

# Barriers and facilitators of follow-up among women with precancerous lesions of the cervix in Cameroon: a qualitative pilot study

This article was published in the following Dove Medical Press journal:  
*International Journal of Women's Health*

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**Purpose:** This pilot study explores the barriers to adherence to follow-up among women with cervical precancer in urban Cameroon. While follow-up of women with a positive screening of cervical precancer is the most important aspect of cervical cancer secondary prevention, women with cervical precancer do not adhere frequently to recommended follow-up schedule in Cameroon. The aim of the study was to explore and describe the barriers and facilitators to follow-up for cervical precancer among women infected and uninfected with HIV in Cameroon.

**Participants and methods:** A qualitative research design was used to answer the research questions. Participants included eight HIV-infected and -uninfected women diagnosed with cervical precancer and 19 nurses. Data were collected by in-depth individual patient interviews and focus groups with nurses. An interview guide with open-ended questions, using the social ecological model as a framework, included questions that addressed the complexities of the lives of individuals and professionals within a relational context. The interviews were audio-taped and transcribed verbatim in English language. Thematic analysis of data was completed with no epistemological or theoretical perspective underpinning the analyses.

**Results:** Four major themes emerged from the study. They were clinic, personal, and social barriers, and strategies to improve follow-up.

**Conclusion:** The use of reminder phone calls and fee reduction, coupled with peer counseling and navigation of women who have been diagnosed with cervical precancer, could be effective ways of improving adherence to follow-up. Further research is needed to explore the same phenomenon among women in rural areas, especially those who were initially attended to in mobile clinics.

**Keywords:** cervical precancer, follow-up, HIV-infected women, HIV-uninfected women

## Introduction

Women diagnosed with precancerous lesions of the cervix do not adhere widely to follow-up recommendations even in developed countries with well-organized health care systems as in the US.<sup>1,2</sup> It can be hypothesized that the challenge of follow-up adherence might be more serious in Sub-Saharan Africa (SSA) where resources are limited, and health care systems are poorly organized.<sup>3</sup> SSA has the highest burden of cervical cancer morbidity and mortality. As such, secondary prevention through screening must be a focus of comprehensive care for women if morbidity and mortality gaps are to be closed on cervical cancer. The most important part of cervical cancer secondary prevention is not just identifying and treating precancer but also allowing for sequential follow-up of women who screen positive and/or treated for precancerous lesions.<sup>4</sup> Follow-up entails treatment of the lesions and post-treatment surveillance to monitor lesion recurrence.<sup>5</sup> The purpose of this study was to understand the barriers

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and facilitators to post-cervical cancer screening follow-up among individual patients and groups of nurses who care for them.

Cervical cancer is the leading cause of cancer morbidity and mortality among females in developing countries where there are about 99,000 new cases and 57,400 deaths per annum.<sup>6,7</sup> In SSA, 34.8 new cases per 100,000 women are diagnosed yearly for cervical cancer and 22.5 per 100,000 women die from the disease compared to 6.6 and 2.5 per 100,000 women, respectively, in North America.<sup>8</sup>

Women treated for cervical precancer have a 5%–30% increased risk of developing cervical cancer than women in the general population, thus reinforcing the need for post-treatment follow-up.<sup>9</sup> This rate is even higher among women living with HIV where treatment failure is up to 51% for low-grade lesions and 55% for high-grade lesions.<sup>10</sup> Coupled with the fact that the highest worldwide burden of HIV is observed in SSA,<sup>11</sup> the problem of cervical cancer is even more serious. Determinants of recurrence of cervical precancer post-treatment have not been well established, but there is some evidence that the grade of the lesion<sup>12</sup> and HIV status<sup>13,14</sup> are of significant importance. Increased post-treatment recurrence of cervical precancer in women living with HIV might be associated with immunosuppression.<sup>14,15</sup>

Studies completed outside of Africa have examined barriers and facilitators related to non-adherence to follow-up. Studies conducted in the US demonstrate that non-adherence to follow-up of women with cervical precancer is associated with inadequate access to health care system, lack of financial resources, fear/anxiety, pain, and lack of knowledge.<sup>16,17,18</sup> Factors associated with high follow-up default rates include race (being a black woman) and being a non-Hispanic white woman, low socioeconomic status, low educational level, unemployment, being unmarried, older age, and having a low-grade lesion.<sup>19</sup>

