

Assessing Access to Comprehensive HIV Prevention Services for Men Who Have Sex with Men and Female Sex Workers in the Bamenda Health District

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Abstract

Having access to quality health and comprehensive HIV/AIDS prevention services is a human right for everyone irrespective of age, sex, gender and sexual orientation. Making HIV prevention services accessible to key populations with minimal social, legal and behavioral barriers will go a long way to curb the incidence among these groups, improve health outcomes as well as reduce HIV prevalence in the general population. Despite the importance of increasing access to preventive services most studies have focused on access to treatment at the detriment of access to prevention. The main objective of this research was to investigate the determinants of access to HIV prevention services for female sex workers and men having sex with men in the Bamenda Health district. Specifically, the study aimed at investigating the drivers of non-accessibility to HIV prevention services for Men having sex with Men and Female sex workers and secondly, to scrutinize the drivers of non-accessibility to HIV prevention services for Men having sex with Men and Female sex workers in the Bamenda Health district. In order to obtain data for the study, 373 and 199 questionnaires were administered to assess prevention service access to FSW and MSM respectively. Data was analyzed using descriptive statistics, Chi-square, and the Bivariate and Multivariate regressions. The descriptive statistics showed that only 29.2% and 55.8% of FSW and MSM who participated in the study have access to comprehensive HIV prevention services respectively. Significant barriers such as, long geographic distance, non-awareness of where to get services, un-favorable policy and law as well as inconsistency in condom use were all factors limiting access to prevention services. Demographic factors like occupation and monthly income also proved to be significant in access to prevention services for FSW. Thus for access to be effective, actors should take these key issues into consideration.

Keywords: Access to HIV/AIDS services; Key populations; Prevention

Introduction

Being able to attain an appreciable quality of health is the fundamental right of everyone. The Universal declaration of human rights in its Article 25(1) spells out that

“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control” (UN General Assembly, 1984).

It is on this foundation that in 2000, the Millennium Development Goals (MDGs) goal number 6 was set aside to combat HIV, Malaria and other diseases, and its target 6B was to ensure that by 2010, there would be universal access to treatment for HIV/AIDS for all those who need it. Building on the successes of the MDGs, the sustainable development goals were introduced in September 2015 with vision to have a world with equitable and universal access to quality education at all levels, health care, social protection, universal respect for human rights and human dignity, the rule of law, justice, equality and non-discrimination [1]. Under the banner of the Sustainable development goal number 3, UNAIDS laid out 10 targets for 2016-2021 strategy. The 6th is that 90% of key populations have access to combination services, while the 8th is that 90% of people living with HIV, at risk of and affected by HIV report no discrimination especially in health, education and workplace [2].

Key populations are a group of persons who due to their sexual behaviors, are exposed to HIV. According to the World Health organization (2016), Key populations are groups of persons who due

to some risk behaviors are at increased risk of HIV irrespective of the epidemic type or local context. These persons are faced with legal and social issues the increase their vulnerability. Some groups considered as key populations are men having sex with men, people injecting drugs, people in prison and other closed settings, sex workers and transgender people (WHO, 2016) [3]. In same light, UNAIDS revealed that more than 90% of new infections in Central Asia, Europe, North America, the middle East and north Africa in 2014 were among these persons and their sex partners who accounted for 45% of new infections worldwide [4,5]. From a meta-analysis carried out between 2007 and 2011 amongst 99,878 female sex workers in 50 countries. The overall prevalence was 11.8%-12% with variations in regions. This study also showed that, in 26 countries with medium and high background HIV prevalence, 30.7% of female sex workers were positive. The highest prevalence of HIV was in sub-Saharan Africa (36.9%), followed by Eastern Europe (10.9%), Latin America and the Caribbean (6.1%), and Asia (5.2%); the lowest rate was in the Middle East and North Africa (1.7%) [1]. For Men having Sex with Men (MSM), 2016 regional estimates indicated that, HIV prevalence among MSM ranged from 3.0% in the Middle East

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and North Africa to 25.4% in the Caribbean's, Kenya 20%, cote d'ivoire 18% while in other countries like china and Thailand the incidence is reported to be on a rise [4]. MSM accounted for 12% of new infections in 2015 with 6% in Sub-Saharan Africa and 22 % in regions outside Africa [6].

Cameroon where the study area is located is presently reported to have a mixed generalized and concentrated epidemic [7]. The first case of HIV was diagnosed in 1985, and it progressively grew from 0.5% in 1987 to 11.8% in 2000, and only dropped to 5.5% in 2004. The last Demographic and Health survey found out that in 2011, the prevalence in general population for ages 15-49 years is 4.3% [8]. Despite this decrease in general population in 2011, a study in 2011 gave an estimated prevalence among MSM at 25.5% in Douala and 44.4% in Yaoundé [9]. According to the Country Operational Plan (2017), the estimated population size of MSM in Cameroon is 66,842 with HIV prevalence of 37.2%, in 2012, while adult prevalence was 4.5% HIV prevalence among female sex workers remained high at 36% [7]. Estimated FSW population size in 2016 was 113,580 with overall prevalence of 36.5% [10-12].

Though faced with the high burden of HIV as highlighted above, key populations are usually difficult to reach with prevention services especially for HIV testing. It is based on this that the World Health Organization (2016) stated that there is clear epidemiological rationale for HIV programs to focus on key populations. WHO (2016) also noted that globally, the rate at which these populations are accessing safe, effective and quality HIV and AIDS services are extremely low because of behavioral, legal and social issues like stigma and discrimination, societal discrimination.. Hence HIV services for key populations remain inadequate leading to increased incidence while that in general population is either stabilizing or declining [3].

