean those instruments properly? ...That's why we have to say, we have a wellness clinic that's open to

various ailments and various conditions. ... if we put it across that way to people, we'll find they will flock.”

Discussion

Cervical cancer remains an important public health concern throughout SA. The massive rollout of HIV care in SA holds promise for expanding the reach of health services across the country, and potentially, a new opportunity to provide cervical cancer prevention. The triangulation of different data sources in our study provided important insight into the challenges that will need to be addressed before cervical cancer prevention programs can be provided within the context of HIV care.

Women in the present study had limited knowledge about cervical cancer, which was tied to significant misperceptions about the disease that echo findings from previous research (Francis et al., 2011; Ports et al., 2014). In addition, some participants falsely believed that black women were invincible against cervical cancer, and that cervical cancer may be worse than HIV. Women need to be aware that routine screening can lead to early prevention, and can significantly reduce risk of infertility and mortality. That cervical cancer, unlike HIV, can be treated without lasting effects should be made known to women, as these misperceptions may be a considerable barrier to seeking preventive care. The belief that cervical cancer is a ‘white woman’s disease’ must also be addressed, because this belief perpetuates existing racial/ethnic disparities in cervical cancer incidence and mortality.

Despite SA’s attempts at providing a free national cervical cancer prevention program, cervical cancer screening is not a part of routine care for many women (Botha & Dochez, 2012; Francis et al., 2011). Less than half of the sample in this study had participated in cervical cancer screening despite being sexually active. Furthermore, many women perceived that cervical cancer was not an issue in their community. Combined, these findings support that SA women have difficulty accessing cervical cancer care, and currently have inadequate knowledge about cervical cancer and prevention. Key informants indicated that women were afraid of the screening process and that getting access to services was made challenging through the existing public hospital referral process. Providing information that includes personal narratives from women who have previously participated in cervical cancer screening could alleviate fears of the screening process for new patients. In addition, healthcare providers may benefit from additional training that encourages participation in prevention behaviours. Conversely, women’s risk perceptions may reflect the growing prevalence of cancer in general in SA (de-Graft Aikens et al., 2010), and may not necessarily reflect cervical health concerns per se.

Participants were interested in receiving more information about cervical cancer. Educational programs should be implemented so that women can be more informed about cervical cancer and the benefits of regular screening. Educational programs must also focus on changing existing beliefs that deter cervical cancer screening, address and reduce stigma, dispel false beliefs, and deliver new information about screening and disease. Key informants expressed that educating their community was their responsibility, and were eager for training and up-to-date information that they could deliver to women in KG. The

willingness of key informants to impart knowledge is noteworthy. An earlier study in Malawi indicated that women were willing to receive information from key informants (Ports et al., 2014). By educating informants we enable them to impart pertinent knowledge to communities where it is needed.

While cervical cancer screening was low amongst this population, there was an interest and willingness to participate if services were made more accessible. It was promising that there was a desire for a comprehensive health clinic, specifically, that many women were receptive to receiving cervical cancer screening services at clinics primarily serving HIV-positive patients. HIV clinics are more abundant than public health hospitals in SA. Although our findings are encouraging, safety and hygiene concerns expressed by one-third of the HIV-negative women must be carefully considered and addressed prior to designing a comprehensive HIV-cervical healthcare program. Of promise is that many participants and key informants suggested that if people were told that an HIV clinic would additionally provide preventive care for cervical health, or if the clinic were rebranded as a “comprehensive clinic”, people would avail themselves of such services.

Many women expressed that although stigma was commonplace, the prevalence of HIV was high and commonly accepted as a part of everyday life. Key informants and women did not feel that HIV stigma would present a significant challenge to uptake of cervical cancer prevention in clinics predominantly providing HIV services. This finding is not unlike those found by Abdool Karim and colleagues (2008), where SA participants responded positively to questions about other people living with HIV/AIDS and which may have reflected the consistency of policy and practice of HIV/AIDS care in SA. The higher familiarity and acceptance of HIV within this setting could provide an excellent opportunity to integrate cervical cancer screening accompanied by fewer stigmas. To date, cancer screening services are not consistent and may contribute to existing stigma and fear. However, despite these findings, other studies (Bogart et al., 2013; Mbatha, 2013) have found that stigma is a barrier to seeking HIV care, and should be carefully considered.

This study is not without limitations. First, while the triangulation of data from different sources provides a valid picture of a community's perspective on integration of health services, the perspectives may be limited to the KG community, and not generalizable to other communities. Second, participants were paid for their time and may have been motivated to participate in the study for financial gain, which may have biased their responses. Third, the selection of participants utilized a snowball technique. While we asked key informants to be purposive in recruitment in order to obtain a varied sample, existing relations may have biased the study sample. Future studies could investigate additional communities using randomized sampling techniques, as well as perspectives from community men, policy-makers, and healthcare providers in HIV clinics, as they could provide important information regarding the logistical underpinnings of instituting a cervical cancer prevention program. While in-depth interviews allow for a deeper dive into questions, which may have contributed to the varied and informative responses, interviews had to balance deeper dives with time constraints that may have limited the scope of responses. Despite these limitations, the study has important implications for cervical cancer prevention programs.

Conclusion

Overall, our findings reveal a readiness for cervical healthcare among women in the KG community, as well as a willingness to receive services at alternative health settings, such as HIV clinics. However, cervical cancer education is highly warranted, as is a rebranding of HIV treatment clinics, before services for the two health foci can be integrated. Women and key informants believed particular terms, such as comprehensive or wellness clinic, could assist in alleviating negative associations with HIV clinics. Understanding access barriers and perceptions from potential users is a key initial step for expanding critical health-care coverage, both in SA and in other low- and middle-income countries.

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References

- Abdool Karim Q, Meyer-Weitz A, Mboyi L, Carrara H, Mahlase G, Frohlich JA, Abdool Karim SS. The influence of AIDS stigma and discrimination and social cohesion on HIV testing and willingness to disclose HIV in rural KwaZulu-Natal, South Africa. *Global Public Health*. 2008; 3(4):351–365. doi: 10.1080/17441690802076496.
- Anderson, J.; Lu, E.; Sanghvi, H.; Kibwana, S.; Lu, A. Cervical cancer screening and prevention for HIV-infected women in the developing world.. In: Georgakilas, AG., editor. *Cancer Prevention – From Mechanisms to Translational Benefits*. InTech; Rijeka: 2012. p. 231-260.
- Anorlu RI. Cervical cancer: The sub-Saharan African perspective. *Reproductive Health Matters*. 2008; 16(32):41–49. doi: 10.1016/S0968-8080(08)32415-X. [PubMed: 19027621]
- Atashili J, Smith JS, Adimora AA, Eron J, Miller WC, Myers E. Potential impact of antiretroviral therapy and screening on cervical cancer mortality in HIV-positive women in sub-Saharan Africa: A simulation. *PLoS One*. 2011; 6(4):1–8. doi:10.1371/journal.pone.0018527.
- Batra P, Kuhn L, Denny L. Utilisation and outcomes of cervical cancer prevention services among HIV-infected women in Cape Town. *South African Medical Journal*. 2010; 100(1):39–44. Retrieved from: <http://www.ncbi.nlm.nih.gov/pubmed/?term=PMID%3A+20429487>. [PubMed: 20429487]
- Becker-Dreps S, Otieno WS, Brewer NT, Agot K, Smith JS. HPV vaccine acceptability among Kenyan women. *Vaccine*. 2010; 28(31):4864–4867. doi: 10.1016/j.vaccine.2010.05.034. [PubMed: 20566394]
- Bogart LM, Chetty S, Giddy J, Sypek A, Sticklor L, Walensky RP, Bassett IV. Barriers to care among people living with HIV in South Africa: Contrasts between patient and healthcare provider perspectives. *AIDS Care*. 2013; 25(7):843–853. doi: 10.1080/09540121.2012.729808. [PubMed: 23061894]
- Bor J, Herbst AJ, Newell ML, Bärnighausen T. Increases in adult life expectancy in rural South Africa: Valuing the scale-up of HIV treatment. *Science*. 2013; 339(6122):961–965. doi:10.1126/science.1230413. [PubMed: 23430655]
- Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology*. 2006; 3:77–101. doi:10.1191/1478088706qp063oa.
- Cervical Cancer Action. *Progress in Cervical Cancer Prevention: The CCA Report Card*. 2012. Retrieved from: http://www.cervicalcanceraction.org/pubs/CCA_reportcard_low-res.pdf
- Chiao EY, Krown SE, Stier EA, Schrag D. A population-based analysis of temporal trends in the incidence of squamous anal canal cancer in relation to the HIV epidemic. *Journal of Acquired Immune Deficiency Syndromes*. 2005; 40(4):451–455. doi: 10.1097/01.qai.0000159669.80207.12. [PubMed: 16280701]

- Cronjé HS. Screening for cervical cancer in the developing world. *Best Practice & Research Clinical Obstetrics and Gynaecology*. 2005; 19(4):517–529. doi: 10.1016/j.bpobgyn.2005.02.005. [PubMed: 16150391]
- Cronje H, Parham G, Cooreman B, de Beer A, Divall P, Bam RH. A comparison of four screening methods for cervical neoplasia in a developing country. *American Journal of Obstetrics and Gynecology*. 2003; 188(2):395–400. doi: 10.1067/mob.2003.153. [PubMed: 12592246]
- de-Graft Aikens A, Unwin N, Agyemang C, Allotey P, Campbell C, Arhinful D. Tackling Africa's chronic disease burden: From the local to the global. *Globalization and Health*. 2010; 6(5):1–7. doi: 10.1186/1744-8603-6-5. [PubMed: 20181213]
- Department of Health, SA. HIV & AIDS and STI Strategic Plan for South Africa 2007–2011. Department of Health, SA.; South Africa: 2007. Retrieved from: http://data.unaids.org/pub/ExternalDocument/2007/20070604_sa_nsp_final_en.pdf
- Department of Health, SA. The National Antenatal Sentinel HIV and Syphilis Prevalence Survey in South Africa, 2011. Department of Health, SA.; South Africa: 2012. Retrieved from: <http://www.health-e.org.za/wp-content/uploads/2013/05/f0980fb5107a7ce543a8bd5730e52333.pdf>
- Department of Health, SA. The South African antiretroviral treatment guidelines version 14. Department of Health, SA.; South Africa: 2013. Retrieved from: <http://www.sahivsoc.org/upload/documents/2013%20ART%20Guidelines-Short%20Combined%20FINAL%20draft%20guidelines%2014%20March%202013.pdf>
- DiClemente RJ, Zorn J, Temoshok L. Adolescents and AIDS: A survey of knowledge, attitudes and beliefs about AIDS in San Francisco. *American Journal of Public Health*. 1986; 76:1443–1445. Retrieved from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1646967/pdf/amjph00275-0069.pdf>. [PubMed: 3777294]
- Erwin K, Marks M, Couchman I. Homeopathic health care in a low-income housing estate in Durban: Possibilities for a plural health care model in South Africa. *The International Journal of Health, Wellness and Society*. 2014; 3:1–16. Retrieved from: www.healthandsociety.com, ISSN 2156-8960.
- Francis SA, Battle-Fisher M, Liverpool J, Hipple L, Mosavel M, Soogun S, Mofammere N. A qualitative analysis of South African women's knowledge, attitudes, and beliefs about HPV and cervical cancer prevention, vaccine awareness and acceptance, and maternal-child communication about sexual health. *Vaccine*. 2011; 29:8760–8765. doi: 10.1016/j.vaccine.2011.07.116. [PubMed: 21855591]
- Harris B, Goudge J, Ataguba JE, McIntyre D, Nxumalo N, Jikwana S, Cherich M. Inequities in access to health care in South Africa. *Journal of Public Health Policy*. 2011; 32:S102–S123. doi: 10.1057/jphp.2011.35. [PubMed: 21730985]
- Horo A, Jaquet A, Ekouevi DK, Toure B, Coffie PA, Effi B, Sasco AJ. Cervical cancer screening by visual inspection in Côte d'Ivoire, operational and clinical aspects according to HIV status. *BMC Public Health*. 2012; 12:237–242. doi: 10.1186/1471-2458-12-237. [PubMed: 22443255]
- Huchko MJ, Bukusi EA, Cohen CR. Building capacity for cervical cancer screening in outpatient HIV clinics in the Nyanza province of western Kenya. *International Journal of Gynecology and Obstetrics*. 2011; 114:106–110. doi: 10.1016/j.ijgo.2011.02.009. [PubMed: 21620403]
- Li X, Lin C, Gao Z, Stanton B, Fang X, Yin Q, Wu Y. HIV/AIDS knowledge and the implications for health promotion programs among Chinese college students: Geographic, gender and age differences. *Health Promotion International*. 2004; 19:345–356. doi: 10.1093/heapro/dah308. [PubMed: 15306619]
- Mbatha B. AIDS-related stigma as a barrier to HIV and AIDS prevention, care and treatment in South African public universities. *Mediterranean Journal of Social Sciences*. 2013; 4(14):517–524. doi: 10.5901/mjss.2013.v4n14p517.
- Moodley J, Constant D, Hoffman M, Salimo A, Allan B, Rybicki E, Hitzeroth I, Williamson AL. Human papillomavirus prevalence, viral load and precancerous lesions of the cervix in women initiating highly active antiretroviral therapy in South Africa: A cross sectional study. *BMC Cancer*. 2009; 9:275–282. doi: 10.1186/1471-2407-9-275. [PubMed: 19664216]
- Moodley J, Kawonga K, Bradley J, Hoffman M. Challenges in implementing a cervical screening program in South Africa. *Cancer Detection and Prevention*. 2006; 30(4):361–368. doi: 10.1016/j.cdp.2006.07.005. [PubMed: 16963193]

- Moon TD, Silva-Matos C, Cordoso A, Baptista AJ, Sidat M, Vermund SH. Implementation of cervical cancer screening using visual inspection with acetic acid in rural Mozambique: Successes and challenges using HIV care and treatment programme investments in Zambézia Province. *Journal of the International AIDS Society*. 2012; 15(2):1–6. doi: 10.7448/IAS.15.2.17406.
- Mosavel M, Simon C, Oakar C, Meyer S. Cervical cancer attitudes and beliefs – a Cape Town community responds on World Cancer Day. *Journal of Cancer Education*. 2009; 24(2):114–119. doi: 10.1080/08858190902854590. [PubMed: 19431027]
- Mwanahamuntu MH, Sahasrabuddhe VV, Kampambwe S, Pfaendler KS, Chibwesa C, Mkumba G, Parham GP. Advancing cervical cancer prevention initiatives in resource-constrained settings: Insights from the cervical cancer prevention program in Zambia. *PLoS Medicine*. 2011; 8(5) doi: 10.1371/journal.pmed.1001032.
- Palefsky JM. Cervical human papillomavirus infection and cervical intraepithelial neoplasia in women positive for human immunodeficiency virus in the era of highly active antiretroviral therapy. *Current Opinion in Oncology*. 2003; 15(5):382–388. Retrieved from: <http://www.anderekijk.net/docs/CervixCaHivHaart.pdf>. [PubMed: 12960521]
- PATH and Child Health and Development Centre. Shaping a strategy to introduce HPV vaccines in Uganda – Formative research results from the HPV Vaccines: Evidence for impact project. PATH; Seattle: 2009. Retrieved from: http://www.rho.org/files/PATH_FRTS_Uganda.pdf
- Ports KA, Reddy DM, Rameshbabu A. Cervical cancer prevention in Malawi: A qualitative study of women’s perspectives. *Journal of Health Communication*. 2014 doi: 10.1080/10810730.2014.908986.
- Ports KA, Reddy DM, Rameshbabu A. Barriers and facilitators to HPV vaccination: Perspectives from Malawian woman. *Women & Health*. 2013; 53(6):630–645. doi: 10.1080/03630242.2013.809046. [PubMed: 23937733]
- Ramogola-Masire D, de Klerk R, Monare B, Ratshaa B, Friedman HM, Zetola NM. Cervical cancer prevention in HIV-infected women using the “see and treat” approach in Botswana. *Journal of Acquired Immune Deficiency Syndromes*. 2012; 59(3):308–313. doi: 10.1097/QAI.0b013e3182426227. [PubMed: 22134146]
- United Nations Joint Program on HIV/AIDS & World Health Organization. AIDS epidemic update December 2007. UNAIDS; Geneva: 2007. Retrieved from http://data.unaids.org/pub/EPISlides/2007/2007_epiupdate_en.pdf
- United Nations Joint Program on HIV/AIDS. 2008 report on the global AIDS epidemic. UNAIDS; Geneva: 2008. Retrieved from: http://www.unaids.org/sites/default/files/en/media/unaids/contentassets/dataimport/t/pub/globalreport/2008/jc1510_2008globalreport_en.pdf
- United Nations Joint Program on HIV/AIDS. HIV and AIDS estimates. 2013. Retrieved from: <http://www.unaids.org/en/Regionscountries/Countries/SouthAfrica/>
- van Schalkwyk SL, Maree JE, Wright SCD. Cervical cancer: The route from signs and symptoms to treatment in South Africa. *Reproductive Health Matters*. 2008; 16(32):9–17. doi: 10.1016/S0968-8080(08)32399-4. [PubMed: 19027618]
- Wellensiek N, Moodley M, Moodley J, Nkwanyana N. Knowledge of cervical cancer screening and use of cervical screening facilities among women from various socioeconomic backgrounds in Durban, Kwazulu Natal, South Africa. *International Journal of Gynecological Cancer*. 2002; 12:376–382. doi: 10.1046/j.1525-1438.2002.01114.x. [PubMed: 12144686]
- WHO, UNAIDS, & UNICEF. Towards universal access: Scaling up priority HIV/AIDS interventions in the health sector. A progress report. WHO; Geneva: 2007. Retrieved from: http://www.who.int/hiv/mediacentre/universal_access_progress_report_en.pdf

Table 1

Sociodemographic factors of participating community women.

	Mean	Range
Age	28.36	18-50
Children per woman	3.5	0-5
		<u>Percentage</u>
Relationship/marital status		
Single		77%
Married		18%
Widowed or separated		5%
Race/ethnicity		
Black		93%
Coloured		4%
Indian		3%
Highest level of education completed		
Less than high school diploma		26%
High school graduates		43%
College graduates		25%
Post-graduate education		3%
Unemployed		70%
Uses public clinic/hospital		76.1%
Sexual Activity		
Sexually Active		85%
Intercourse before the age of 18		30%
Has had more than one sexual partner		75%
Uses condoms		10%
Currently on birth control/contraception		37%
Previously treated for an STD		28%
Tested for HIV		
HIV positive		22%