In Cameroon, cervical cancer is attributed to 23% of all cancers affecting females, with a yearly incidence of 1,993 cases (age-standardized rate 30/100,000 women) and 1,129 deaths per annum.<sup>6</sup> Cameroon, located in Central Africa, runs a large cervical cancer prevention program initiated by the Cameroon Baptist Convention Health Services (CBCHS), a large faith-based health organization that has a network of 82 health facilities in urban and rural areas in seven of the ten regions of Cameroon ([cbchealthservices.org](http://cbchealthservices.org)). The CBCHS runs the only comprehensive functional cervical cancer prevention program in Cameroon known as Women's Health Program (WHP) which was initiated in 2007. The method of cervical cancer screening is known as digital cervicography. The technique uses a hand-held digital

camera with a macro-conversion lens or Samsung Galaxy cell phone to take real-time highly magnified images of the cervix mimicking colposcopy. The technique is an adjunct to visual inspection with acetic acid and visual inspection with Lugol's iodine.<sup>20</sup>

The WHP has screened over 80,000 women for cervical cancer and has treated over 6,000 women for cervical precancer with cryotherapy, thermal coagulation, and Loop Electrical Excision Procedure (LEEP), with a 9% prevalence of precancerous lesions and 613 per 100,000 prevalence rate for invasive cervical cancer (ICC).<sup>21</sup> These findings are program based and not population based because women were self-referred for screening.

Even though WHP is well structured and comprehensive, follow-up of women with cervical precancer is still poor. For example, out of 1,970 women who were screened positive for cervical precancer from 2014 to 2016, only 42% received treatment. In a doctoral thesis involving analysis of data of women screened in one of the WHP sites, Mboppi Baptist Hospital, Douala, it was found that out of the 290 women treated for cervical precancer, only 20% were followed up at 1 year, 0.7% at 2 years, and 0.7% at 3 years. (Unpublished doctoral dissertation. Akago SC. *Lésions précancéreuses du col de l'utérus: Diagnostic prise en charge et évolution à l'Hôpital Baptiste de Mboppi* [Precancerous Lesions of the Cervix: Diagnostic management and Follow-up in Mboppi Baptist Hospital]. Cameroon: University of Douala; 2017). All women treated for cervical precancer are to be followed up for rescreening at 1 year for low-grade lesions and yearly for 3 consecutive years for high-grade lesions, and if negative, the women will continue to be followed up in the same manner as those with initial negative screening, where the follow-up interval depends on the type of screening test used.<sup>4</sup>

A context of personal, interpersonal, community, and societal factors may likely be associated with perceived discomfort of pelvic examination. Interpersonal factors may be linked to lack of trust in health providers, and community factors could be connected to lack of adequate transportation system. In a survey conducted in Argentina for reasons why women do not return for follow-up after treatment for cervical precancer, the reasons included long clinic waiting time, unfriendly staff, fear, and denial.<sup>22</sup> In two qualitative studies exploring barriers to follow-up, the authors identified that the main theme was fear.<sup>17,23</sup>

The aim of this study was to describe the barriers and facilitators to follow-up of precancerous lesions of the cervix among women uninfected and infected with HIV and nurses who cared for these women in Cameroon. The ultimate goal of this pilot study was to build situation-specific knowledge

in Cameroon to improve the follow-up of women with cervical precancer in order to prevent disease recurrence and death among this vulnerable population. Using the Social Ecological Model (SEM) as a framework to organize this inquiry,<sup>24</sup> the research question posed in this pilot study was: What are the personal, interpersonal, environmental, and cultural beliefs that are facilitators or barriers to cervical precancer screening follow-up from the perspective of individual patients and nurses?

## Participants and methods

### Research design

The study design for this pilot study was a qualitative semi-structured interview with individual patients and focus groups with nurses. The interviews and focus groups were undertaken in English by one of the co-authors who is from Cameroon and familiar with the community of women and nurses. A thematic analysis was used to define themes using a six-step approach: 1) developing familiarity with the data through reading and reflection, 2) generating initial codes, 3) searching for themes, 4) reviewing themes, 5) defining themes, and 6) reporting themes.<sup>25</sup>