HIV prevention through sensitization, condom use and especially HIV testing is the entry point in the HIV Continuum of care. According to UNAIDS targets 2020, 90% of positive FSW and MSM populations should know their status [4]. The Global Forum on MSM and HIV in 2012 conducted an online focus group survey with 5,779 MSM from 165 countries on access to HIV prevention for MSM. The study revealed a low percentage of respondent reporting access to condoms, lubricants and HIV testing at about 37%, 20% and 37% respectively. Barriers identified in the study were homophobia, provider stigma, and negative consequences to out-ness which lead to extortion, blackmail, and violence. This study also did a comparative analysis between access in low income countries and high income countries and noted low access across the continuum for low income countries while high income countries had high access across the continuum [13]. Access to prevention services especially knowledge on HIV has been reported by some studies to be superficial. A cross sectional study carried out in Takoradi-Ghana with 121 FSW unveiled that awareness of HIV, condom use and knowledge of modes of transmission among FSW was highly reported. However, comprehensive knowledge on HIV was relatively low at 26.45% [14]. A cross sectional surveillance study in 2011 on HIV prevalence and factors associated with HIV infection with 272 and 239 MSM in Douala and Yaoundé respectively, showed that 64.1% reported inconsistent condom use with regular male partners and 48.5% with casual male and female partners as well as inconsistent use of condom-compatible lubricants (26.3%) [9]. As concerns FSW, another study also saw that 40.8% FSW reported using male condoms every time they had sex with clients, while due to more money offered, half reported sex without condoms in the past week [15]. The World Bank still revealed that while FSW are at increased HIV vulnerability,

HIV services are still limited with only 43% of hotspots reached with HIV prevention services in Cameroon.

The government of Cameroon through the ministry of public health and other international organizations (Global Fund for AIDS, Tuberculosis and Malaria (GFATM) PEPFAR/USAID, WHO, UNICEF, World Bank, CDC, UNESCO, UNDP, GTZ, CARE Cameroon, Catholic relief services and many others) have been combating HIV since 1986 through the development and implementation of several National Strategic Plans (NSP). The current NSP 2018-2020 has objectives to; reduce HIV related morbidity and mortality as well as the socio-economic impact of HIV (NSP-2018-2020). The plan is expected to reduce new HIV infections by 60%, reduce related deaths by 60%, improve quality of life by 50%, and increase governance on the national response. Responding to the HIV health needs of key populations in Cameroon started in 2011 with a project called the HAPP project sponsored by the United States Agency for International Development (USAID) through Care Cameroon. Key focus of this project was prevention of HIV among Female sex workers and Men having Sex with Men in 5 regions of Cameroon. Based on need to scale up interventions with key populations, the second phase of the project known as "Continuum of Prevention, Care and Treatment of HIV with most at risk populations in Cameroon", was extended from 2014-2019. The program under the banner of the National strategic plan for HIV response also aims at reducing HIV/STI infections and related morbidity and mortality, and to ease the impact of HIV on the socioeconomic development of Cameroon, by improving the Government's and civil society technical capacity to implement evidence based prevention, care and treatment for key populations. The Cameroon Medical Women Association is the implementing partner targeting Female sex workers, while Affirmative Action Cameroon is the implementing partner targeting Men having sex with men in the Bamenda health district. Health facilities such as the Baptist Health Board provide HIV prevention, treatment and Care services as well as rehabilitation to female sex workers in Bamenda.

Despite the considerable efforts to provide interventions that can enhance service uptake by key populations and reduce the epidemic, the HIV prevalence among key populations in Cameroon still remains high while access to services is low. Adult HIV prevalence in the general population has fallen consistently from 7.7% in 1999 to 4.5% in 2012, but has remained high among FSW and MSM from 25%-36% for FSW and 36% for MSM during the same time period [11]. Bamenda health district where several interventions are being carried out has an estimated FSW population of 2,842. While the region had an adult prevalence of 6.3%, FSW had an estimated prevalence of 32.8% and 3.8% for MSM. With this high prevalence of HIV among FSW and MSM, it is unfortunately reported that coverage of HIV related services for key populations in Cameroon is limited. For instance, only 49.6% of HIV positive FSW and 29.0% of positive MSM were initiated on Antiretroviral Therapy (ART) as compared to 70% for general population in 2016 [11].

To curb this high prevalence and negative impact of HIV on FSW and MSM as well as bringing equilibrium in service uptake for all with no discrimination, HIV services should be made available, accessible and acceptable for key populations. This should be based on the principles of medical ethics, no stigma and discrimination and the right to health [12]. Health care workers need to provide sensitive, appropriate, non-judgmental and non-discriminatory services to key populations [12]. To attain the UNAIDS targets for 2020, 90% of HIV positive FSW and MSM are supposed to know their HIV status which is primary prevention. On the other hand, FSW and MSM are supposed to understand their risk, acquire knowledge, skills and

behavioral interventions to help them reduce risky behaviors [12]. From the stated analysis, one can therefore ask that, what are the barriers to accessing HIV prevention services in the Bamenda Health district? It will therefore be imperative to do an Assessment on Access to Comprehensive HIV prevention for Key Populations in the Bamenda Health district.

Objective of the Study

Main objective

On the basis of the background and statement of the problem, the major objective of this research is:

To investigate the determinants of access to HIV prevention for FSW and MSM in the Bamenda Health district.

Specific objectives

From the main objective, the specific objectives are:

1. To determine from the perspectives of Men having sex with Men and Female sex workers the barriers to accessing HIV prevention services.
2. To investigate the drivers of non-accessibility to HIV prevention services for Men having sex with Men and Female sex workers.

The rest of the paper is arranged in four sections. Section two focuses on literature review while section 3 deals with the methodology of the research. Section four presents the findings and interpretation of results with section five are rounding up with summary of findings, conclusion, and policy implication.

Empirical Literature

This part of the literature review focuses on debates, controversies related to two main research objectives of this work. It will therefore be broken down in various sub sections as per the research objectives. Within each objective discussed, the variables or factors related to each objective as highlighted by recent literature or studies are discussed.