The semi-structured interview questions for all participants were organized using SEM with the premise that understanding factors that influence behavior choices in all levels of prevention are complex and related to each other.<sup>24</sup> Behavior choices are considered as an interplay between individual (personal history), relationship (peers, partners, family), community (neighborhoods, environment), and societal factors (culture and beliefs). The model used in posing questions for patients and nurses in this pilot study was intended to understand barriers and facilitators to follow-up across multiple levels of influence at the same time.<sup>24</sup>

### Trustworthiness of the data

Trustworthiness involves the following factors: 1) credibility (in preference to internal validity); 2) transferability (in preference to external validity/generalizability); 3) dependability (in preference to reliability); 4) confirmability (in preference to objectivity).<sup>26</sup>

The interviewer was the pioneer supervisor of the cervical cancer prevention program in the CBCHS. He directed the program from its inception in 2007 to 2016. Majority of the program nurses were trained and mentored by him. In addition, some of the women invited for the interview had been attended to by him. Therefore, he was very familiar with the setting, the staff, the clients, and the program including the opportunities and challenges. He already had a lived experience and preconceptions of some of the issues related

to follow-up of these women which enhanced the credibility of the study.

Even though nurses from all WHP sites participated in the study, only women from urban cities participated. These women in the urban cities probably have a different experience from those in rural areas affecting transferability. The themes were identified on the basis of the SEM.

### Sample and setting

The study was conducted in the WHP of the CBCHS in Cameroon. There are ten WHP clinics located in six of the ten geographic regions of Cameroon. Eight of the ten geographic regions in Cameroon are French-speaking, while the other two are English-speaking. Three of the WHP clinics are located in large urban cities in the French-speaking region of Cameroon. These are EtougEbe Baptist Hospital Yaoundé (EBHY), Ekounou Baptist Integrated Health Center Yaoundé, and Mboppi Baptist Hospital Douala (MBHD). The rest of the seven clinics are located in semi-urban or rural areas. Two of these clinics are also located in the French-speaking region of Cameroon: Bafoussam Baptist Integrated Health Center and Kribi Baptist Integrated Health Center. The remaining five clinics are located in the English-speaking regions: Baptist Hospital Mutengene, Kumba Baptist Integrated Health Center, Nkwen Baptist Integrated Health Center, Banso Baptist Hospital, and Mbingo Baptist Hospital. Due to escalation of sociopolitical crisis in the English-speaking regions at the time of data collection, women were interviewed only in EBHY and MBHD. The other three clinics in the French-speaking regions were newly created, that is, from few weeks to 2 years old, and they could not have had eligible women for the study. On the other hand, the nurses of all the ten WHP sites participated in the study.

A purposive sampling technique was used to recruit participants. Eligible HIV-infected and uninfected women who screened positive for cervical precancer more than 2 years ago were recruited by the WHP site coordinators of the two participating sites from health records via word of mouth. Since the study was focused on follow-up, we preferred including only women who screened positive beyond 2 years in order to capture their experiences with follow-up. Those recently diagnosed, especially less than a year, would not have been qualified for routine follow-up.

### Procedure

The women selected were contacted by the coordinators on phone and referred to the interviewer. A total of 15 women were invited to participate in the study (eight HIV-uninfected and seven HIV-infected women). Two women were unable

to participate because they spoke only French and could not communicate in English. This is because the information sheet and consent form were not translated into French due to constraints in the study budget. One woman declined because of speech impairment, and three women were just not interested in participating. The nine women who consented for the study included four women living with HIV and five HIV-uninfected women. One HIV uninfected woman was too shy during the interview and was not audible on tape and her recordings could not be transcribed and were thus discarded. The principal investigator (PI) invited 20 WHP nurses to participate in the study through the WHP supervisor and 19 consented.

Data were collected through in-depth qualitative individual interviews of the eight HIV-infected and uninfected women and two focus groups of the 19 WHP nurses. All interviews and focus groups were conducted by the PI. The PI used probes and follow-up questions to beseech exhaustive information from participants building on their responses. The interviews and focus groups were audio-taped. Field notes were also taken simultaneously by the PI. The individual interviews were performed in a quiet and confidential room and lasted between 13 and 35 minutes.

The two focus groups with the WHP nurses were completed during the WHP quarterly zonal cervical photograph review meetings (four clinics in the North-West and West regions form the Northern zone and five clinics in the South-West, Littoral, and Central regions form the Southern zone). In these meetings, the nurses of each clinic project the cervical photos of the women screened in their clinic during the quarter on a screen and then defend whatever diagnosis or treatment decision they undertook. If the rest of the nurses agree with them, no further action is required but if they do not agree, the woman will be called back for further evaluation or treatment as decided by the team. In a

case where the nurses do not agree among themselves, the cervical photograph may be sent to an expert in the US or Zambia for another opinion or the woman is invited for a biopsy. The focus groups were held at the end of the meetings in the same meeting halls. In the Northern zone, the meeting was attended by eleven nurses and ten participated in the focus groups after one declined. In the Southern zone, the meeting was attended by nine nurses and all nine participated in the focus groups. The focus groups lasted 48 and 44 minutes, respectively.

Interview guides were developed a priori and were used for both groups of participants. The interviewer was not constrained to the interview guides but was able to deviate in order to offer follow-up questions to receive responses that enhanced in-depth interpretation of the meanings offered. The interview guide for the individual interview with the women contained four discussion sections: experiences with screening positive for precancer and receiving treatment, challenges with follow-up care, barriers to effective follow-up, and strategies to improve the follow-up at the individual, interpersonal, community, and societal level. The interview guide for the focus groups for nurses also contained four sections: experiences with caring for women with lesions, challenges with follow-up care, barriers to effective follow-up, and strategies to improve the follow-up, guided in the same key areas as the individual interviews according to the SEM (Table 1).

## Ethical considerations

The study received institutional review board approval from the CBCHS (Ref IRB2018-30) and the University of Massachusetts Boston (Ref FWA00004634).

In both individual interviews and focus groups, two consent forms were signed per participant prior to the interview.

**Table 1** Interview guide

Domain	SEM factors	Individual interviews for women	Focus group for nurses
Living with precancer	Intrapersonal and interpersonal factors	Can you please share your experiences of receiving a diagnosis of precancerous cervical lesions?	Can you please share your experiences with caring for women with precancerous cervical lesions?
Specific challenges	Institutional and community factors	Can you describe any challenges that you experienced with getting treatment and/or post-treatment follow-up?	Can you describe any challenges that you have experienced with the follow-up care of these women?
General barriers	Institutional and community factors	What are the barriers for getting follow-up care after getting a diagnosis of precancerous lesions of the cervix?	What do you think are the barriers to effective follow-up of women with precancerous lesions of the cervix in WHP?
Recommendations	Policy factors	What recommendations would you make to improve the follow-up of women with precancerous lesions of the cervix?	What recommendations would you make to improve the follow-up of women with precancerous lesions of the cervix in your clinic?

**Abbreviations:** SEM, social ecological model; WHP, Women's Health Program.

One form was handed to the PI and the other remained with the participant. All 15 women received transportation fare reimbursement irrespective of whether they participated or not. Four of the eight participants who had defaulted follow-up rescreening were offered screening and treatment at no charge.

## Data analyses

The method of data analysis used in this study was the six-step approach of Maguire and Delahunt.<sup>25</sup> The data collected were stored in a secured and password-protected computer of the PI and the research assistant. All data were deidentified. No names or specific identifiers were used in the data processing, analysis, or dissemination of research results. Responses from the participants were anonymous on the tape. The data were transcribed verbatim, and content analysis was used to code the data. During the data analysis, the PI read the transcripts line by line to identify codes. The codes were then collapsed into themes and the themes were linked to literature, and finally, a point of view was created.

## Results

A thematic analysis of the data was done using the Maguire and Delahunt approach.<sup>25</sup> Four main themes emerged from the data of both individual interviews and focus groups: personal barriers, clinic barriers, social barriers, and strategies to overcome barriers (Figure 1). The themes were the same for both HIV-infected and uninfected women.

### Clinic barriers

#### Cost of services

Follow-up begins with treatment of the lesion and the cost of treatment might be a barrier to some women. Pam Tabi (note: all names used in this paper are pseudonyms), one of the nurses who was so eloquent in the focus group said, “Most