Many researchers have over the years attempted to determine the drivers of non-accessibility to HIV prevention services for key populations. Prominent among these researchers is where he looked at the burden of HIV among female sex workers in low income and middle income countries through a systematic review and meta-analysis from January 1, 2007 and June 25th 2011 [5]. He found out that from 102 articles representing 99,878 female sex workers in 50 countries, HIV prevalence was 11.8%, pooled odds ratio for HIV infection of 13.5%, with wide interregional ranges in the pooled HIV prevalence and odds ratios for HIV infection. In 26 countries with medium and high background HIV prevalence 30.7% of sex workers were HIV positive with odd ratios of 11.6%. Based on these findings, the study noted that HIV is disproportionately high among female sex workers and suggested a need to scale up access to quality HIV prevention considering the legal and policy environment which sex workers operate, taking actions to address the important role of stigma, discrimination and violence targeting FSW [5]. Similarly, another worldwide online survey supporting Baral's study also looked at associations between access to HIV services and individual-level perceived sexual stigma, country level criminalization of homosexuality and country level investment in HIV service for MSM. With 3,340 MSM from 115 countries participants were categorized according to criminalization of homosexuality policy and investment in HIV services targeting MSM. This study showed

that Lower access to condoms, lubricants, and HIV testing were each linked with greater perceived sexual stigma, existence of homosexuality criminalization policies, and less investment in HIV services [15,16]. Though findings from Baral et al. [5], and Arreola et al. [15] portrayed how the policy and legal environment affect access, they failed to look at logistical, economic, behavioral as well as demographic factors that may affect access to HIV prevention in these global analyses.

Shamanesh et al. [16] equally looked at the impact of attempts to abolish sex work in Baina, India based on a court order in 2003, to do away with brothels in a red light district, and the keep sex workers in mental asylums. They discovered how sex workers were scattered, loss of identity, reduced negotiating power, increasing competition, leading to a more hostile environment, no community support, police raids all of which led to limiting access to HIV prevention tools and health care. This action and resulting effect proved that, when the environment is not friendly to key populations their access to basic prevention services is hampered with. Still in support to the fact that socio cultural factors serve as barriers to access HIV prevention services was a study in the small Caribbean nation of Grenada. This study with aim to explore the socio-cultural factors that influenced vulnerability associated with HIV infection for 47 men who have sex with men aged 16-42 with data regarding homophobia, stigma and discrimination, sexual behaviors, HIV/AIDS and STIs revealed that, MSM who took part in a formal HIV educational program were more significantly more likely to get tested for HIV every 10-12 months than non-participants.

While some scholars focused only on socio-cultural factors as highlighted above, other scholars have seen in Africa that, lack of knowledge of where to get HIV prevention services, long distance to services, high cost, as well as negative community attitudes play significant roles in access to HIV prevention services. A study was done with the Bridging the Gaps Program partners using qualitative operational research with 3 key populations in Kenya between October 2014 and August 2015. Results proved that though HIV prevention services like peer educators for outreach sensitization, HIV testing, condoms and lubricants exist, there were still a number of constraints like lack of knowledge about services, distance to services, cost, and negative community attitudes. Behavioral barriers like fear of HIV positive status fear of disclosure and in accurate self-evaluation of susceptible risk, feeling of exclusion and fear of trust in MSM led organization still served as barriers to accessing HIV prevention services. Proximity of services was also a push and constrain factor to some female sex. However, those who felt stigmatized in nearby centers preferred to overcome long distance and time to visit centers far off so that they could not be identified [17]. There is still substantial evidence that distance is a barrier to accessing prevention services. Shayo [18] in his research on the perspective and experiences of young key populations on provision of services for MSM and FSW in Tanzania also unveiled some significant barriers to access to HIV prevention. A Qualitative method was used to explore in-depth information about the community Based HIV care program for MSM and FSW. Health service providers were purposively sampled. Eligibility criteria for these interviews included being aged 18 years or older. His participants revealed that distance served as major barrier to accessing prevention services as not all districts were reached compelling them to travel long distances. Another cross sectional descriptive research in Nairobi with brothel, street and bar based FSW using purposive interviews with a sample size of 382 respondents revealed that long walking distance from comprehensive health centers influenced the access and utilization of HIV prevention services [19]. The findings of Kimani [19] and Ambrose [18] in regards to walking distance is somehow

contradictory to the Bridging the gap findings where due to stigma and fear of being seen in a clinic participants preferred overcoming distance to visit far off services. This shows that, distance still stands as barrier but when issues of stigma and discrimination come to play, key populations overcome the barrier of long distance in order to access services from safe, confidential and non-judgmental facilities. This study gives this research work clear barriers to use in measuring access to HIV prevention services for key populations.

A key barrier to accessing HIV prevention services for key populations in Cameroon is stigma and discrimination fueled by criminalization of sex work and homosexuality as highlighted by a recent gender analysis in Cameroon by PEPFAR (2016). Using desk review, field based interviews and focus group discussion with 16 MSM, 35 FSW, and 45 CBO representatives providers services to MSM and FSW in Douala, Bamenda and Yaoundé. This analysis revealed that FSW and MSM experience stigma and discrimination from family, community members and health care providers which greatly increases their risk of violence, infection and their desire to access health care services and get tested for HIV [20-22]. These findings also serve as a guide to the type of barriers to use in measuring access to HIV prevention services for key populations in the Bamenda Health district.

Methodology

This section seeks to discuss the model specifications for prevention access, description of variables in the models, study design, the study population for this work, and inclusion criteria for target population. It further presents the sample size for both populations, and sampling techniques of the study, pre-testing, the data collection instruments, the analytical approach, validation of data for its acceptance as well as ethical consideration in regards to safeguarding participant's information and authorization for the study.

Model specification

The model specification for prevention access is the concise description of how the variables relate to each other. The independent variables for prevention access include behavioral, stigma and discrimination, awareness of available services, geographic distance from services, law and policy environment, with the dependent variable being access to HIV prevention services.

In order to investigate the objectives of this study as highlighted in section one, the following general notation was used,

$$PA=f(B+S+A+G+L) \quad (1)$$

Based on this general notation, the econometric specification is as follows:

$$PA=\alpha_0+\alpha_1B+\alpha_2SD+\alpha_3A+\alpha_4G+\alpha_5L+\varepsilon \quad (2)$$

Where PA stand for prevention access, B stands for behavior, SD stands for stigma and discrimination, A stands for awareness of available services, G stands for geographical distance from services, and L stands for Law and Policy environment. α_0 and ε represent the constant and error terms respectively represents $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5$ coefficients associated to the variables. Due to the nature of the dependent variable, the Ordinary Least Square (OLS) will produce bias estimate. In this light eqn. (2) is run using the Bivariate and Multivariate regressions. This methodology will likely provide robust estimates that can drive policy implications than the Pearson correlation index used by other authors in the literature.

Description of variables in model

As concerns prevention access the researcher will describe how the various variables as highlighted above will be measured.

This study assumes that when there is no stigma and discrimination there is access to HIV prevention services and vice versa. The extent to which stigma and discrimination affects HIV prevention services is rated from 1-5 in line with each source of stigma and discrimination which could be self, peer, family, authorities, and health care providers. A score between 1-3 means stigma and discrimination does not affect access to prevention while a score of 4-5 means stigma and discrimination reduces access to prevention.

The study also assumes that when there is no awareness about available services, there will be not access. On the other hand, when there is awareness there is access to HIV prevention services. If a participant responds yes, it means he or she is aware and thus has access to prevention services, while a no responds indicates that he or she is not aware and thus has no access to HIV prevention services. Level of awareness is also rated 1-5. A score between 1-3 shows that the level of awareness reduces access to HIV prevention services while a score of 4-5 means the level of awareness is high and thus increases access to HIV prevention services.

Geographic distance refers to nearness to HIV prevention services. It is rated from 1-4. A score of 1 means the HIV prevention service is close by, and doesn't affect access to HIV prevention service while a score of 2-4 means the prevention service is either far, very far or too far and thus reduces access to HIV prevention services.

The researcher assumes that if geographic distance is short, high level of awareness and limited or no stigma and discrimination against key populations, there will be a barrier to access to HIV prevention services while long geographic distance, low awareness and increased stigma and discrimination will increase barriers in HIV prevention services for key populations.

Presentation and Discussion of Empirical Findings

The purpose of this study is to understand the determinants of access to HIV prevention for FSW and MSM in the Bamenda Health district. This section focuses on data analysis, interpretation and presentation. After identifying the problem of study in the introduction, existing literature was reviewed in section two. In section three, the methods that the study used in collecting data was explained. This section presents the analysis and findings of the study as highlighted in the research methodology. The results are presented on the extent to which behavioral, stigma and discrimination, awareness of available services, geographic distance, and law and policy environment determine access to HIV prevention services. The questionnaire which was the research instrument was developed following the objectives of the study. Descriptive statistics and regressions were used in analyzing data on the determinants of access to HIV prevention services for FSW and MSM.

Presentation of demographic findings

This section is concerned with outlining the socio demographic characteristics of respondents in terms of the distribution of respondent by age, level of education, occupation and average income.

Distribution of respondents by age: The majority (42.9%) of FSWs were of ages 26-35 years old. For MSM, participants of ages 19-25 (46.2%) and 26-35 (42.2) respectively were most represented (Table 1).

It shows that the bulk of key populations are between the ages 19-35 years that is the youthful population. This is also the age range with high HIV prevalence in Cameroon.

Distribution of respondents by educational level: Over 55.6% (49.5+6.1) of FSW and 67.9% (43.8+24.1) of MSM had attended secondary and higher education respectively. This indicates that key populations that participated in the study are educated meaning their responses can't be judged, hence making the result of this study reliable (Table 1).

Distribution of respondents by occupation: As concerns occupation, the majority of FSWs (66.6%) were carrying out sex work only whereas for MSM, the majority (43.7%) was students. While over two third (68.9%) of FSW were earning <50,000F CFA/month, an almost equal proportion of MSM (73.4) were earning zero francs CFA (Table 1). This shows that while some FSW make a living only from sex work as a profession others are engaged in other income generating activities. The result shows that MSM practice is not done to earn a living, but rather a sexual orientation.

Presentation of other important findings

This section presents other important findings related to access to HIV prevention services for FSW and MSM such as frequency and place of seeking HIV prevention services, and reasons for seeking services in such places.

Frequency and place of seeking HIV prevention services: Over 92.5% of FSW and 80.9% MSM respectively had benefitted from free HIV prevention services, with over 43.2% of the participants benefitting all prevention services (HIV prevention education, condom/lubricant,

Variables	Frequency (373)	FSW		MSM	
		Percentages (%)	Frequency (199)	Percentages (%)	
Age range (years)					
15-18	03	0.8	11	5.5	
19-25	129	34.6	92	46.2	
26-35	160	42.9	84	42.2	
36-45	72	19.3	12	6.0	
46-55	05	2.4	0	0.0	
Educational Status					
None/Primary	44	44.4	64	32.1	
Secondary	49	49.5	87	43.8	
Tertiary	6	6.1	48	24.1	
Occupation					
Farming	5	1.3	8	4.0	
Housewife	11	2.9	0	0.0	
Student	30	8.0	87	43.7	
Petit trading	39	10.5	47	23.6	
Hairdresser/ Tailor	39	10.5	27	13.6	
Employed	1	0.3	27	13.6	
Sex Work only	248	66.5	9	4.5	
Average income/month					
Nothing	1	0.3	146	73.4	
<50000	257	68.9	39	19.6	
50-100,000	103	27.6	14	7.0	
100-200,000	10	2.7	0	0.0	
>200,000	2	0.5	0	0.0	

Table 1: Socio-demographic characteristics of participants.