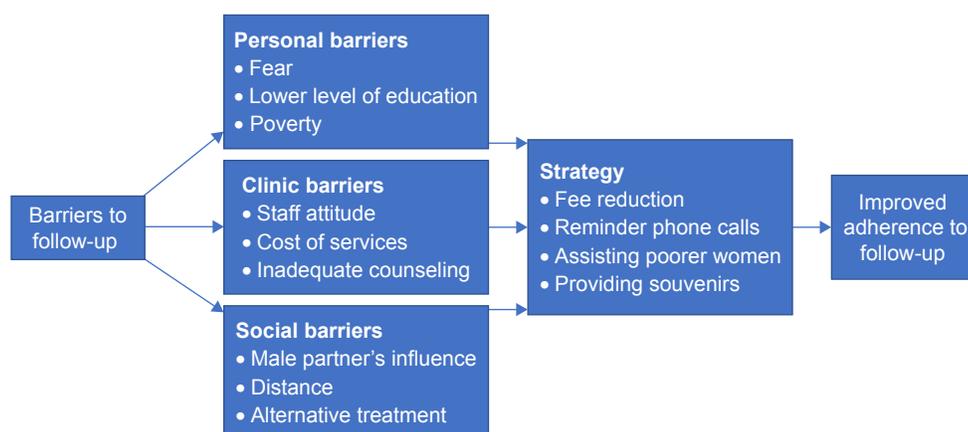
often, when you tell a woman you need to do, for example, LEEP and the cost is 75,000 frs (150 USD), many of them start shouting and screaming that the cost is too much”. This notwithstanding, the nurses argue that the cost is not a barrier because the women are permitted to receive the treatment and pay later on at their convenience.

But we have it as a standard in WHP that nobody goes back home untreated because of cost and we always encourage these women to get their treatment even if they pay in installments at their own convenience.

Maggie Lum, a woman living with HIV, affirms that fees could be paid after receiving treatment. “I paid in installments ... I paid what I had and paid the rest in installments”. However, some women are not comfortable with owing the hospital, said one of the nurses, “... some of these women, they will say that they don’t want to be owing somebody ... they will prefer to go home ... raise the money and come back”. Some women receive treatment on credit but never return to pay. This makes them uncomfortable to return for post-treatment follow-up for fear that they might be rebuked for failing to pay their debt. One nurse narrated, “... they did her cryotherapy and she had no money to pay but the time for her rendezvous had already passed. So, she could not come ... she knows that when she comes, they will ask her the money”. Maggie also remarked:

... some people are scared about having to come back, maybe they have been given treatment without payment or have paid just part of the treatment and they have to come back to complete the amount ... and they don’t have the full money, so they are scared of coming back ....

The program staff complains that majority of the women who receive treatment on credit never return to pay.



**Figure 1** Schematic representation of the three categories of barriers to follow-up and the strategies in overcoming the barriers.

For most women whom you treat and then ask them to come back and pay, I think just about 20% of them actually come back to pay the complete money. There are some that have not paid even a single franc and they never bother to come back.

This generates a deficit in the program as Pam stated, “But like you will see in our registers, we have huge bills that we don’t know when they will ever come back to pay so we have just considered that as bad debt”.

The program offers reduced fee to women living with HIV because of their increased vulnerability. This is what one of them said, “when I come every April, I think the cervical cancer screening fee is 5,000 frs (10 USD), but I pay 2,000 frs (4 USD)”. Women following up for recurrent lesions also admitted a reduction in fees, “In 2016 I paid 5,000 frs (10 USD) for screening and 50,000 frs (100 USD) for treatment, 2017 I paid 2,000 frs (4 USD) for screening and 20,000 frs (40 USD) for treatment”.

### Staff attitude

The women who participated in the study really appreciated the WHP staff for their friendliness, patience, and professionalism. One woman noted, “I am very happy with the doctors/staff because the way they receive you, comfort you, you are very eager to come to the hospital several times to come and do their test” Maggie also added:

The second time I was diagnosed, it was a lady who did my LEEP ... she actually prayed before she started doing the procedure ... Those are people you will always like to meet. I wasn’t scolded at but was encouraged to have hope.

Notwithstanding, Pam noted that the nurses could be a barrier and recounted this:

This client had been a regular client in the clinic ... and she had been well received ... But for her to come this time to see somebody who is too slow, very sluggish, and really not explaining things the way they had explained to her before.

Another nurse highlighted that some nurses do not do proper counseling to the women, “I have called some clients who said they were not informed that they have to come for follow-up after one year”.

Some other health professionals sometimes mislead the women according to this experience from Pam:

... she went for confirmation to another clinic and the gynecologist she met there asked her to go and buy the HPV vaccine, Gardasil, and that when she takes it, it will

heal her or cure her from that precancer and she took the first dose at a 150,000 frs (\$300).

## Personal barriers

### Poverty

Despite the fact that these women have the privilege to receive services and pay afterward, the means to transport themselves to the clinic is another challenge. “Most of these women are from remote areas and for them to be paying transport and coming, they are always complaining about money”.

### Fear

One nurse narrated,

... and she didn’t think that all the side effects like the vagina discharge, she wouldn’t be able to bear. Other clients too have not come for their treatment because they are afraid that it may lead to infertility.

Maggie also added, “... Fear to come and find out that your treatment did not work out well, or the precancer is advancing, it’s just fear”.

### Level of education

One nurse made this remark, “I have noticed that the educated women most at times, come more often for their follow-up”.

## Social barriers

### Alternative treatment

The reason why some of the women do not show up is because they seek alternative forms of treatment. The main alternative form of treatment that emerged is faith healing. A nurse noted, “because some of them are like, I want to go for prayers and I think prayers is the solution ... that has been a big challenge”. Some of the spiritual leaders claim that the woman is healed after prayers and does not require further follow-up. One nurse recounted, “She actually came with her husband and told us that she went for prayers and the pastor told her that she is healed”. Another form of alternative treatment is concoctions from traditional healers and the use of food supplements. “... So many of them have been taking these herbs and supplement and later came back with cancer. Some even at the level of invasive cancer, still go back to the herbs ...”.

### Male partner influence

Some women would like to inform their husbands or get their consents before they receive treatment. One nurse recounted,

I have had cases where clients will always want to get their spouses informed before they get treatment. ... And there are situations where they need the husband's approval because of finances, because most at times they are the ones to give the money.

Sometimes, the male partners stop the women from receiving treatment for various reasons. "... The husband stopped her from having the treatment with the simple reason that he believes so much in God and that God is going to heal this woman from this precancer". Another nurse noted, "... the husband said he does not want the wife to do it. ... He believes the report of God and God says his wife does not have precancer". Abstinence from coitus is required for 4 weeks after treatment. Some husbands find it difficult to abstain for 4 weeks. "... she came and told us that the husband said he cannot tolerate that". Maggie intimated that it was a challenge for her husband to go through the period of abstinence. "It's just that when you have a husband and you have to explain certain things to him ... It was hard, maybe ...".

### Distance

There are some women who are screened positive in mobile clinics and are given appointment to go to the stationary clinics for treatment and they fail because of distance and inaccessible roads, as Pam noted,

There are some of these women that you see in very remote areas who are like, they are ready to come for their treatment, but the transport to take them from the villages to the clinic especially those for LEEP is not there, even if you are ready to do the LEEP for free, they don't even have the means to get to the health facility.

## Strategies to overcome the identified barriers

In this theme, a series of recommendations emerged to improve follow-up of women with cervical precancer.

### Reminder phone calls

Forgetfulness emerged as a challenge and one of the ways of overcoming it is through reminder phone calls. One of the women noted that reminder calls can play a role, "People heads are full with many issues and usually they forget, so maybe reminding them each time will help". Maggie defaulted her follow-up appointment and remarked,

Maybe if I was reminded. Honestly, I just removed everything in my mind like that since I didn't have any pain or symptom that made me feel something was wrong with me.

So, I didn't think about coming for follow-up. ... and I think what could be done is for the staff who are there to call, remind the patients to be able to come.

Another woman who had defaulted her appointment said, "If they had called me even once after that one year, it would have rang a bell in my head and I would have done everything to come". A nurse affirms, "In Douala, the women are very busy, so when you give them a review date post-treatment, they just go and go and when you call them to remind them, they say ha, I forgot". One of the women affirms this "I think what the hospital can do for me to remember my follow-up date is to call". One nurse argued that reminder phone calls alone might not even be the solution, "in Kumba, there are clients I have called about three times. Then you find out, is your problem finances, she says no, then she says, I am coming, and then she does not come ...". However, women living with HIV appear to be more conscious of their appointment as one of them said, "I do not wait for them to call me because I already prepare myself that every year in November, I will check myself".

Pam also brought up the idea of generating automatic SMS, "we can really have something that will be systematic and automatic too so that it will be easier. Maybe, just messages sent to clients". Another nurse added, "I think as a program, to strengthen this follow-up, if we can organize a door to door follow-up on these women, go there and meet them in person, I think they will come back".

### Fees reduction

One of the women thought that reducing or eliminating fees for services will have a great impact. "... with the standard of living ... If they can reduce or put it at zero, I think most women will come". One nurse also recommended, "For the follow-up, we can go a long way to maybe do the screening at a lower cost". Maggie is in line with this, "For subsequent visits for me, I don't know, but I think a drop will help and it will be less heavy for the patient". A nurse proposed general fee reduction. "I think that if we also keep our cost at a minimal level where all clients can afford, it breaks the barrier ... though sustainability is also important".

### Assisting poorer women

A nurse suggested, "we could source for funds to sponsor these women who lack the finances to come for their treatment".

### Souvenirs

A nurse made this proposal, "maybe having something like a souvenir to show that they came to the clinic. In some places,

we have seen them give T-shirts, Fabrics, just to show that you came to the clinic”.

## Discussion

This study examined the barriers of follow-up among women with cervical precancer in Cameroon. The findings reveal that women with cervical precancer have a number of challenges adhering to recommended follow-up schedule. The barriers that emerged, clinic, personal, and social barriers, have been reported by other studies.<sup>17,19,22,27</sup>

Fear is a theme that has cut across studies exploring barriers to follow-up among women with cervical precancer.<sup>17,19</sup> In a systematic literature review on follow-up of women with cervical precancer, Mckee found that the most outstanding barrier to follow-up was fear.<sup>28</sup> The fear includes the fear of pain, disease, treatment, or the unknown. Sometimes, the treatment equipment itself may appear frightful, including the sounds they produce. However, treatment is very safe and almost painless, and treatment complications are rare.<sup>23</sup> So, the nurses are required to conduct adequate counseling to alley the clients' fears. Other barriers that emerged in the Mckee's literature review include lack of health insurance, burden with child care, transportation cost, forgetfulness, and administrative problems, such as incorrect addresses and telephone numbers.<sup>28</sup> Such barriers might be even more prevalent in very poor countries like Cameroon.

In a qualitative study examining factors of cervical precancer follow-up among women living with HIV, Abercrombie found five major barriers which were fear, the asymptomatic nature of the cervical precancer, life circumstances, women's perspectives on health, and care providers' attitude.<sup>29</sup> The asymptomatic nature of the condition contributes to forgetfulness of the appointment as stated by Mckee.<sup>28</sup>

Precancerous lesions of the cervix are 100% asymptomatic.<sup>30</sup> Because a woman does not feel the lesion nor sees it, it is easier for her to forget about it, thus defaulting her follow-up appointments. In addition, post-treatment appointments are usually given at 1 year. Such long appointments are associated with high rates of forgetfulness.<sup>31,32</sup> Reminder phone calls, which emerged as a solution to this barrier, have been found to be effective.<sup>33,34</sup> In a randomized controlled trial of 433 women with cervical precancer, the intervention group (n=216) that had reminder phone calls had statistically significant higher adherence rates than the control group (n=217) that had no reminder phone calls (OR =1.50; 95% CI =1.04–2.17).<sup>35</sup> In addition, peer counseling has been found to improve adherence to follow-up.<sup>31</sup> Programs could

consider training some of these women and use them for peer counseling, tracing, and navigation.

As reported by Abercrombie, providers' attitude has a significant role to play in adherence to follow-up among women with cervical precancer.<sup>28</sup> This had been demonstrated in earlier studies of the early 90s.<sup>36</sup> For instance, if the providers are unfriendly or unprofessional, women might be reluctant in revisiting the clinic.<sup>22</sup> The sex of the provider could also be of importance. A study of the late 90s among Mexican women with cervical precancer demonstrated that having male providers create a barrier to follow-up.<sup>37</sup> However, this trend may have changed over the years as more and more women care about the competence of the provider rather than the sex.<sup>38</sup> Nevertheless, women generally prefer to be attended to by female providers.<sup>39</sup> In our study, participants did not raise any issues with staff attitude or sex of the provider.

Faith healing emerged under the subthemes of alternative treatment. A woman can easily admit faith healing when she is not experiencing any pain or discomfort from the condition.<sup>40</sup> Whereas, if symptoms are bothersome as in the case of ICC, the patient will admit the healing only upon remission of symptoms. When a spiritual leader declares a woman with cervical precancer healed, she may be easily convinced due to the asymptomatic nature of the condition. Most often, these spiritual leaders prevent the women from returning to the clinic for control. Because faith healing is usually free of charge, women who are poorer are more likely to seek it.

Similarly, some women who are richer may prefer to confirm their precancer diagnosis or get a second opinion from other hospitals before proceeding with their treatment. Sometimes, they meet with providers who do not have a mastery of the condition and who ends up giving them misleading advice or treatment like the woman who was asked to take Gardasil as treatment for her precancer by a gynecologist. Gardasil is a preventive vaccine and not a curative treatment.<sup>41</sup> Since women have trust in gynecologists in issues related to women's health, they are likely to consider their opinions. It is therefore paramount for all gynecologists to receive training on diagnosis and management of cervical precancer.

Level of education has a role to play as one of the nurses stated. This has also been reported in literature.<sup>19,42,43</sup> Lower levels of education are usually associated with unemployment and lower paying jobs. Coupled with the fact that adherence to follow-up entails good comprehension of the condition, these women become vulnerable to poor adherence to

follow-up. It could be challenging for such women to keep spending family resources on follow-up when they feel quite healthy but have other urgent financial needs to attend to.

The role of the male partner is paramount. The support of the partner is needed to enable the woman to go through her treatment and adhere to the follow-up schedule. This is because the partner, in most cases, is the one to provide the funds. Furthermore, immediate post-treatment requires a 1-month abstinence,<sup>30</sup> which requires full participation of the partner. If he does not understand the importance of the treatment, he might not accept it. This could even be more problematic to newer couples where coitus is likely to be more frequent. Therefore, community education on cervical cancer prevention should target not only the women but should include the men as well.

Women living with HIV appear to adhere better to follow-up recommendations. One of them said "... every year in November, I will check myself" and another said, "when I come every April ...". This is probably because women living with HIV are more conscious of their health knowing that they have a compromised immune system. In addition, these women have several hospital appointments for drug refills, laboratory tests, and clinical examinations. Thus, their frequent visits to the hospital give them the opportunity to recall and attend to other clinic appointments. Moreover, if the woman has the understanding that cervical precancer progresses rapidly in women living with HIV and also that post-treatment recurrence rates are high among them,<sup>29</sup> she would be more likely to adhere to the follow-up plan.

Cost emerged as one of the major barriers. The cost that the woman bears includes her transport fare, time, and even lodging in some cases. These extra costs are never taken into consideration when setting up clinic fees. Therefore, women who live far away from the clinics have higher cost to bear with consequential health disparity. Women who were initially attended to in mobile clinics in remote areas might have the highest challenge in getting follow-up services due to the cost involved. In WHP, women are permitted to receive services and pay later in installment at their convenience. However, those who receive services on credit and fails to pay might not return for follow-up due to guilt.

## Limitations

This study had some limitations. First, the women who were invited for the interview were those in urban cities living around the clinics. These women do not have the same challenges as women who live hundreds of miles away from the clinics and those who were initially screened

in mobile clinics. The challenges faced by women in urban areas may not be as severe as the challenges faced by rural women. The study was originally intended to take place in both rural and urban areas as well as in both English-speaking and French-speaking regions, but because of the escalation of sociopolitical crisis in the English-speaking regions at the time of the study, the study became limited to urban cities in the French-speaking regions of Cameroon. All the women who were invited for the study were those who lived within the city to minimize the cost of transportation fare reimbursement. These women might not have the same challenges as those who live out of the city and are required to travel very long distances to the clinic. Finally, the sample size was small and saturation was not attained.

## Conclusion

This study was a qualitative pilot study that explored barriers to follow-up among women with cervical precancer in Cameroon. In-depth individual interviews were conducted for eight HIV-infected and -uninfected women with cervical precancer, and two focus groups were held with 19 nurses who work full time in the cervical cancer prevention program. Four themes emerged from the interviews: clinic, personal, and social barriers, and strategies to overcome them. The theme on strategies carried recommendations to improve follow-up which include fee reduction, reminder phone calls, use of souvenirs, and assisting poorer women. No major difference was noted between HIV-infected and HIV-uninfected women in terms of the themes that emerged in the study.

The same study needs to be conducted among women in rural areas and especially among women who were initially screened in mobile clinics in remote villages to find out what challenges are peculiar to them.

## Acknowledgments

This study was funded by a seed grant from the University of Massachusetts Boston Office of Global Programs and donations from Drs Thomas and Edith Welty, Associate Directors of AIDS Care and Prevention Program of the CBCHS.

## Disclosure

The authors report no conflicts of interest in this work.

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