HIV/STI testing/screening). The majority of FSW (41.0%) and MSM (47.2%) respectively have been going for these services occasionally, with the major point of sought of these services are private clinics [56.8% (FSW) and 54.3% (MSM)], followed by drop-in centers [24.2% (FSW) and 31.2% (MSM)]. The major reasons to sought prevention services in these places were; FSWs [privacy (33.3%)] and MSM [privacy (41.2%) and confidentiality (41.2%)] (Table 2).

Presentation of findings based on research objective one

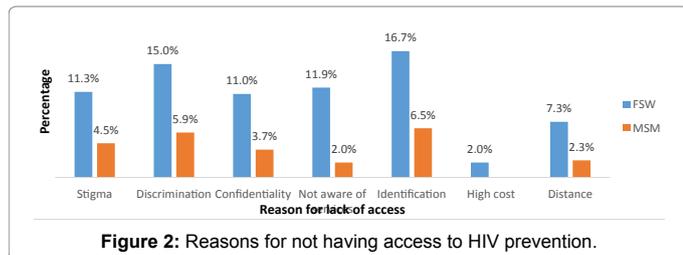
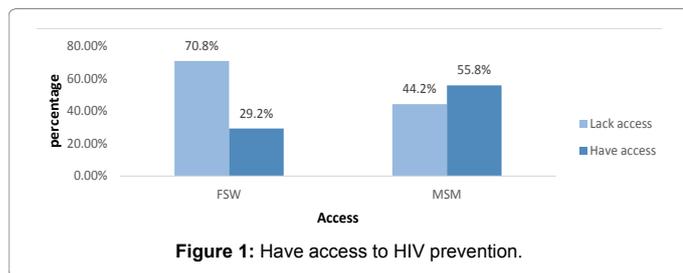
The first objective of this study was to determine from the perspectives of Men having sex with Men and Female sex workers the barriers to accessing HIV prevention services in the Bamenda Health district. To accomplish this researcher raised some questions to FSW and MSM related to their perspective on access to HIV treatment services. Results obtained are presented below following each question.

Access to HIV prevention services among FSW/MSM: Just over a third (29.2%) of FSWs and over half (55.8) of MSM believe they had access to HIV prevention services just like anyone in the general population (Figure 1). The major reasons advanced for lack of access were; fear of identification [FSW (16.7%), MSM (6.5%)], discrimination [FSW (15.0%), MSM (5.9%)], stigma [FSW (11.3%), MSM (4.5%)] (Figure 2).

Stigma/Discrimination on access to HIV prevention services: From the Chi-square analysis, self-stigma [FSWs (X²=38.89, P=0.001), MSMs (X²=16.52, P=0.002)], stigma from peers [FSWs (X²=14.92,

Variables	FSWs		MSMs	
	Frequency (373)	Percentages (%)	Frequency (199)	Percentage (%)
Benefited free HIV prevention services?				
Yes	345	92.5	162	80.9
No	28	7.5	38	19.1
If Yes above, kind of prevention services				
HIV prevention education	126	33.8	34	17.1
Condoms/Lubricant	39	10.5	25	12.6
HIV/STI testing/ screening	21	5.6	8	4.0
Received more than two of the above	162	43.2	94	47.2
Frequency of seeking HIV prevention services?				
Always	8	2.1	9	4.5
Most of the time	85	22.8	43	21.6
Occasionally	153	41.0	94	47.2
Rarely	110	29.5	40	20.1
Never	17	4.6	13	6.5
Place where HIV prevention services are sought				
Public	25	6.7	29	14.5
Private	212	56.8	108	54.3
DIC	91	24.4	62	31.2
Drug store	45	12.5	0	0.0
Reasons for choice of Health Facility				
Affordability	35	9.4	24	12.1
Nearness	51	13.7	16	8.0
Non-discrimination	69	18.5	36	18.1
Friendliness	36	9.7	43	21.6
Confidentiality	36	9.7	84	41.2
Privacy	124	33.3	82	41.2

Table 2: Frequency and place of seeking HIV prevention services.



P=0.001), MSMs (X²=13.30, P=0.010)], stigma at family level [FSWs (X²=15.54, P=0.004)], stigma from authorities [FSWs (X²=21.81, P=0.002)], stigma from health personnel [FSWs (X²=19.66, P=0.006)] and stigma from other external factors FSWs (X²=38.89, P=0.001)] were factors that hinder access to HIV prevention services respectively (Table 3).

Aware of facilities/organizations giving out HIV prevention services? Over two third of both FSWs (72.9%) and MSMs (71.9%) were aware of where to seek HIV prevention services (Figure 3). Of the two third who were aware, majority [FSW (25.1%), MSM (21.9)] pointed out drop-in centers as the main facility offering HIV prevention services (Figure 4).

Geographic distance from HIV prevention services

As concerns distance from point of receiving HIV prevention services, over half (58.4%) of FSWs and a third (26.1%) of MSM lived further away from the point of receiving HIV prevention services. In spite of the distance, majority of FSW (86.1%) and over half (58.8%) of MSM accepted to have received this services through mobile prevention. However, only 16.9% of FSW and 36.2% of MSM benefitted from these services any time they want (Table 4).

Sexual behavior and HIV prevention services

From the Table 2 below, just 24.7% of FSW and a third (35.7%) of MSM have been using condoms and or lubricants consistently. As regards condom use with major partners, just a quarter (25.5%) of FSW and close to two third (64.8%) of MSM respectively used condoms with their major partners. On the other hand, over two third (73.2%) of FSW and just 17.6% of MSM use condoms regularly with their casual partners (Table 5).

Law and Policy

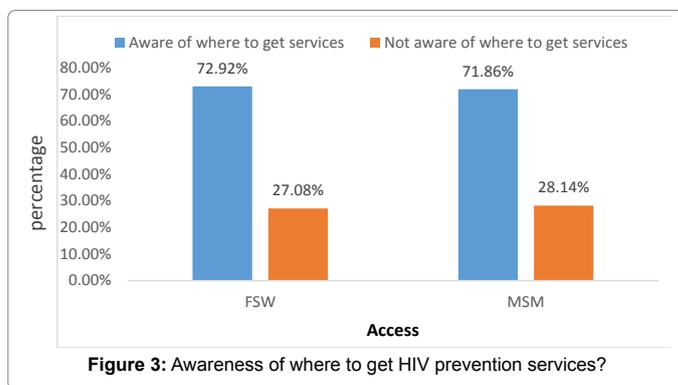
Just 3.2% of FSWs and 13.1% of MSMs accepted to know a law in Cameroon that prohibits that sexual practices/orientation. However, over 56.6% of FSWs and 27.6% of MSM testify to have been penalized due to their sexual orientation (Table 6).

Socio-demographic factors affecting access to HIV prevention services

Tables 7 and 8 reveal the unadjusted and adjusted logistic regression analysis of socio-demographic and access to HIV prevention services

No Extend	Little Extend	Moderate Extend	Great Extend	Very great Extend	X ²	P-value
Yourself						
38/77 (49.4)	30/72 (41.7)	16/85 (18.3)	15/73 (20.6)	10/66	38.89	0.001
50/89 (56.2)	24/35 (68.6)	19/31 (61.3)	12/17 (70.6)	(15.2) 6/27 (22.2)	16.52	0.002
Your Peers						
33/50 (66.0)	21/98 (21.4)	31/105 (29.5)	12/56 (21.4)	12/64 (18.8)	14.92	0.001
31/45 (68.9)	35/58 (60.3)	23/39 (58.9)	15/31 (48.4)	7/26 (26.9)	13.30	0.010
Family						
33/72 (45.8)	16/66 (24.2)	12/44 (27.3)	20/58 (34.5)	28/133 (21.1)	15.54	0.004
38/66 (63.3)	31/56 (55.4)	21/38 (55.3)	9/20 (45.0)	12/25 (48.0)	2.90	0.566
Authorities						
44/98 (44.9)	36/114 (31.5)	17/90 (18.9)	8/48 (16.7)	4/23 (17.4)	21.81	0.002
49/77 (63.6)	15/30 (50.0)	17/31 (54.8)	16/27 (59.3)	14/34 (41.2)	5.43	0.247
Health workers						
29/55 (52.7)	23/80 (28.8)	26/90 (28.9)	18/89 (20.2)	13/59	19.66	0.006
26/58 (44.8)	16/30 (53.3)	27/40 (67.3)	21/35 (60.0)	(22.1) 21/36 (58.3)	5.52	0.243
Others						
40/96 (41.7)	22/88 (25.0)	13/79 (16.5)	24/74 (32.4)	10/36	14.58	0.006
49/82 (58.5)	28/42 (66.7)	9/18 (50.0)	10/20 (50.0)	(27.8) 16/37 (43.2)	5.10	0.273

Table 3: Stigma on access to HIV prevention services.

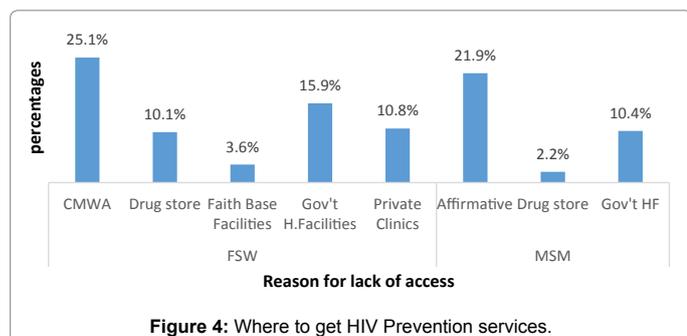


among FSWs and MSMs. From the unadjusted logistic regression, factors eligible for the multivariate analysis were set at P-values ≤ 0.2. After controlling for potential confounders two factors were found significant (occupation and monthly income). Thus FSWs who carry out sex work plus other activities were 2.7 (1.5-4.9) times more likely to seek HIV prevention services than those who carried out sex work only. Likewise, FSW with a monthly income >100,000F were 4.7 (1.1-19.7) times more likely to seek prevention services compared to those who earned <50,000F (Table 7). As concerns socio-demographic characteristics among MSMs, none were found significant (Tables 8-10).

Social factors hindering access to HIV prevention services

Tables 9 and 10 reveal the unadjusted and adjusted logistic regression analysis of social factors and access to HIV prevention services among

FSWs and MSMs. From the unadjusted logistic regression, factors eligible for the multivariate analysis were set at P-values ≤ 0.2 . After controlling for potential confounders two factors were found significant (consistent condom use, awareness of where to get prevention services, distance and policy). For both FSW and MSM, sex workers with inconsistent use of condoms were respectively 0.2 (0.1-0.5) and 0.4



Variables	FSWs		MSM	
	Frequency (373)	Percentages (%)	Frequency (199)	Percentage (%)
Distance to prevention services				
Close by	37	9.9	65	32.7
Average distance	118	31.6	80	40.2
Far	165	44.2	39	19.6
Very Far	53	14.2	15	7.5
Do mobile prevention services reach you?				
Yes	321	86.1	117	58.8
No	52	13.9	82	41.2
Are these services available any time you want?				
Yes	63	16.9	72	36.2
No	310	83.1	127	63.8

Table 4: Geographic distance from HIV prevention services.

Variables	FSWs		MSM	
	Frequency (373)	Percentages (%)	Frequency (199)	Percentage (%)
Using preservatives consistently in the last three months?				
Yes	92	24.7	71	35.7
No	281	75.3	122	64.3
Use condom with your main partner				
Yes	95	25.5	129	64.8
No	252	67.5	57	28.6
Use condom with your casual partner				
Yes	273	73.2	35	17.6
No	70	18.8	140	70.4

Table 5: Sexual behavior and condom use.

Variables	FSWs		MSM	
	Frequency (373)	Percentages (%)	Frequency (199)	Percentage (%)
Know of any law in Cameroon influencing access?				
Yes	12	3.2	26	13.1
No	361	96.8	173	86.9
Ever been penalized due to your sexual orientation?				
Yes	211	56.6	55	27.6
No	162	43.4	144	72.4

Table 6: Law and policy influencing HIV prevention services.

Barriers to access to HIV services	Bivariate			Multivariate	
	Prevalence of access	OR (95 CI)	P-Value	AOR/CI	P-Value
Occupation					
Sex work only	51/248 (20.6)	1		1	
Sex work + other activities	58/125 (46.4)	3.3 (2.1-5.3)	0.001	2.7 (1.5-4.9)	0.001
Education					
None/Primary	23/72 (31.9)	1			
Secondary	36/142 (25.4)	0.7 (0.4-1.3)	0.309		
High School Tertiary	39/124 (31.5) 11/35 (31.43)	0.9 (0.5-1.3) 0.9 (0.4-2.3)	0.943 0.957		
Monthly income					
<50000 F CFA	70/258 (27.1)	1		1	
50-100,000 F CFA	32/103 (31.1)	1.2 (0.7-2.0)	0.454	1.2 (0.9-2.9)	0.117
>100,000 F CFA	7/12 (58.3)	3.8 (1.2-12.2)	0.028	4.7 (1.1-19.7)	0.035
Age group					
<25 years	46/132 (34.9)	1		1	
25-34 years	39/160 (24.3)	0.6 (0.4-1.0)	0.050	1.2 (0.6-2.3)	0.594
35 years and above	24/81 (29.6)	0.8 (0.4-1.4)	0.432	1.5 (0.7-3.3)	0.267

Table 7: Socio-demographic factors (FSW).

Barriers to access to HIV services	BIVARIATE			MULTIVARIATE	
	Prevalence of access	OR (95CI)	P-Value	AOR/CI	P-Value
Occupation					
Employed + MSM	62/112 (55.4)	1			
Student + MSM	49/87 (56.3)	1.1 (0.6-1.8)	0.892		
Education					
None/Primary	19/41 (46.3)	1			
Secondary	26/46 (56.5)	1.5 (0.6-1.8)	0.344		
High School Tertiary	41/64 (60.7) 25/48 (52.1)	2.1 (0.9-4.6) 1.3 (0.5-2.9)	0.075 0.589		
Monthly income					
Nothing	104/185 (56.2)	1			
$\geq 50,000$ F CFA	07/14 (50.0)	0.8 (0.3-2.3)	0.649		
Age group					
<25 years	55/103 (53.4)	1			
25-34 years	51/84 (60.7)	1.3 (0.8-2.4)	0.316		
35 years and above	05/12 (41.7)	0.6 (0.2-2.1)	0.444		

Table 8: Socio-demographic factors affecting access to HIV prevention services for MSM.

Behavioural factors					
Consistent condom use in the last three months?					
Yes	52/92 (56.6)	1		1	
No	57/281 (20.3)	0.2 (0.1-0.4)	0.001	0.2 (0.1-0.5)	0.001
Awareness of services					
Know where to get HIV prevention services					
Yes	94/272 (34.6)	1		1	
No	15/101 (14.9)	0.3 (0.2-0.6)	0.001	0.5 (0.2-0.9)	0.037
Geographic distance from prevention services					
Your nearness to HIV prevention services					
Close by	16/37 (43.2)	1		1	
Far	47/118 (39.8)	0.9 (0.4-1.8)	0.712	1.1 (0.4-3.7)	0.882
Very far	46/218 (21.1)	0.4 (0.2-0.7)	0.005	0.8 (0.3-2.0)	0.628
Law and Policy					
Know any law that affects access to HIV prevention services					
Yes	2/12 (16.7)	1		1	
No	107/361 (29.6)	2.1 (0.5-9.8)	0.342	3.8 (0.7-19.8)	0.113
Ever been penalized because of your sexual orientation?					
Yes	52/211 (24.6)	1		1	
No	57/162 (35.2)	1.7 (1.1-2.6)	0.027	1.5 (0.9-2.5)	0.143

Table 9: Social factors hindering access to HIV prevention services (FSW).

Behavioural factors					
Consistent condom use in the last three months?					
Yes	52/71 (73.2)	1		1	
No	59/128 (20.3)	0.3 (0.2-0.6)	0.001	0.4 (0.2-0.9)	0.019
Awareness of services					
Know where to get HIV prevention services					
Yes	83/143 (58.1)	1			
No	28/56 (50.0)	0.7 (0.4-1.3)	0.305		
Geographic distance from prevention services					
Your nearness to HIV prevention services					
Close by	49/65 (58.1)	1		1	
Far	40/80 (50.0)	0.3 (0.2-0.7)	0.002	0.4 (0.2-0.9)	0.034
Very far	22/54 (40.7)	0.2 (0.1-0.5)	0.001	0.3 (0.1-0.8)	0.015
Law and Policy					
Know any law that affects access to HIV prevention services					
Yes	6/26 (23.1)	1		1	
No	105/173 (60.7)	5.1 (1.9-13.5)	0.001	4.1 (1.4-12.1)	0.011
Ever been penalized because of your sexual orientation?					
Yes	24/55 (43.6)	1		1	
No	87/144 (60.4)	2.0 (1.1-3.7)	0.034	1.4 (0.6-2.9)	0.413

Table 10: Social factors hindering access to HIV prevention services (MSM).

(0.2-0.9) times less likely to have access to HIV prevention services compared to their counterparts who uses condoms consistently. More so, FSWs who didn't know where to seek HIV prevention services were 0.5 (0.2-0.9) less likely to seek HIV prevention services compared to those who knew where to get this services. In addition, MSMs living far and very far from the point of distribution of HIV prevention services were respectively 0.4 (0.2-0.9) and 0.3 (0.1-0.8) times less likely to have access to the services. The same scenario of distance [0.8(0.3-2.0)] was observed among FSWs though not significant. Lastly, FSWs and MSMs who knew no Law penalizing their sexual orientation were respectively 3.8(0.7-19.8) and 4.1(1.4-12.1) more likely to seek HIV prevention services compared to their counter-parts who accepted to know of a Law, though not significant (Tables 9 and 10).

Limitation of the Study

Financial limitation posed a major limitation to the research. Being a twin research focusing on HIV prevention and treatment for two different populations made the scope of work too broad and the therefore took a lot of time. The cost of producing questionnaires, administering, entering data and analysing was high. However, with help from my organization and family members, the burden was reduced.

Secondly, this research was done during the socio political crisis in the North West region where the research was being done. It greatly affected the completion time as questionnaires could not be administered in hotspots as planned due to the fact that the study population was scattered and difficult to find. However, with the respondent driven sample method used in administering the questionnaires, respondent could take time to locate their peers. Well trained data collectors from CMWA and Affirmative Action facilitated the process.

Another limitation was that it was conducted within the confines of the Bamenda Health District and could not to an extent provide enough results that can be generalized in the whole Cameroon. Because key populations are very mobile, it is necessary that a continuous national research on access be conducted to support the design and implement national programs targeting key populations [22-26].

Conclusion and Policy Implication

Key populations play a key role in the dynamics of HIV due to their sexual orientation and behaviors that exposes them to HIV. Though faced with the high burden of HIV, key populations face unique barriers to accessing HIV prevention services. And thus, if key populations face access problems, there is need for more research in this area so as to curb the spread of the pandemic. This research reveals that key populations in the Bamenda Health district don't have the expected access to comprehensive HIV prevention services. Significant barriers such, long geographic distance, limited awareness of where to get services, policy and law as well as behavioral factors are limiting access to prevention services. Demographic factors like occupation and monthly income also proved to be significant for FSW. The results of this work implies that, for institutions and governments wishing to design HIV prevention programs for key populations in the Bamenda health district and in Cameroon in general, issues like geographic distance, awareness on available services, the law, and consistency in condom should be prioritized.

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References

1. United Nations (2015) Transforming our world: The 2030 agenda for sustainable development. Resolution adopted by the General Assembly.
2. Interagency Coalition on AIDS and Development (2016) The sustainable development goals and the UNAIDS strategy.
3. World Health Organization (2016) Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations - 2016 update.
4. UNAIDS (2016) Global AIDS update 2016. Geneva, Switzerland.
5. Baral S, Beyrer C, Muessig K, Poteat T, Wirtz AL, et al. (2012) Burden of HIV among female sex workers in low-income and middle-income countries: a systematic review and meta-analysis. *Lancet Infect Dis* 12: 538-549.
6. UNAIDS (2017) Global AIDS update 2017. Geneva, Switzerland.
7. Cameroon Country Operational Plan (2016) Strategic direction summary.
8. Institut National de la Statistique (INS) et ICF international (2012) Enquete demographique et de sante et a indicateurs multiples (EDS-MICS) 2011. Maryland, USA.
9. Park JN, Papworth E, Kassegne S, Moukam L, Billong SC, et al. (2013) HIV prevalence and factors associated with HIV infection among men who have sex with men in Cameroon. *J Int AIDS Soc* 16: 18752.
10. World Bank (2016) Mapping and size estimation of female sex workers in Cameroon. To inform HIV program design and implementation: executive summary.
11. WHO (2014) Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations.
12. Arreola S, Hebert P, Makofane K, Beck J, Ayala G (2012) Access to HIV prevention and treatment for men who have sex with men: Findings from the 2012 Global Men's Health and Rights Study (GMHR). *The Global Forum on MSM & HIV (MSMGF)*.
13. Habib HH (2016) Factors Influencing HIV preventive practices among female Sex Workers in Takoradi , University of Ghana, Ghana.
14. Papworth E, Grosso A, Ketende S, Wirtz A, Cange C, et al. (2014) Examining risk factors for HIV and access to services among female sex workers (FSW) and men who have sex with men (MSM) in Burkina Faso, Togo and Cameroon. John Hopkins University, USA.
15. Arreola S, Santos GM, Beck J, Sundararaj M, Wilson PA, et al. (2015) Sexual stigma, criminalization, investment, and access to HIV services among men who have sex with men worldwide. *AIDS Behavior* 19: 227-234.
16. Shamanesh M, Mohan H, Blanchard AK, Prakash R, Isac S, et al. (2011) Evaluation of community mobilization and empowerment in relation to HIV prevention among FSWs in Karnataka State, South India. University of Manitoba and Karnataka Health Promotion Trust, India.
17. Bridging the gaps (2015) Health and rights of key populations research report.
18. Shayo JA (2016) Perceptions and experiences of young key populations on provision of responsive services for men who have sex with men & female sex workers: a case of PASADA project, Dar es salaam Tanzania, Mzumbe University, Tanzania.
19. Kimani RN (2014) Factors influencing effective utilization of HIV/STI comprehensive health services by sex workers in Nairobi, Kenya. Master of Arts in Project Planning and Management.
20. PEPFAR (2016) Priority areas key populations: ensuring human rights and leaving no one behind.
21. PEPFAR Gender Analysis in Cameroon (2016) Summary of key findings and recommendations for key populations.
22. FISS-MST/SIDA (2009) Etat des lieux de la Stigmatisation et la Discrimination à l'égard des groupes marginalisés à Douala et Yaoundé.
23. John Hopkins University Metabiota Cameroon (2017) Integrated biological and behavioral survey among key populations in Cameroon: female sex workers and men who have sex with men.
24. United Nations general assembly (1948) Universal declaration of human rights.
25. United Nations (2015) The millennium development goal report.
26. World Health Organization (2017) Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations.