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Partner Notification of HIV status Among Cameroonian Men Who Have Sex With Men

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Walden University
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Abstract

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MPH, Boston University, 1992

LLB, Yaounde University, 1982

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Health

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Abstract

HIV prevalence rates are higher among men who have sex with men (MSM) than in the general population. Although there is ample evidence that partner notification (PN) effectively breaks the HIV transmission chain among MSM, it has not been practiced consistently in Cameroon. This study aimed to assess the perceptions and acceptability of PN of HIV status among MSM and use by health care workers (HCWs) in Cameroon. The health belief model underpinned this qualitative inquiry, in which I recruited 15 HCWs and 16 MSM using snowball sampling. I used in-depth personal interviews for data collection with notes taken using Microsoft Word and cross-checked with interviewees. Category coding, thematic analysis, qualitative content analysis, and discourse analysis were applied following an inductive procedure to generate responses to the research questions. The MSM participants reported having multiple sexual partners; 15 expressed the desire to prevent HIV transmission and share their status with partners as a sign of love. The MSM participants said they felt stigmatized by HCWs and the legislature and would prefer to hide their sexual orientation or receive care in centers serving gay men rather than clinics serving the general population. The HCWs participants expressed the desire to receive PN training, saying it would facilitate HIV case identification among MSM. The conclusion is that a collaborative action among the government, HCWs, and the MSM population is critical for Cameroon to control HIV. Furthermore, the amendment of incriminating laws and social barriers may increase access to health care for MSM.

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Dedication

To God be the glory, great things He has done. I will lift up my eyes to the hills and look. Where does my help come from? It comes from God Almighty,-Psalms 121. I dedicate this dissertation to God Almighty, who gave me the good health, strength, and intelligence I needed to go through the work. During my moments of stress and inadequacy, He lifted me up and gave me new zeal and hope. I will sing of His mercies forever.

I equally dedicate this work to my entire family that stood by me and allowed me to be absent from their midst at critical family times. I particularly dedicate it to Helen, my wife, who stood by me throughout and took over more family responsibilities in my absence. I dedicate this dissertation to my children, their wives, husbands, and children. Thank you, Benjamin Lohbong, Donald Akumbo, Glenn Gemuh, Daisy Visheti, Daniel Akumbom, and Frida Vegeuh, for your love. You are great children. To God be the glory.

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My colleagues at Walden University were very cordial and helpful during group work, discussions, virtual lectures, and sharing of knowledge. This helped me to gain more insights into what would have been a difficult journey for me alone. It was through interaction with many fellow students that I gained more experience in the mission of Walden University. Many of them shared their vision of the social change they intend to make in their countries. This further challenged me to be an agent of social change in my country. The Library, Academic Advising, and Student Advising teams were great resources for my studies. I wish to thank you for your excellent services.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

In this study, I assessed the perceptions of men who have sex with men (MSM) aged 21 to 49 years and health care workers (HCWs) of partner notification (PN) as a strategy to reduce HIV transmission in MSM in Yaounde, Cameroon. Partner Notification refers to giving information to sexual contacts of the index case. The index is the person who has tested HIV positive. The index may have one or more sexual partners. The sexual partners are traced and notified of their exposure to HIV to test them as well. Therefore, partner notification is a strategy used to reduce HIV infection in the population (Bell & Ward, 2014). I targeted MSM because of the high HIV infection in this population (de Mestral et al., 2014). The MSM population is not easily reachable with health interventions. Some members may not agree to give their sexual contacts to health personnel to trace and notify them of their HIV exposure (Holl et al., 2015). Targeting health interventions to MSM in Cameroon is also challenging because of incriminating laws and harsh policies (Duvall et al., 2015; Pachankis et al., 2015). According to experts, HCWs have not paid enough attention to MSM as a socially marginalized population (El Khoury et al., 2014). This neglect has driven the infection rate higher in MSM than in the general population (Cooley et al., 2014).

In conducting this study, I sought to bridge the gap between service providers and policymakers and MSM so that access to effective preventive services is made easier for MSM in Cameroon. This study's findings may help HCWs to expand HIV preventive services to more settings where there are MSM in Cameroon. There is an urgent need for changes in state regulations that incriminate MSM activities so that MSM can have more

access to services (Holl et al., 2015). The MSM population needs an enabling environment to do self-advocacy and receive useful HIV services, leading to Cameroon's epidemic control (UNAIDS-Ethiopia, 2014). This chapter includes background information on the study; the problem statement; the study purpose; research questions (RQs); the theoretical foundation; the nature of the study; some key definitions; discussion of the assumptions, scope and delimitations, limitations, and significance of the study; and a summary.

Background

Partner notification has effectively reduced HIV infection for many decades (Chiou, 2015). However, PN has not been used in MSM even though studies state that HIV prevalence is 4 to 10 times higher among MSM than in the general population (Aho et al., 2014; Vu et al., 2013). Jug Neon et al. (2014) assessed the importance of HIV testing as a strategy to link more people to HIV prevention, especially MSM in Cameroon. In another study, Dall et al. (2017) evaluated assisted PN's effectiveness in improving HIV test uptake and diagnosis in the general population.

Andrea et al. (2013) explored the burden of HIV among MSM in Malawi. The results demonstrated that MSM represent an underserved, at-risk population for HIV services and merit comprehensive HIV prevention services. This study confirms the need for a strategy to identify HIV positive cases in the MSM population. Bekker, Duby, Sanders, Scheibe, & Brown, (2017) evaluated sensitization training for HCWs in Western Cape in South Africa and found out that MSM suffer social discrimination from health

care workers. It follows that assisted PN, for it to be successful among MSM, must be facilitated by HCWs who are sensitive and unbiased.

Although many researchers have studied MSM and HIV in Africa (Holl et al., 2015, Ju Nyeong et al., 2014a, Wu et al., 2018a), none have evaluated the use of PN as a strategy to reduce HIV infection in MSM, according to my review of the literature. No reviews have been conducted in Cameroon on preventing the high HIV prevalence among MSM. That explains why I chose to conduct this study to contribute to the fight against HIV transmission in MSM in Cameroon.

Problem Statement

Globally, the HIV pandemic continues to pose significant health problems, especially in Sub-Saharan Africa (The Joint United Nations Programme on HIV/AIDS [UNAIDS], 2017). HIV infection rates vary from country to country and from one sexual orientation group to another. Studies indicate that HIV prevalence rates are much higher among MSM than in the general population (Aho et al., 2014; Henry et al. 2010; Park et al., 2013). Researchers have found PN to be an effective tool for identifying HIV positive cases and preventing HIV infection in the general population (amfAR, 2012; Ju Nyeong et al., 2014a; Pequegnat & Stover, 2009). Following my review of the literature, PN has not been applied as a strategy to prevent HIV infection in MSM in Cameroon. The failure to use PN has allowed preventable cases of HIV in MSM to continue to increase. There is evidence that PN is an effective strategy to break the chain of HIV transmission (Kahabuka & Kisendi, n.d; Ward & Bell, 2010, 2014). MSM constitute a vulnerable population with a high HIV prevalence who need an intervention to reverse the trend.

PN's use is new and not widely applied as a strategy to stop the chain of HIV infection in MSM in Africa South of the Sahara. In this study, I evaluated the perceptions of MSM and HCWs of PN as a strategy to reduce HIV infection chain in MSM in Cameroon. My goal was to contribute to the overall pool of knowledge on effective strategies for fighting the HIV pandemic in vulnerable and marginalized populations. The high HIV prevalence in Cameroon in general (UNAIDS, 2017) and among MSM in particular (Aho et al., 2014) justified this study.

Purpose Statement

The purpose of this study was to assess perceptions and acceptability of PN by MSM and HCWs as a strategy to reduce HIV transmission in MSM in Cameroon. This study supported the knowledge that PN significantly reduces HIV infection in the general population (Dalal et al., 2017). The process involves index cases revealing their sexual contacts to health advisers, who confidentially follow up to inform contacts of their exposure to HIV infection (P.M. Tih et al., 2019). In Cameroon, the only acceptable sexual partners in a sexual relationship are man and woman. Therefore, it is normal within the Cameroonian context to trace a man as sexual contact and trace a woman as the sexual contact of a man. It is uncommon and even unacceptable to trace a man as a sexual contact of a man. Therefore, tracing a male contact for a male index presents challenges and consequently needed an assessment in Cameroon, where MSM activities are unpopular and illegal (Murray, Gaul, Sutton, & Nanin, 2018). PN can halt the transmission of HIV infection in the MSM population in Cameroon and thus was assessed for acceptability by MSM and HCWs.

I used a qualitative method, employing an inductive approach paradigm, and also used the snowball sampling method to recruit participants attending a Care and Treatment Center in Yaounde for in-depth personal interviews for data collection. Snowball sampling is appropriate for reaching hard-to-reach populations (Schonlau and Liebau, 2010).

I used open-ended interview questions that I formulated for this study. I administered the questionnaire to eligible participants through a face-to-face, in-depth interview conducted in English or French, depending on their preferred language. I am fluent in English and French.

Research Questions

I assessed the acceptability of PN as a strategy to prevent HIV transmission in MSM in Cameroon. The Ministry of Health has not adopted PN, which is useful in preventing HIV infection in the general population (P.M. Tih et al., 2019), to prevent HIV infection in MSM in Cameroon. In Cameroon, the HIV infection is much higher in the MSM than in the general population (Rutstein et al., 2014). Researchers have not assessed PN as a strategy, and service providers have not used it in MSM in Cameroon, despite its effectiveness in the general population (Ward & Bell, 2014). I sought to answer four RQs to address the research problem. Researchers usually produce one or at most two central questions and then associated sub-questions in qualitative research (Creswell, 2014). This study's central question was, what are MSM perceptions aged 21 to 49 about HIV prevention strategies? I also formulated three sub-questions for MSM and one for HCWs as follows:

RQ1. What are the perceptions of MSM aged 21 to 49 about preventing HIV infection among their population?

RQ2. What are the perceptions of MSM aged 21 to 49 about partner notification?

RQ3 What are the perceptions of MSM of how HCWs receive them in the clinic?

RQ4. How do HCWs perceive PN as a strategy to prevent HIV infection in SM?

Theoretical Framework

The health belief model (HBM) is a model that belongs to a group of intrapersonal theories that focus on individual characteristics that influence behavior, such as knowledge, skills, attitudes, and beliefs (Glanz, Rimer & Lewis, 2002). According to the provisions of the HBM, perception of a health behavior change is influenced by general health interest and concern about health and beliefs about vulnerability to a health threat or beliefs about the consequences of a health problem (Elliott, Seals, & Jacobson, 2007). Other authors believe that preventive behaviors are a function of the individuals' beliefs about their susceptibility to the health problem in question, the severity of the health problem, and the benefits versus costs of adopting the preventive behavior (Janz & Becker, 1984). The constructs of HBM come from a psychological and behavioral theory, which hypothesizes that in the context of health-related behavior, an individual's intentions and behaviors depend on two factors, namely, the desire to avoid illness and the belief that a specific health behavior will prevent illness (Glanz, Rimer & Viswanath, 2008). Researchers developed this theory to explore and assess why people use or do not use an intervention (Abraham & Sheeran, 2007). Within

the social context, proponents focus on fostering people's ability to control their behavior and intentions, though they admit that people could differ in readiness for change.

Consequently, the HBM model has six stages through which the decision to change passes. The first stage is the perceived susceptibility stage, in which the person believes about getting a disease but has no more information on the condition (Glanz, Rimer & Lewis, 2002), p.52.. The second stage is the perceived severity of the condition. This stage prompts the individual to ask whether the disease is such that one can treat it if one had it (Glanz, Rimer & Lewis, 2002), p.52. The third stage is the perceived benefits of making a behavior change. In this stage, one is asking first to know the possible advantages of adopting behavior to stop one from getting the disease (Glanz, Rimer & Lewis, 2002), p.52. The fourth stage is the perceived barriers: the adverse effects of adopting the behavior (Glanz, Rimer & Lewis, 2002), p.52.The fifth stage involves the cues or the factors that facilitate action (Glanz, Rimer & Lewis, 2002), p.52.

The sixth and final stage is the self-efficacy stage. Self-efficacy is the belief that one can do something by oneself, given the skills required (Glanz, Rimer & Lewis, 2002), p.52.. It is the level of having reached a behavior change and maintaining it, and to resist temptation from relapsing. The constructs of the HBM are instrumental to HIV and AIDS disease studies (Rosenstock, Strecher & Becker, 2013). The high HIV prevalence rate among MSM requires behavior change. There are barriers to making decisions to adopt healthy lifestyles. Partner notification involves counseling on adopting and maintaining healthy sexual practices (P.M. Tih et al., 2019).. Based on my analysis, the

constructs of HBM apply very well to the process of implementing PN to reduce HIV infection in MSM.

I assessed the perceptions of MSM aged 21 to 49 and HCWs of PN as a strategy to reduce HIV transmission in MSM in Yaounde, Cameroon. PN is a strategy used to reduce HIV infection (Ward and Bell, 2014). I targeted MSM because of the high rate of HIV infection in this population (de Mestral et al., 2014). The MSM population is not easily reachable with health interventions. Some members may not agree to give their sexual contacts to health personnel to trace and notify them of their HIV exposure (Murray et al., 2018). Providing health interventions to MSM in Cameroon is difficult because of incriminating laws and harsh policies (Duvall et al., 2015; Pachankis et al., 2015). The HCWs have not paid enough attention to MSM as a socially marginalized population (El Khoury et al., 2014). This systemic approach to HIV prevention has driven the infection rate higher in MSM than in the general population (Cooley. et al., 2014).

In conducting this study, I wanted to provide knowledge that service providers and policymakers can use to improve their relationship with Cameroonian MSM to make access to effective preventive services easier for this population. This study's findings may be an impetus for HCWs to scale up HIV preventive services to more settings where there are MSM in Cameroon. There is an urgent need for changes in the state regulations that incriminate MSM activities so that MSM can have more access to services. This social change may empower the MSM population to do self-advocacy and receive useful HIV services, leading to Cameroon's epidemic control (UNAIDS-Ethiopia, 2014).

I used the HBM as the conceptual framework for the study. Figure 1 shows the original stages of health belief formation in Glanz et al. (2002). Figure 2 shows my adaptation of the stages for HIV prevention

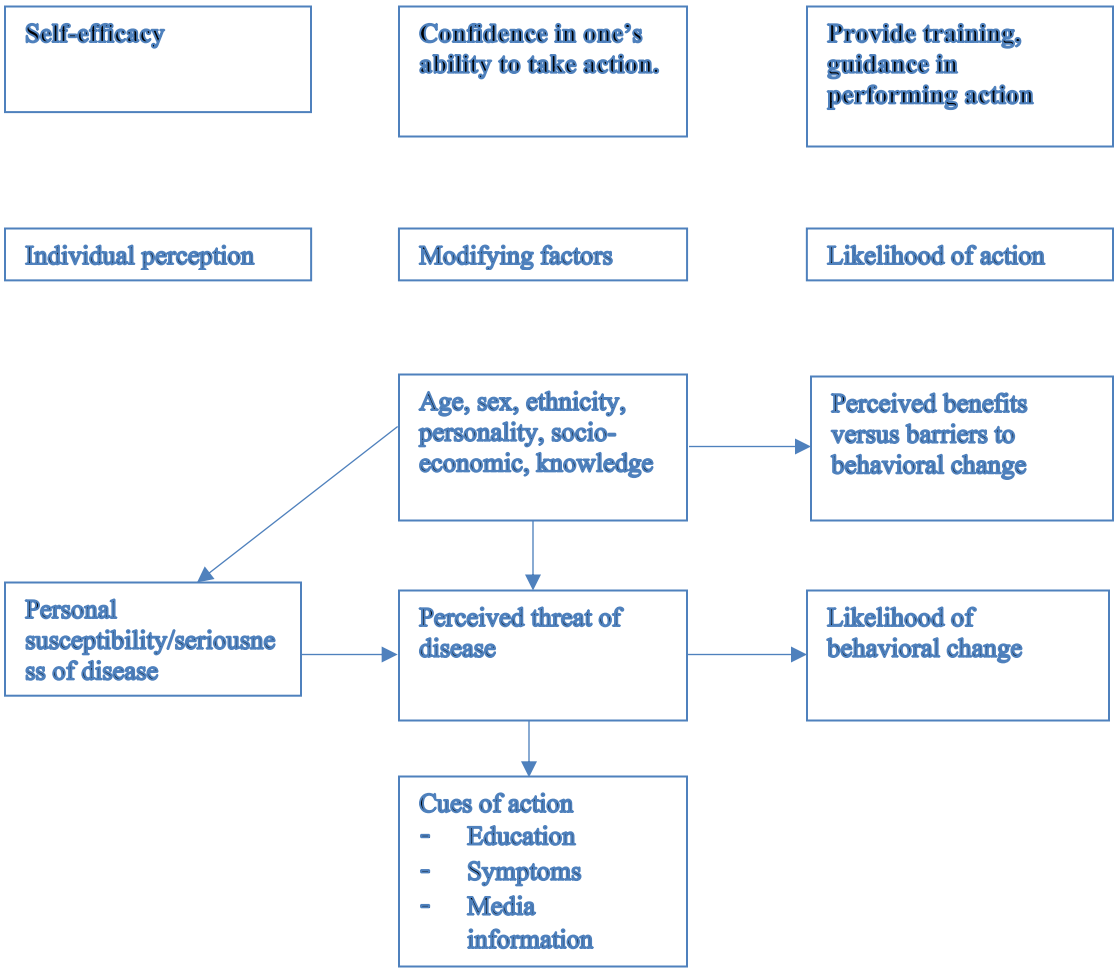

Figure 1. HBM stages. From *Health Behavior and Health Education: Theory, Research and Practice* (3rd ed., p. 52) by K. Glanz, B. K. Rimer, and F. M. Lewis, 2002, San Francisco, CA, Jossey-Bass.

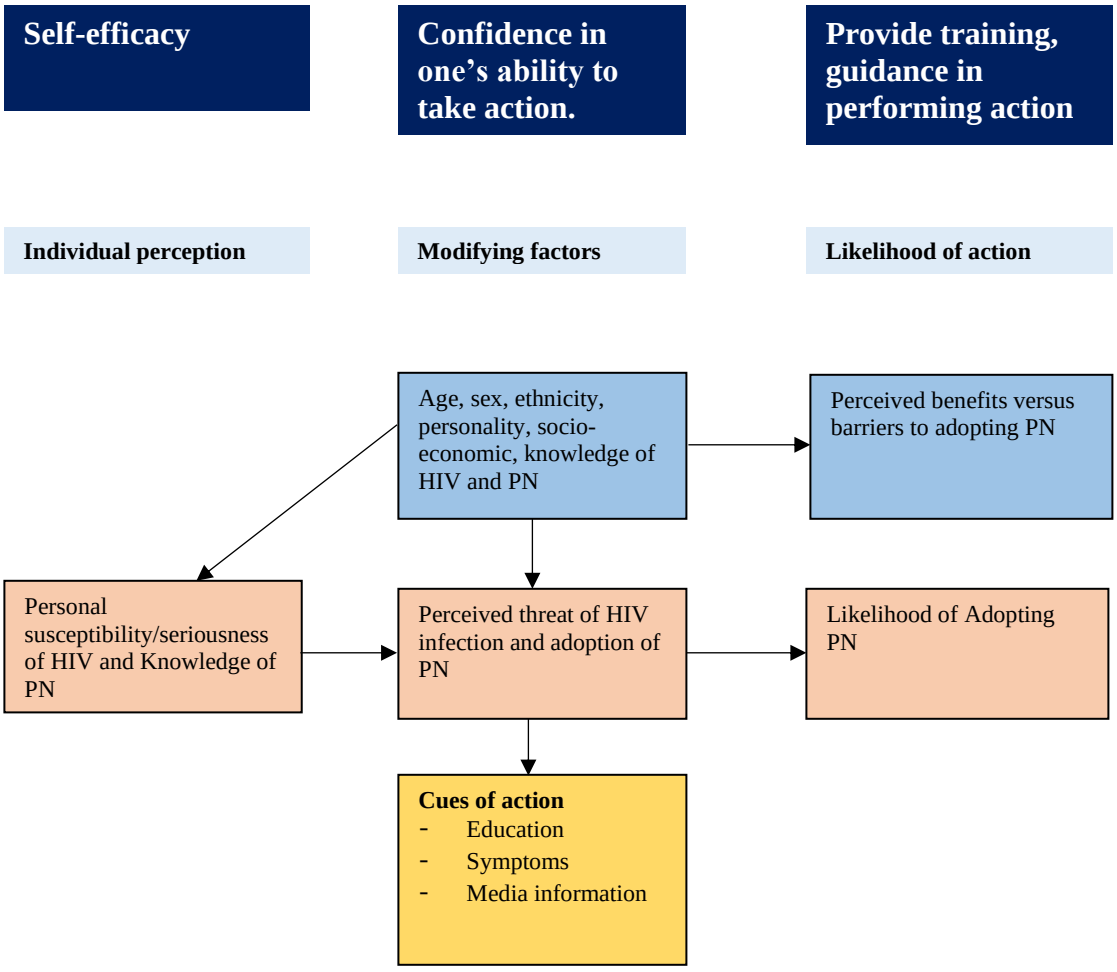

Figure 2. HBM stages adapted for HIV prevention. Adapted from *Health Behavior and Health Education: Theory, Research and Practice* (3rd ed., p. 52) by K. Glanz, B. K. Rimer, and F. M. Lewis, 2002, San Francisco, CA, Jossey-Bass.

The HBM aims to prevent diseases and encourage positive behaviors (Glanz et al., 2008), and predicts behavior (Jeihooni, Hidarnia, Kaveh, Hajizadeh and Askari, 2015). Researchers have used it to assess health interventions such as women's susceptibility to Cervical cancer (CC), their exposure to the severity of the CC, their vulnerability to benefits of Pap smear, and their susceptibility to the risk of pap screening (Karimy, Azarpira and Araban, 2017). The HBM has been adapted to explore various long- and short-term health behaviors, including high-risk sexual behaviors resulting in HIV and other sexually transmitted infections (Li, Lei, Wang, He and Williams, 2016; Li et al., 2016). However, HBM has some limitations. The use of the model is limited in public health because it does not account for a person's attitudes, beliefs, or other individual determinants that dictate a person's acceptance of health behavior (Glanz et al., 2008). Instead, it assumes the behavior is rational and ignores emotional responses to perceived risk. To a certain extent, it considers that people have the skills to change the behavior and consequently disregards the social context where the behavior takes place. The focus of the theory is the individual ignoring everything else. It assumes that people make decisions about health behaviors according to risk perceptions and the personal cost of engaging in the health behavior (Glanz et al., 2008; Karimy et al., 2017).

From similar studies, I considered HBM to be more suitable for exploring MSM's perceptions aged 21 to 49 in Yaounde, Cameroon, of PN as a strategy for HIV prevention. The number of MSM living with HIV in Cameroon is on the increase, and health care workers need a model that will reveal the best strategy to use to increase screening and disclosure of HIV results to sexual partners to halt the chain of HIV

transmission among MSM. The MSM is not familiar with PN and its benefits. Using HBM in this study facilitated understanding the services, the benefits, and social harms involved in practicing testing and disclosing results to sexual partners. It also helped build self-efficacy in MSM participants during the interviews and may go beyond the interviews to overcome barriers to accessing HIV and AIDS services. If this happens, it will spill over to their peers and multiply the MSM population's effect. I believe that the HBM facilitated the understanding of Health Care Workers of how PN will help prevent HIV transmission in the MSM population.

Nature of the Study

The study was a basic qualitative inquiry intended to explore how MSM perceive PN as a strategy for HIV prevention. The basic qualitative inquiry is suitable for this study because it is derived from the constructionism and phenomenology study designs (Embree, 2009). These study designs are most suitable for research that seeks to know how people translate and interpret their experiences. The design aims to understand the meaning people attribute to their experiences and how they make sense of their lives and experiences. Therefore, the Basic Qualitative Inquiry aligned with this study's topic, research questions, and the study (Saldaña, 2017). The Basic Qualitative Inquiry approach guided the research and focused the researcher on the research design. The research was grounded in the Health Belief Model, which promotes disease prevention and encourages positive behaviors (Glanz et al., 2008), and predicts behavior (Jeihooni et al., 2015). The theoretical framework laid the foundation that supported the study, the problem statement, the purpose, the significance, and the research questions (Ravitch

Sharon and Nicole Mittenfilner Carl, 2016). A clear understanding of the MSM's experiences will create a better link between them and the health care workers for better reception and treatment in the clinic. On the other hand, this new knowledge will take MSM through the stages of decision making found in the HBM, leading to self-efficacy in preventing HIV infection in the MSM population.

The research design involved a snowball sampling technique conducted within the Care and Treatment Center in Yaounde. Snowball sampling is a well-known, nonprobability survey sample selection method commonly used to locate hidden populations (Chromy, 2011). It is common in qualitative studies; and occurs when participants are recruited based on a previous participant (Rudestam and Newton, 2014). This method offers a balance between the flexibility of an open-ended interview and the focus of a structured ethnographic survey, clarifying the research domain or the specific research question (Palinkas et al., 2015). The interviewer can use open-ended and/or semi-structured questions to elicit stories from MSM and service providers to capture their experiences (Soriano, 2013). I used personal interviews both for the MSM and HCWs to enable each participant to give their personal views without fear or intimidation.

Operational Definitions

AIDS: Acquired immunodeficiency syndrome, a chronic, potentially life-threatening condition caused by the human immunodeficiency virus (HIV).

Discrimination: A situation in which someone negatively treats another individual because of that person’s illness or condition. Discrimination is behavioral because it

occurs when individuals or institutions unjustly deprive others of their rights and life opportunities due to stigma.

Health care workers (HCWs): They are people who deliver care and services to the sick and ailing either directly as doctors and nurses or indirectly as aides, helpers, laboratory technicians, or even medical waste handlers.

HIV: Human immunodeficiency virus. HIV is a sexually transmitted infection (STI). This virus spreads through certain body fluids that attack the body's immune system, specifically the CD4 cells, often called T cells. Over time, HIV can destroy so many of these cells that the body cannot fight off infections and disease.

Men who have sex with men (MSM): These are individuals, also known as males, who have sex with males, who engage in sexual activity with members of the same sex, regardless of how they identify themselves.

Partner notification (PN): The practice of notifying the sexual partners of a person, known as the index case, newly diagnosed with a sexually transmitted infection that the sexual contact is exposed to the infection. It is a kind of contact tracing and is considered a partner service.

Stigma: A term that encompasses negative perceptions, attitudes, and beliefs regarding an individual’s illness or condition. Social stigma and discrimination can make health problems worse and stop people from getting the help they need(Major & O’Brien, 2005).

Assumptions

In research, we make some assumptions. Assumptions are what the researchers take for granted in their research. These are utterances the researcher believes are right and that everyone will understand and believe to be true. For instance, in research, the survey instrument is believed to be reliable and valid. For this study, I made the following assumptions:

- MSM participants were presumed to be honest and provided honest information on their HIV status and sexual partners
- HCWs were believed to be honest, and provided information on PN perception and its potential use for MSM.
- Not all participants had some knowledge and perceptions of HIV/AIDS and PN.
- MSM in Yaounde attended the Care and Treatment Center for care, and the HCWs did not use PN for them.

The recruitment of MSM and HCWs into the study was done fairly to represent the study participants in the study.

Scope and Delimitations

Delimitations for the participants included being an MSM aged 21 to 49 years. I limited the study scope to HIV positive MSM because it focuses on assessing PN's application in facilitating the uptake of services for MSM. I considered that the MSM who are not living with HIV would not understand the stigma and discrimination linked to HIV and AIDS people because they do not attend those clinics. The results are relevant only to the MSM population living with HIV and AIDS. We can transfer the results to future MSM that become infected.

Limitations

I assessed the perceptions of MSM and HCWs of PN as a strategy to reduce the transmission of HIV in the MSM population in Yaounde, Cameroon. The limitations of the study include:

- The study listed MSM in general, but it was challenging to reach older MSM, especially those of high reputation. Mostly only MSM below 30 years accepted to participate in the study. Older VIP MSM are discrete.
- HCWs who consented and participated in the study may not have reported the reality of the reception they offer to the MSM when they attend the clinic.
- The MSM may have withheld the right information because of the research topic (Scott et al., 2015).

- I chose the study site because it is a Care and Treatment Center for HIV and AIDS. This choice might have introduced selection bias into the sample (Heckman, 2013).
- The clinic already had trained HCWs in PN since 2017. The choice of a clinic with HCWs already trained in PN might have introduced selection bias in site choice (Heckman, 2013).

Despite these limitations, we conducted the interviews with much professionalism to avoid bias. The burden of HIV infections is currently on youth aged below 26 attributed to sexual relationships (Avert, 2019). Most of the young adults interviewed in this study fall between the ages of 21 to 25 years. The absence of older MSM to participate does not affect the validity of the findings. With PN's introduction to the research site in 2017, the questions sought to know how it is applied to MSM. PN's availability as a screening strategy for HIV in the Care and Treatment Center was an advantage for the evaluation of its use among MSM. It was typical that the MSM did not talk freely during the interviews, given that MSM activities are illegal.

Significance

Though the HIV prevalence rate in Cameroon is 4.3% (Libite et al., 2012), it is higher among MSM, 25% in Douala, and 44% in Yaounde (Park et al., 2013a). Studies estimate that MSM is 19 times more likely to be HIV positive in low- and middle-income countries than the background populations (Lorente et al., 2012). The World Health Organization estimated that by 2020 90% of the people living with HIV should know their HIV status and that 90% of all who know their HIV status should be on treatment,

and 90% of all the HIV positive persons who are on treatment should have viral suppression (UNAIDS, 2014). Unfortunately, UNAIDS did not meet this target. The target could not have been met when vast populations, like MSM, are still highly infected with HIV. PN's goal is to make sure that all potentially exposed individuals to HIV infection are confidentially notified, counseled, and tested. Unfortunately, marginalized and hidden populations like MSM do not benefit from these services in developing countries like Cameroon, where MSM activities are not accepted.

I conducted this study in the context of reaching a sensitive population that is often suffering from incrimination for their sexual orientation. The ordinance N° 72-16 of 28 September 1972 introduced article 347a of the Cameroon Criminal Code, criminalizing sexual relations between persons of the same sex. The law punishes sexual relations with a person of the same sex with imprisonment from six months to five years and a fine of 20,000 to 200,000 CFA francs [US$ 40-400] (Piñera, 1980). This law is still in force, and the legal system continues to use it to incriminate MSM in Cameroon. This incrimination has driven MSM to the background leading to high HIV infections among them. This study exposes MSM to an effective strategy that will reduce HIV infection among them in Cameroon.

In the past, PN has posed challenges in tracing the contacts of syphilis index cases (de Lorenzi, Gayet-Ageron, Girard-Strohbach, and Toutous-Trellu, 2017). Yet, its promotion in modern social media such as Facebook has increased PN's use for syphilis contact tracing (Hunter et al., 2017). I can replicate the use of Social media in promoting PN for tracing HIV contacts in MSM. If promoted well, PN can be used successfully

among MSM with STD, including HIV, gonorrhea, and syphilis (van Aar et al., 2012; Desir, Ladd and Gaydos, 2016)

Summary

In this chapter, I gave an overview of assessing the perceptions of MSM and HCW of PN as a strategy to prevent HIV infection among the MSM in Cameroon. The chapter started with an introduction and background to the study before giving the problem statement. The problem addressed is the high HIV infection in MSM. I described the purpose statement, the research questions, and the theoretical framework. I then chose the HBM as the theoretical framework that best fits the study. I gave some operational definitions for clarity, the assumptions, and the scope and delimitation, before providing the limitation and the significance of the study. Chapter two is devoted to the literature review.

Chapter 2: Literature Review

This chapter includes a review of previous literature obtained from Walden University Library databases focusing on HIV and AIDS, PN, and MSM. I have also defined critical terms related to HIV and AIDS work. The chapter focuses mainly on reviewing the literature on PN, MSM, and access to care and treatment for the MSM. The review of previous literature includes the problem statement, which concerns the magnitude of HIV and AIDS globally, especially the high prevalence among MSM with no corresponding action to reduce it.

The high HIV prevalence in MSM led me to conduct this study, in which I assessed the perceptions of MSM aged 21 to 49 and HCWs of PN to reduce the HIV infection in MSM. I used the HBM as a conceptual framework to examine the perceived experiences of MSM and HCWs in the study. I will explain this theory in this chapter for better understanding. I then highlight vital variables and concepts of HIV and AIDS in the MSM population: HIV and AIDS prevalence in the MSM population and the barriers to MSM services. Some barriers include MSM health behavior towards service uptake, policies against MSM activities, the absence of services for and studies on MSM, failure to apply PN for index MSM, and HCWs' behavior towards MSM. This review was necessary and gave a clearer picture of the topic.

Problem Statement

Even though evidence reveals that HIV incidence overall has significantly declined since 2001 (UNAIDS and WHO, 2010), recent statistics show that 36.9 million people globally were living with HIV in 2017 (UNAIDS, 2018a). Of this number, 2.4

million people became newly infected with HIV in 2017 (UN Joint Programme on HIV/AIDS UNAIDS, 2018; U.S. Department of Health and Human Services, 2017). Developing countries are worse hit by the HIV epidemic, especially those in Sub-Saharan Africa. Of the estimated 6,000 new infections globally each day, two out of three are in Africa South of the Sahara (Kharsany & Karim, 2016). HIV prevalence is 1.2 percent worldwide (0.6 percent in North America), according to (UNAIDS, 2018b). Still, it is 9% in sub-Saharan Africa, which is home to only 12% of the global population and accounts for 71% of the worldwide burden of HIV infection (Kharsany & Karim, 2016). Countries with higher prevalence rates include South Africa (25%), Nigeria (13%), Mozambique (6%), Uganda (6%), Tanzania (6%), Zambia (4%), Zimbabwe (6%), Kenya (6%), Malawi (4%) and Ethiopia (3%) (Kharsany and Karim, 2016). Cameroon is one of the countries with a high HIV infection (UNAIDS, 2018b). These countries account for almost 80% of all people living with HIV worldwide (UNAIDS, 2017). Swaziland has the highest HIV/AIDS infection rate, with a total of 27.20% of the population living with HIV/AIDS, and Botswana has the world's second-largest prevalence rates of HIV/AIDS with 21.90% of the people living with the disease (Kharsany & Karim, 2016). In Burundi, HIV prevalence in sex workers is 26.5% compared to 1.0% in the general adult population (Kharsany & Karim, 2016). In Côte d'Ivoire, amongst MSM, HIV prevalence is 18.8% compared to 2.7% in the general adult population (Kharsany & Karim, 2016).

In general, HIV prevalence rates are much higher among MSM than in the general population (Aho et al., 2014, Park et al., 2013a). In developing countries including, Cameroon, the HIV prevalence among MSM ranges from 3.3% to 44% (LeBreton et al.,

2014; UNAIDS, 2017), despite the availability of effective treatment and prevention strategies (UNAIDS, 2017c). In 2016, UNAIDS named Cameroon, the Central African Republic (CAR), Côte d'Ivoire, the Democratic Republic of Congo (DRC), Gabon, Guinea-Bissau, and Nigeria as countries where we should prioritize HIV responses for young women (UNAIDS, 2016). The prevalence ranged from 4% in Mauritania to 24% in Cameroon (UNAIDS, 2017). In Nigeria and Ghana, HIV prevalence among sex workers was eight times higher than for the rest of the population in 2014 (UNAIDS, 2014; UNAIDS, 2017b). About 17% of MSM who live in West and Central Africa have HIV (UNAIDS (2014), ranging from 3.3% in DRC to 44% in Mauritania. Unfortunately, only 12 countries in the region report data on the MSM population (UNAIDS, 2017). It is common for MSM to be married or in long-term relationships with women. As such, women are disproportionately affected, accounting for 58% of the total number of people living with HIV (Kharsany & Karim, 2016).

Health officials in many countries worldwide have used PN effectively to identify and treat HIV positive individuals and prevent further HIV transmission (Kahabuka & Kisendi, n.d.; Ward & Bell, 2014). However, the MSM population, which is highly vulnerable with a high HIV prevalence, has not benefited from PN services in Sub-Saharan Africa. The government policies penalize the MSM population because of their same-sex activities (Duvall et al., 2015. In some cases, HCWs treat MSM poorly, thus depriving them of essential life-saving services (Micheni et al., 2017; Rebe & McIntyre, 2017).

Partner Notification has not been practiced in most health facilities in the past (Brown et al., 2012). However, there is evidence that it is effective in HIV case identification and has been introduced in some African countries for use in the general population (P.M. Tih et al., 2019). Since PN is new in Africa, it is not yet used extensively to include key populations like MSM. I conducted this research to examine PN as a meaningful strategy to break the HIV infection chain in MSM in Cameroon. The research topic is meaningful (Kasaie et al., 2017), and the problem statement is justified within the context of the high HIV prevalence in Cameroon (UNAIDS, 2017b) and particularly in the MSM population (Aho et al., 2014).

I assessed the perceptions of MSM aged 21 to 49 in Yaounde, Cameroon, and HCWs of PN as a strategy to reduce the HIV infection in MSM. I used a qualitative method employing an inductive approach paradigm. I used the snowball sampling method to recruit MSM participants for in-depth personal interviews. Snowball sampling is appropriate for reaching hard-to-reach populations (Schonlau & Liebau, 2010). In-depth interviews were used for both MSM and HCWs to obtain their perceptions of PN's use in reducing HIV infection transmission in MSM in Cameroon. Neither sex between men nor same-sex marriage is authorized in Cameroon. MSM who seek health care often do not disclose their sexual orientation for fear of being stigmatized. This context reinforces the necessity of understanding how MSM and HCWs perceive the PN strategy for preventing HIV infection.

Literature Search Strategy

MSM is a widely researched topic worldwide, especially in the era of the HIV and AIDS pandemic. For the literature review, I sought peer-reviewed studies published from 2014 to 2019 on MSM, focusing on Sub-Saharan Africa studies. I obtained most of the peer-reviewed papers using search engines like Google Scholar and academic databases accessed via Walden University Library to search for scholarly journals, articles, books, etc. The databases I searched included Academic Search Complete, Medline with Full Text, Computers and Applied Science Complete, Health and Psycho-social Instrument, and ProQuest Dissertations and Theses in Walden University Library.

The study search targets included keywords and phrases like men who have sex with men (MSM), partner notification (PN), and health care workers (HCWs). For each topic, I applied expanders to all equivalent subjects, while limiters included full texts, peer-reviewed scholarly journals, and articles published from 2014 to 2019. The focus was explicitly on the MSM studies in Yaounde, Cameroon, and the phenomenal high HIV infection in this population. The second group that is closely related to the MSM population and was studied is health care workers (HCWs), who are presumed to deliver health care to the community, including MSM. The HCWs are understood to be professional and provide health care, including HIV testing, to all who need it.

The literature review included peer-reviewed scholarly journals from 2014 to 2019 on how HCWs perceive PN as a strategy to confidentially counsel and test MSM. They are exposed to HIV and identify positive cases, and link to care and treatment. Currently, there are highly active antiretroviral drugs that are very effective in treating

AIDS patients. Once the AIDS patient has viral suppression, the chances of transmitting the virus to a sexual partner are meager. The MSM population in Cameroon has fewer chances of benefiting from this treatment because they do not have regular HIV screening. This study's target was to accelerate action to offer this population the opportunity to benefit from this screening and treatment. The MoH should act soon so that the HIV infection in the MSM population will not continue to rise. Since MSM activities are criminalized and stigmatized in Cameroon, there is minimal literature on this topic. I have extended the literature review to some other African countries to better understand the way MSM and HCWs perceive PN as a strategy to reduce the transmission of HIV infection in the MSM population.

Theoretical Foundation

In the literature review on this topic, I focused on the HBM in Figure 2 as I went through the perceived experiences of the MSM and HCWs. This theory focuses on a study and provides the lens through which to anchor the research. I will explain this theory in subsequent sections for better understanding.

From historical perspectives, there is a common understanding that we can determine the intentions to perform various behaviors from attitudes toward the behavior, subjective norms, and perceived behavioral control (Ajzen, 1991). This understanding has stimulated in-depth studies into different aspects of human behavior and the response to illness leading to the formulation of theories and models. One of these theories is the Health Belief Model (see Figure 2). The Health Belief Model (HBM) is a model that belongs to a group of an intrapersonal level of theories that focus on individual

characteristics that influence behavior such as knowledge, skills, attitudes, and beliefs (Glanz, Rimer, and Viswanath, 2015)**.** The HBM was developed in the 1950s to investigate why people fail to undertake preventive health measures (Abraham & Sheeran, 2007). This theory has been termed a champion and one of the most widely used health behavior theories and beliefs (Strand, 2015). It states that perception of a health behavior change is influenced by general health interest and health concern, beliefs about vulnerability to a health threat, and beliefs about the consequences of a health problem (Elliott et al., 2007). According to an earlier definition, the Health Belief Model says that preventive behaviors are a function of individuals' beliefs about their susceptibility to the health problem in question, the severity of the health problem, and the benefits versus costs of adopting the preventive behavior, as well as experiencing a cue to action (Janz and Becker, 1984). The HBM has been used to improve health interventions and health behavior (Jones, Smith and Llewellyn, 2014). People are willing to adopt a preventive action against perceived health threat to one's health if the perceived benefits of acting outweigh the perceived barriers " (Elliott et al., 2007). The constructs of HBM are derived from a psychological and behavioral theory, which hypothesizes that in the context of health-related behavior, an individual's intentions and behaviors depend on two factors, namely the desire to avoid illness and the belief that a specific health behavior will prevent illness (Glanz et al., 2008).

The authors developed the theory to explore and assess why people use or do not use health intervention (Vermandere et al., 2016). Within the social context, the model believes in controlling behavior, intentions, and applied to many health behaviors and

admitted that people could differ in readiness for change. Consequently, the model has six stages through which the decision to change passes. The first stage is the perceived susceptibility stage, in which the person believes about getting a disease but has no more information on the condition. The absence of more information at this level hinders decision making. The second stage is the perceived severity of the disease. The question that facilitates a decision is whether the condition can be treated if one had it. If one can treat it, then the individual may not adopt an urgent intervention to prevent it. If one cannot treat it, this becomes compelling to prevent it. The third stage is the perceived benefits of making a behavior chnage. What are the possible advantages of adopting behavior that will stop one from getting the disease? If the benefits outweigh the disadvantages or social harms, then one will adopt the intervention. The fourth stage is the perceived barriers. There are always hindrances on the path of deciding to act. The obstacles may be created by fear of losing friends or the processes involved in adopting the behavior. The barriers may be the expected adverse effects of adopting the behavior. The fifth stage of the HBM talks of the cues or the factors that facilitate action to occur. What are the facilitators of action? The sixth and final stage of HBM is the self-efficacy stage, which is the belief that one can do it by oneself, given the skills required. It is the level of having reached a behavior change and maintaining it and resists temptations from relapsing.

The HBM aims to prevent diseases and encourage positive behaviors (Glanz et al., 2008), and predicts behavior (Jeihooni et al., 2015). It has been used to assess health interventions such as women's susceptibility to cervical cancer (CC), their susceptibility

to the severity of the CC, their exposure to pap smear benefits, and their vulnerability to pap smear screening (Karimy et al., 2017). It has been adapted to explore various long- and short-term health behaviors, including high-risk sexual behaviors and HIV/AIDS (Li et al., 2016). Furthermore, HBM helps scholars and social scientists better understand human health behavior, especially regarding illness. Understanding HBM will help set health priorities and develop strategies to better prevent HIV infection in MSM in a resource-limited country like Cameroon.

Other models like the theory of Planned Behavior (Ajzen, 1991; Sutton, 2014; Carroll, 2016) and the Theory of Reasoned Action (Yzer, 2017) have been developed to facilitate understanding human behavior in general, but the HBM focuses on understanding health beliefs. In one study, the HBM has highlighted the continuous increase in lifestyle-related to health challenges as a reason to focus on promoting healthy behavior using various behavior change interventions (Orji, Vassileva, and Mandryk, 2013). Health behavior models inform the designs of most of these interventions. This study is very relevant to the one I am about to conduct. Other researchers have successfully used various health behavior theories such as the Theory of Planned Behavior, the Transtheoretical Model, and the HBM to inform health intervention designs.

The constructs of the HBM apply to this study on MSM and high HIV infection. Understanding how MSM perceives HIV infection and the strategies for preventing it will help HCWs offer services to MSM and thus reduce the high HIV prevalence rate in that population. Furthermore, the understanding of how HCWs behave towards MSM

exposed to HIV will facilitate the design of HIV prevention and treatment options to suit the MSM population in Cameroon. Like many theories, the HBM has its limitations. Its constructs have a low predictive capacity (Orji et al., 2013). The use of the model is limited in public health because it does not account for a person's attitudes, beliefs, or other individual determinants that dictate a person's acceptance of health behavior (Glanz et al., 2008). Instead, it assumes the behavior is rational and ignores emotional responses to perceived risk. To a certain extent, it considers that people have the skills to change the behavior and consequently disregards the social context where the behavior takes place. The focus of the theory is the individual ignoring everything else. It assumes that people make decisions about health behaviors according to risk perceptions and the personal cost of engaging in the health behavior (Glanz et al., 2008; Karimy et al., 2017) and can change and sustain the change. and are able to change and sustain the change.

Literature Review Related to Key Variables and Concepts

HIV and AIDS Prevalence in the MSM Population

In 2017 and 2018, Gay Men and other MSM accounted for an estimated 57% of new HIV infections in western and central Europe and North America. The Gays also accounted for 41% of new HIV infections in Latin American and more than 25% of new HIV infections in Asia and the Pacific. The HIV infection rates in the same sexual orientation group were about 20% of all the new infections in Eastern Europe, central Asia, the Middle East, and North Africa. In central and west Africa, the MSM HIV infection rate was about 12% (UNAIDS, 2017,; UNAID, 2018) . In these countries, data suggest that MSM, people who inject drugs, and sex workers, have higher HIV

prevalence than in the general population (UNAIDS, (UNAIDS, 2016). Studies conducted in South Africa and Kenya show that HIV prevalence was almost three times higher in MSM than in men who had sex with women only. In some countries, HIV prevalence was nearly 20 times higher amongst high-risk sub-populations such as MSM and sex workers compared to adult HIV prevalence in the general population (UNAIDS, 2017e).

HIV/AIDS is on a decline among the general population in Cameroon from 5.1% in 2009 (National AIDS Control Committee (NACC), 2010) to 4.3% in 2011, and 3.9% in 2016, (UN Joint Programme on HIV/AIDS (UNAIDS, 2018); UNAIDS, 2017f). However, among Cameroonian adults aged 15-64, the HIV/AIDS prevalence rate varies by region ranging from 6.3% in the South region to 1.5% in the Far North region (UNAIDS, 2017a). Despite this significant decrease in the general population's prevalence rate to less than 3.9% in 2016, studies show a much higher prevalence of 37.2% in MSM (Claire E. Holland, Papworth, Billong, Kassegne, et al., 2015a). Globally, 36.7 million people were living with HIV and AIDS in 2016, and 1.8 million of these was new infections (UNAIDS, 2018b) and the MSM population remains the most affected population by HIV/AIDS (Beyrer et al., 2013; Vu et al., 2013). In 2016, Gay Men and other MSM had an HIV prevalence of 37.2% in Cameroon(UNAIDS, 2017b) though the country's overall prevalence was only 4.3% (Libite et al., 2012). Access to life-saving HIV and AIDS services for MSM is barred in many African countries, including Cameroon, because of criminalization and stigma (Arreola et al., 2015). When the ministry of health and relevant health departments make health plans and budgets,

they ignore key populations, including MSM. This less attention to MSM needs makes them a disadvantaged and marginalized population within HIV/AIDS services (Park et al., 2013b). Studies conducted in Cameroon reveal that HIV/AIDS services have barriers that limit access to MSM and highlight the high burden of HIV and the clear and unmet treatment and prevention needs among MSM. The studies allude to the importance of primary HIV prevention and high ART coverage to combat HIV infection among MSM (Ju Nyeong et al., 2014a; Holland et al., 2015b; Arreola et al., 2015). In a similar study by Holland et. al. (2015) the authors highlighted the potential of primary HIV prevention using ART to suppress viral load in people living with HIV to minimize HIV transmission. The study pointed out that access to ART and other HIV prevention services delivered in NGO services can significantly lower HIV transmission in the population but that MSM living in Yaounde are unlikely to access these services. This discriminatory way of delivering health care deprives the MSM population and exposes them to higher rates of HIV infection. The study concludes that NGO/CBOs in Cameroon can provide entry points into the HIV care continuum through peer outreach and prevention services. PN's integration into these services will significantly open more opportunities for MSM to access services and reduce HIV infection among themselves For this to happen, (Ju Nyeong et al., 2014a) concluded that building MSM community organizations' capacity and improving the delivery and scale-up of multimodal interventions for MSM, and being sensitive to confidentiality concerns will contribute engaging young MSM in the continuum of HIV care successfully.

The MSM population is not empowered to demand access to health care as a human right. The MSM are intimidated by the criminalization and physical violence, which they go through in Cameroon (LeBreton et al., 2014b). Studies further reveal that Cameroon is one of more than seventy countries worldwide that criminalize same-sex conduct and prosecute individuals for same-sex practices (Holland et al., 2015). Of interest is that current studies conducted in some African countries, including Cameroon, indicate that more MSM prefer to go to NGO and CBO health facilities than to public health facilities (Park et al., 2013b; Ju Nyeong et al., 2014a). The preference for NGOs raises concerns about the lack of confidentiality, unprofessional attitudes of the health care workers, and the low quality of care offered to the MSM. These concerns led to the choice of a public health facility for this study to better assess healthcare workers' attitudes towards MSM seeking HIV testing and treatment services. Health care workers' behavior towards the MSM could facilitate access to services or constitute a significant barrier to delivering preventive HIV services (Micheni et al., 2017; Rebe and McIntyre, 2017). (Micheni et al., 2017; Rebe and McIntyre, 2017).

The Health Behavior of MSM

The health behavior of the MSM in most African countries is closely linked to the harsh legal measures taken against them by the authorities (Mbote MBA et al., 2014; Santos, Makofane, Arreola, Do, and Ayala, 2017). To better understand the health behavior of the MSM, I used the constructs of HBM. Adopting a health behavior begins with the perceived susceptibility in which the individual believes about getting a disease but lacks sufficient facts on the disease. Health behavior is one of the key determinants of health

(Ferrer, 2018). There must be enough information to facilitate the behavior's adoption for positive health behavior to be adopted. Adequate information includes information on the benefits and disadvantages of adopting health behavior. This categorization provides information on whether the disease is one that can be treated or not. The data will shape the individual's perception of the illness's severity to make an informed decision that will alter behavior. The decision to change behavior goes with the psychology of assessing the benefits to reap from the adoption of health behavior (de Ridder, 2015). There are perceived barriers to adopting good health behaviors. There are always hindrances on the path of making decisions. The obstacles include fears of losing friends, facing stigma, or losing some social benefit, as is the case with some minority populations (Fantz, 2014). We now know that this is the case with MSM not adopting partner notification to reduce the transmission of HIV infection.

The adoption of positive health behavior occurs when there are facilitators of such an adoption. The facilitators may include a welcoming health care provider or an enabling environment. The absence of assertive behavior in the MSM in the community due to fear of criminalization has hindered positive health behavior. Adopting a healthy behavior change requires a strong belief that one can do it by oneself, given the right skills acquired from a designer (Ludden and Hekkert, 2014). Adopting proper health behavior involves several stages and may hinder access to services (König, Sproesser, Schupp, and Renner, 2018). For instance, adopting health behavior to prevent the transmission of HIV may include counseling for information on HIV and its effects. The health system and society

do not offer the environment for this proper counseling. Counseling takes time if one has to do it properly.

Counseling for the use of condoms to prevent HIV takes even longer. Many lovers do not like to use a condom during sexual activities. It is essential to encourage condoms for males and females because MSM often have sexual relations with both men and women (Holland et al., 2015). The use of condoms raises concerns among sexual partners, such as the fear that those proposing to use a condom may seem to question or doubt the honesty of the sexual partner (Adebola. et al., 2019). A more complex challenge with teaching health behavior involves serosorting, which is the belief in sexual intercourse only among HIV negative MSM. Men who serosorting may believe that serosorting makes their engagement in unprotected anal sex less risky for getting HIV and may not use condoms when anal sex. The fear of infecting a negative partner is removed, and safer sex is often not used (Khosropour et al., 2016). On the other hand, voluntary counseling and testing remain to identify positive HIV cases in the population MSM for treatment as prevention. Access to MSM populations for counseling and testing is difficult. Still, MSM community leaders can help link existing MSM social networks to prevention and care services, including testing, which encourages care-seeking among individuals within the social network. Studies have shown that an extensive MSM network in China was associated with improved HIV knowledge and participation in HIV prevention, including testing (Holland et al., 2015).

Policies Against the Activities of MSM

Key populations make up a small proportion of the general population. They are also reluctant to identify themselves, especially in environments where their actions or identities are considered socially or religiously unacceptable or punishable under local law (UNAID, 2018). These laws make it difficult to collect quality data on the location and size of these populations, their attitudes and practices, their access to HIV services, and the incidence and prevalence of HIV. The MSM constitutes a key population with a known sexual orientation that is understood and accepted in Western cultures but not in developing countries. The population is vulnerable to HIV infection in developing countries due to stigma and discrimination (Geibel, Tun, Tapsoba, and Kellerman, 2010). The MSM populations face severe and harsh policies in many developing countries (Duvall et al., 2015, Davis, Goedel, Emerson, and Guven, 2017). The MSM practice sexual activities in hiding for fear of being victimized. The activities' hidden nature has led to shyness, timidity, and fear to own up in public for fear of being criminalized. In Cameroon, it is not politically nor legally acceptable to discuss MSM activities.

The harsh laws have made MSM adopt a naïve attitude that makes them not seek health care and receive quality services (Cange et al., 2014). The MSM cannot talk freely about their sexual activities and their illnesses may be due to their sexual practice (Cange et al., 2014). The MSM cannot talk freely about their sexual activities and the illnesses they may have as a result of their sexual practice (Cange et al., 2014). Cameroon has created Drop–in Centers where MSM can seek care at odd hours. These centers are few, limited in services, and staffed by HCWs with very limited health education. The practice of Drop-

in Centers itself creates stigma since the centers are for special people (Cange W. et al., 2015). The idea of separate services only for MSM further reveals them as a population that practices what is forbidden. There is no literature on the success of these drop-in centers.

In a recent case, the Kenyan High Court unanimously dismissed a petition challenging the Penal Code provisions applied to criminalize consensual same-sex sexual acts. The court declared that sections 162 and 165 of the Penal Code are not unconstitutional, do not violate the human rights of lesbian, gay, bisexual, and transgender (LGBT) Kenyans. The ruling stated that the law is not vague nor unclear (Bigdeli et al., 2014). There is enough evidence that criminal laws that punish same-sex sexual acts drive LGBT persons and MSM (MSM) away from healthcare and HIV services. They fear being identified as gay, discriminated against, persecuted, or prosecuted (Ju Nyeong et al., 2014b; Pinera, 1980; Park et al., 2013). Health Care workers with reproachful attitudes are backed and legalized by the criminal law. The MSM are served with hostility or even denied services (Park JN et al., 2013). Criminal sanctions further inhibit healthcare, HIV-prevention services, and access to information and counseling, particular to LGBT persons and MSM (Baral, n.d.; Bigdeli et al., 2014). In countries where the law supports stigma and discrimination, this significantly increases MSM's vulnerability to HIV, thereby compromising its HIV response to reach epidemic control. The case in Kenya demonstrates a human rights violation for MSM and LGBT persons and a public health failure sustained by the criminal law (Bigdeli et al., 2014).

Services for, and Studies on, MSM in Cameroon

Although studies have been conducted on HIV/AIDS services for MSM in Africa, there is limited literature on MSM and HIV prevention services in Cameroon. Some scholars have conducted studies to measure the factors associated with prior HIV testing among MSM in Cameroon (Ju Nyeong et al., 2014b). According to Ju Nyuong et al, (2014), the MSM population is a priority population for HIV prevention, treatment, and care services in Cameroon. The study concludes that building MSM community organizations' capacity and improving the delivery and scale-up of multimodal interventions for MSM that are sensitive to concerns about confidentiality are needed to engage MSM in the continuum of HIV care successfully. In line with this study, Partner Notification (PN) is a care model based on confidentially counseling, testing, and linking positive cases to treatment to reduce the transmission of HIV infection in the MSM population. Essential financial and technical partners, like USAID, PEPFAR, LINKAGES, Johns Hopkins University, and METABIOTA, have sponsored and worked with the Cameroon Ministry of Health to promote the uptake of HIV self-testing for populations at risk of HIV infection. This self-testing aims to reduce undiagnosed HIV in the key populations (Colony, 2013; Holland et al., 2015b). However, the studies do not mention partner notification to break the chain of HIV infection in MSM in Cameroon. The government has not officially incorporated HIV prevention strategies services for MSM in its strategic plan. Even though the HIV prevalence rate is high in Cameroon, 4.3% (Libite et al., 2012), it is higher among MSM, 25% in Douala and 44% in Yaounde (Park et al., 2013a). The high prevalence of HIV among MSM is common in many

countries worldwide (Yan et al., 2014; Rebe and McIntyre, 2017; Wu et al., 2018; Harris, Tuttle, Sellers, Dozier, and Dunn, 2014). However, there is evidence that the HIV infection among MSM is still on the rise in developing countries, yet preventive, and treatment services are inadequate (Beyrer et al., 2013).

There are many HIV and AIDS campaigns and screening programs in Cameroon, but the MSM population has minimal opportunities of being screened and positive cases linked to care and treatment (Colony, 2013; Holland et al., 2015b). Failure to be diagnosed and adequately informed of HIV status implies that the individuals who are HIV positive but do not know their status will continue to transmit the virus to their sexual partners unintentionally. One can only stop the chain of HIV infection when there is an intervention. There is no literature showing that services exist in Cameroon on PN for MSM. The absence of literature on efforts to reduce HIV infection among MSM has led to the high HIV prevalence in their social networks in Cameroon. The individual MSM, who tests positive, needs to be confidentially counseled, linked to care and treatment, and encouraged to reveal his sexual contacts to be invited, counseled, tested, and linked to care. All sexual contacts of HIV positive index cases are exposed to HIV infection and should be invited and tested. The MSM population has high HIV prevalence rates, and their sexual partners should have access to counseling and testing. Many African countries, including Cameroon, do not recognize the activities of MSM.

Consequently, MSMs who are HIV positive and their sexual contacts have no adequate access to counseling and testing (Park et al., 2013). If this trend continues for a long time, then Cameroon will not attain the UNAIDS global targets of 95-95-95 by 2025

(UNAIDS, 2014a). The ten-year national strategic plan for Cameroon (2017 to 2026) details an objective for reducing and eliminating HIV and AIDS in the country but does not include specific strategies to reach minority and key populations such as MSM with HIV and AIDS prevention services. This exclusion could mean that MSM will not benefit from the ten-year strategic plan in the country. This study will stimulate thinking towards including MSM in this effort in Cameroon. This study will stimulate thinking towards including MSM in this effort in Cameroon.

Partner Notification and MSM

Health officials in Western cultures have used PN extensively to trace contacts of sexually transmitted infections, including HIV (Ferreira, Young, Mathews, Zunza, & Low, 2013; Wamuti et al., 2015). Using PN, officials are potentially able to identify contacts of index cases early and confidentially inform them of their exposure to HIV infection, counsel and test them, and link positive ones to care and treatment (Nichols et al., 2015). PN's advantage is that it traces the chain of the HIV infection and eventually stops it from spreading (Ward & Bell, 2014). PN's confidential method makes it an excellent strategy to use for MSM in Cameroon, given that MSM activities are not public in the country. A study conducted in New York identified actionable opportunities for improving PN for HIV among MSM to evaluate PN perspectives and experiences among health care providers (Edelman et al., 2014). This study, though applicable to the research I am conducting, is different in many ways. Unlike New York, which is in the USA and a developed country, Yaounde is in Cameroon and a developing country. The activities of MSM are legal or most socially acceptable in the USA but not in Cameroon. The MSM

in the study by Edelman et al. (2014) knew their HIV status and already on treatment. This finding implies that the HCWs counseled the MSM and carried out PN for their sexual contacts according to the USA's standard of care. At the beginning of this study among MSM, I did not know if their sexual contacts knew their HIV status.

Another USA-based study assessed MSM in terms of their knowledge of PN partner counseling and referral services and intentions to use such services in case of need. n this study, the researchers found out that white HIV-infected MSM had the highest level of knowledge about PN activities and preferred disclosing their HIV status to their sexual partners through HCWs. In contrast, black MSM had the lowest PN knowledge levels and chose to disclose their HIV infection personally to their sexual partners (Tetu et al., 2017). The researchers in Tetu et al., (2017) concluded that PN is an effective public health strategy for treating and preventing STDs and HIV among at-risk populations, especially MSM who anonymously engage in sexual behavior. Overall, the preferred method of PN for the majority of MSM in the USA, according to this study, was direct person-to-person notification (Tetu et al., 2017).

Identifying, notifying, and treating partners of sexually transmitted infection (STI) patients is key to public health approaches aimed to stop the spread of STI, including HIV. Confidentially testing, notifying, and treating partners prevents reinfection of index patients and decreases the disease burden in sexual networks. Innovative approaches are urgently needed to identify more positive cases to meet the first UNAIDS first, 90%. Partner Notification is one such strategy in the African setting (Brown et al., 2011). A study on PN in South Africa found out that interventions that help patients develop

strategies to safely inform their partners are needed to increase patient-initiated partner notification. However, only half the patients tell their sexual partners of their HIV results due mainly to fear that their partners could react violently against them. Women's concerns are that their partner may leave them (Kalichman, Mathews, Kalichman, Lurie, and Dewing, 2017).

The fear of violent reactions from sexual partners makes the practice of PN difficult, even in the general population. PN's practice within the MSM is more challenging due to existing stigma and discrimination against the MSM population (Ju Nyeong et al., 2014a). Similar studies conducted in Malawi highlighted the importance of partner-assisted notification of test results to facilitate linkage to treatment and care (Brown et al., 2012). Studies conducted in Cameroon reveal that fears of social harm among sexual partners can significantly hinder the disclosure of HIV test results (Wamuti et al., 2019). Cameroon was the first African country to pilot PN services in 2007 in HIV clinics (Manuscript, 2011; Tih PM et al., 2019; Henley et al., 2013). After piloting PN in Cameroon from 2007 to 2010, the authors evaluated the outcome. The conclusions were that HIV Partner Services could be successfully implemented in a developing country and effectively identify persons with HIV (Henley et al., 2013). After that, many countries in Africa have successfully implemented PN to identify HIV positive clients and link them to care and treatment. However, this conclusion is more general and does not address the unique needs of key populations, including MSM. They suffer social injustices inflicted on them by harsh laws and unprofessional health care workers. The standard of care for HIV clients is to identify HIV positive cases and counsel them to reveal their sexual

partners for confidential notification, testing, and linkage. This standard of care is not applied to MSM in Cameroon due to the prevailing stigma and criminalization (Ju Nyeong et al., 2014a). Failure to inform partners of exposure to HIV infection leaves sexual network members infectious, and a significant number of infected individuals who are uninformed of their risks remain asymptomatic and untreated.

Health Care Workers' Behavior Towards MSM

Studies reveal that MSM has limited access to HIV/AIDS services in African countries due to stigma from society and health care workers (Micheni et al., 2017). This limitation of access to primary care for key populations based on sexual orientation is a phenomenon that needs action. There seems to be a gap in the professional attitude of the HCWs when it comes to the delivery of services for MSM (Micheni et al., 2017). There may be discordance between the way HCWs and MSM perceive HIV as a disease, its prevention strategies, and how they behave towards each other. The HCWs perception of the MSM population and their health behavior may positively or negatively influence reception and delivery of care to this population. Quality health care starts with the patient's experience with the services (Farley et al., 2014). The patients' experience comes from interacting with the HCWs from arrival time until departure from the health facility. Positive experiences build patients' confidence in the services depicting patient-centered care (Braunstein, 2013). The negative behavior of HCWs often hinders the patient from accessing care, and this has been the case with MSM (Bailey, 2014). A study in Kenya identified hindrances from HCWs, which pose adherence challenges to MSM. The challenges included HIV-related stigma, lack of disclosure, lack of access to MSM-

friendly health services, economic and social difficulties, complicated relationships with care providers, and discrimination at the clinic and in the community (Bhattacharjee et al., 2015). In particular, the study participants recommended further training for HCWS in special strategies to address MSM-specific barriers for improving HIV care for MSM in rights-constrained settings that merit future research attention (Bhattacharjee et al., 2015). Unlike the study in Kenya, where the HCWS posed multiple hindrances to MSM, another study in Malawi conducted found out that HCWs recognized the duty to deliver appropriate healthcare to MSM because they perceived this as their professional responsibility.

On the other hand, the HCWs esteemed that MSM's responsibility was to disclose their sexual orientation or preferences when they access healthcare to anticipate their care needs (Kapanda, Jumbe, Izugbara, and Muula, 2019). The poor attitude of HCWs tends to drive MSM away from the HIV clinics. A cordial patient reception will encourage higher attendance in an HIV clinic. A study conducted in Ghana (Dapaah, 2016) found that health workers providing HIV services to clients generally showed positive attitudes and behaviors during clinical encounters. The HCWS warmly received clients to the facilities, addressing clients with courtesy, advising clients, and sometimes supporting clients financially, and comfortable interacting with them. The study concluded that dealing with clients well during interactions in the centers and clinics is crucial for reducing the perceived stigma associated with the use of services and increasing use as part of the national effort to reduce the disease's infection rate in Ghana (Dapaah, 2016). This

finding is not reserved for clients in the general population only but also for MSM populations.

Summary and Conclusions

I conducted the literature review to understand better the topic, the problem, and the theoretical framework. The subject evaluates how PN is accepted and used in the Care and Treatment Center as a strategy for reducing HIV infection in MSM in Yaounde, Cameroon. The study sought to bring out the experiences and perceptions of MSM and HCWs on this subject matter. The Health Belief Model was suitable for this study and thus illuminated the problem for appropriate outcomes. Though the HIV pandemic in Cameroon is declining, more studies will reveal gaps in reaching epidemic control. Key populations like MSM were seen to be neglected, stigmatized, and criminalized for their sexual orientation and thus deprived of the global preventive, treatment, and care benefits aimed at eliminating HIV in Cameroon. From the literature review, HIV infection in MSM is higher than in the general population (Holland et al., 2015a). This finding required that HCWs offer health care to all without discrimination though this was not happening (Arreola et al., 2015). The use of PN is an effective strategy for accelerating the tracking of individuals exposed to HIV exposure. Its use can reduce the transmission of HIV infection among MSM (Wamuti et al., 2015). I found a gap in applying PN in Cameroon's MSM population, requiring urgent action to scale up PN use in reducing HIV infection in MSM in Cameroon.

Chapter three discussed this study's research methodology and gave the research design and the rationale for it. I also defined the role the researcher played to ensure that

the research was successful. Chapter three also delved deeply into the recruitment of participants, data collection and analysis, trustworthiness, and ethical considerations.

Chapter 3: Research Method

The purpose of this study was to assess the perceptions of MSM aged 21 to 49 and HCW of PN as a strategy for reducing the transmission of HIV infection in MSM in Cameroon. This chapter includes a discussion of the study's research method and design, including the target population, sampling procedure, sample size, data collection procedures, and descriptions of the data collection instruments. The data collection and data analysis processes also are explained. I also include discussing threats to validity, trustworthiness, and ethical procedures to protect the participants.

Research Design and Rationale

I used a qualitative method with an inductive approach paradigm. I used a qualitative method with an inductive approach paradigm. I used snowball sampling, a recruitment technique in which research participants are asked to help researchers identify other potential subjects. The snowball sampling is most appropriate for recruiting hard-to-reach populations (Schonlau & Liebau, 2010). The MSM constitutes a minority and marginalized population in Cameroon that is hard to access. The country stigmatizes all MSM activities. These repressive laws have driven MSM to the background and have deprived them of essential and life-saving health services, including preventive health services (Wirtz et al., 2014).

I conducted in-depth interviews with MSM and HCWs to obtain their perceptions of PN's use to enhance the prevention of HIV infection in MSM. I chose the Care and Treatment Center in Yaoundé because it is a busy HIV and AIDS Care and Treatment Center, and HCWs in that clinic receive a diverse array of patients, including MSM. The

HCWs do not pay particular attention to the MSM despite their vulnerability to HIV infection. I administered personal interviews with eight HCWs of the clinic who consented to share their perceptions of PN's use in the MSM population.

Knowledge on PN is limited, and it is very selectively applied in clinics in Cameroon because it is new in the country. In particular, the MSM population does not benefit from PN services in Cameroon yet. Reaching the MSM with PN services requires the collaboration of HCWs and MSM themselves. The implementation of PN touches on the privacy of individuals and thus is a challenging endeavor. In an article by (Wu et al., 2018) the authors concluded that newly diagnosed HIV-positive MSM have a relatively high negative perception of HIV/AIDS and may not talk about it in public. This study's sensitive nature made the research challenging because its ultimate goal was to promote PN in Cameroon. We conducted the study among a vulnerable population who are incriminated for their sexual practices. Nevertheless, the importance of the study compelled me to move forward with it despite the challenges.

I developed four RQs. Three of them were for MSM and one for HCWs. The three questions for MSM concerned the perceptions of MSM aged 21 to 49 about preventing HIV infection among their population. They also asked for the perceptions of MSM aged 21 to 49 about PN and how HCWs receive them in the clinic. Finally, the question for the HCWs concerned how HCWs perceive PN as a strategy to prevent HIV infection in MSM. The RQs underpinned data collection activities. I used them to develop the interview guides, interview participants, and respect ethical practices (Rubin & Rubin, 2005). In formulating the RQs, I focused on generating professional and

contextualized knowledge and relational ethics through attention to rigor and validity (see Ravitch & Carl, 2016).

I ensured that the basic qualitative approach used for the study aligned with the topic, RQs, and purpose of the study, which realizes that there is an objective reality and seeks to understand how knowledge is constructed and understood (Amineh and Asl, 2015). In this approach, the research problem was reflected in the research question and guided me in choosing the sample size and language use. Using language in a qualitative study is a critical factor for data collection and understanding participants' experiences (Kim, 2016). I collected interview data on 12 MSM attending services at the Care and Treatment Center. After each interview, I encouraged MSM participants to invite their peers using a flyer to meet me in a designated room in the Care and Treatment Center. I monitored potential social harms to ensure that participating MSM had minimal physical, mental, or economic harm or adverse events (Dalal et al., 2017). I made sure there were maximum confidentiality and useful interview techniques to increase the likelihood of truthful responses. The information collected was critical in understanding the readiness of MSM to implement PN and personally inform their sexual partners. According to data provided by the participants, some of the sexual partners are exposed to HIV infection.

Role of the Researcher

I collected data from two groups using in-depth interviews. One group was the MSM, and the other the HCWs. An interview guide, programmed in the computer, was used to guide the interview process (Rubin & Rubin, 2012). The interview guide and useful interview techniques helped me maintain acceptable interview practices (Rubin

and Rubin, 2012). I respected the participants and ensured their confidentiality and safety, and I made sure the questions asked were clear to facilitate the collection of accurate responses. In situations where a participant expressed doubt, I used probes to clarify the questions (Rubin Rubin, 2012). I took notes during interviews directly into my computer, respecting the proper note-taking practices by writing as much as possible to have enough data to code (Ravitch & Carl, 2016). In gathering data from MSM and the HCWs, I made sure consent was obtained and respected the privacy of information that was not supposed to be made public without permission. The information thus received was kept confidential, following standard ethical practice regarding individuals' privacy and decisions about how and what data related to participants are disseminated to protect the participants from harm (Behi & Nolan, 1995). I did not use identifiers like names, unique attributes, or job titles in my final report, except for those who gave consent to publish the research findings (Grady, 2015; Stevens, 2013; Nijhawan et al., 2013).

I avoided asking embarrassing or questions that can cause harm as my ethical obligation to the interviewees (Ravitch & Carl, 2016). No vulnerable populations such as prisoners, people with a mental health condition, and people who need special protection (Slowther, Boynton, & Shaw, 2006) were involved in the research. I took appropriate measures to involve MSM as a sensitive population. I also obtained proper consent from each participant, and I maintained confidentiality during and after the interview to not disclose their personal information. Also, I paid due attention to avoid bias by using an interview guide and standardized open-ended interview questions to minimize the chances of bias (Patton, 2015). I engaged in a dialogue with each participant during data

collection and even during analyses to identify possible areas of biases and assumptions that may arise from my positionality (Mehra, 2002; Pannucci & Wilkins, 2010).

I made the interview process go smoothly through three stages**:** (a) before the interview, (b) during the interview, and (c) at the end of the interview. Before the interview, I carefully selected the interview venue to avoid embarrassment and interruptions. I arranged a designated room for the interviews. I invited only one participant at a time and conducted the interview using unstructured and open-ended questions to obtain the participants' perceptions and opinions (Creswell, 2014). During the interview, I made sure questions posed were friendly and not embarrassing, and that time was allowed for the participant to reflect and answer each question (Patton, 2015). Eye contact was maintained, and nodding in approval was done to encourage more talking. Due to the topic's sensitive nature, I made sure I chose a face-to-face in-depth interview between a single researcher and a single interviewee as an effective interview method for the interview (Rubin & Rubin, 2012). I respected time to allow the participant to return home on time (Creswell, 2014). I took the information accurately to ensure that the findings reflect reality and give credibility to the study, which is one of the most critical factors in establishing trustworthiness (Shenton, 2004). At the end of the interview, I made sure that each participant had the opportunity to ask questions to clarify doubts. I did not give any monetary appreciation, but I reimbursed transport to each participant.

Methodology

Participant Selection Logic

I conducted this study in the Care and Treatment Center, located in the city of Yaounde. This Care and Treatment Center was selected because it is an HIV and AIDS treatment center and the only one known to be offering services for key populations in the city. The Care and Treatment Center selected also specializes in tuberculosis and mental health services. Regular HCWs in the Care and Treatment Center include doctors, nurses, and other paramedical personnel. Men who have sex with men receive outpatient consultation, Care, and treatment for other illnesses daily as part of the routine services offered to all.

The Care and Treatment Center provided the best opportunity to find MSM without embarrassing them because MSM come to this Care and Treatment Center voluntarily for consultation. In the process of consultation, we identified MSM participants using the HCWs who offered them flyers to meet me in a designated confidential room. In that room, I explained the purpose of the meeting and proposed the participant's consent form. Only the ones who consented were retained to participate. The MSM participants were not required to sign the consent form for fear of leaving behind some identifiers. After the in-depth interview, I handed a flyer to the MSM to give to another MSM, inviting him to come to meet with me. This process continued until the sample size was met at 16 when I attained saturation.

The Care and Treatment Center receives an average of one hundred MSM a month. From the beginning of the study, it was not clear if PN was administered fully to the MSM who test HIV positive. The PN process involves tracing the index case contacts

in the community, notifying them of their exposure to HIV infection, counseling, and testing them. From this study, there are PN services in the Care and Treatment Center for the general population. The MSM who participated in the study had very little knowledge of PN. Those who knew something about it said they did their HIV tests without disclosing their sexual orientation to the HCWs. In this way, the HCWs treated them the same as any other patient in the population.

The HCWs who participated in the study pointed out that PN was introduced in the Care and Treatment Center three years ago, and they are using it for every patient who tests positive. The HCWs strongly recommended that the health system should use PN for MSM because MSM has many sexual partners, and PN has proven to be useful in tracing and testing sexual contacts of newly infected persons. They pointed out that MSM is a high-risk group for HIV infection. The leadership of the Care and Treatment Center collaborated very well in facilitating the research.

Instrumentation

The main research instrument for data collection, analysis, and reporting was the researcher (Frost and Frost, 2018). I conducted in-depth interviews for 12 MSM and 8 HCWs using a standard interview questionnaire developed for this purpose. This questionnaire guided data collection for MSM and HCWs. In research, the extent to which the instruments are structured depends on the overall approach that guides the methods and the guiding research questions (Ravitch and Carl, 2016, Jacob and Furgerson, 2012)**.** The purpose of a research instrument is facts finding (Annum, 2016). I adopted the informal conversation, using the interview guide, and asking open-ended

follow-up questions to minimize the chances of bias (Patton, 2015). The informal discussion was more flexible and responsive to individual differences and situational changes (Patton, 2015), and offered an opportunity to ask more personalized questions (Seidman, 2006). I found the interview guide essential in conducting personal interviews in that it keeps the questioning consistent and focused, allowing experiences to emerge (Patton, 2015). The qualitative research questions were to understand the participants' experiences and perceptions of PN in HIV and AIDS prevention. In this case, I used only open-ended questions to obtain MSM experiences using partner notification strategy to reduce HIV infection (Nichols, B E Gotz, H M et al., 2015), and their experiences with HCWs in the clinic. Questions asked were more friendly and not ending with a threatening question mark (Nichols ,B.E. et al., 2015).

Procedures for Recruitment, Participation, and Data Collection

I conducted this qualitative study over six months in the Care and Treatment Center in Yaounde. I collected data from two distinct groups: MSM aged 21 to 49 years using snowball sampling. At the start of the research, it was clear to me that the sample size depends on the time and resources available for the study, the perceptions of the participants, the experience the researcher has in the field, the composition or structure of the study population, and the type of data collection method (Mason, 2010; Saldaña, 2017). Other opinions hold that the sample size may range from 1 to 30 (Baker and Edwards, 2012). With all the constraints in getting MSM for the study, the sample size was limited to 12, guided by saturation (Baker & Edwards, 2012; Saldaña, 2017). Though

21 MSM consented to participate, I recruited 16 for the in-depth interviews. Those rejected did not meet the age inclusion criteria.

The second group of participants was made up of HCWs selected from the HIV and AIDS clinic in the Care and Treatment Center, Yaounde. The clinic has a set of workers trained to work with the key populations, including MSM. A total of 13 HCWs consented through direct face-to-face recruitment from the clinic to participate in the in-depth interviews. Only two of those contacted declined to participate in the research.

I used in-depth interviews for both MSM and HCWs and documented both groups' perceptions of PN's use for preventing HIV infection in the MSM population. I did not know the amount of data I may need from each group in advance and collected data until saturation was reached (Baker & Edwards, 2012). Conducting data collection this way worked well for me even though some opinions hold that this may not be the best guide for estimating sample size for robust research before data collection (Guest, Bunce, & Johnson, 2006; Mark Mason, 2010). Some researchers believe sample size determination demands that researchers first reflect on what they want to derive from the data because the amount of information I need depends on what I want to make (Baker and Edwards, 2012).

Data collection procedures.

I met the unique characteristics to act as a data-gathering instrument for research work. These include awareness, flexibility, comprehension, and the ability to explain and summarize findings (Lincoln and Guba, 1985). I prepared myself to perform all these functions for this study. The data collection technique included the use of face-to-face in-

depth interviews for MSM and HCWs. The snowball sampling was chosen for MSM because the MSM is a hard-to-reach population and this sampling method facilitated access through their peers or sexual partners. The interviews facilitated more in-depth exchanges, which led to a better understanding of PN's barriers and obstacles as a strategy to prevent HIV infection among the MSM population that attend the Care and Treatment Center for health care (Patton, 2005). The interviews facilitated more in-depth exchanges, which led to a better understanding of PN's barriers and obstacles as a strategy to prevent HIV infection among the MSM population that attend the Care and Treatment Center for health care. I provided in-depth one-on-one interviews for those who felt uncomfortable talking in a group or could not participate in a focus group discussion. The one-on-one discussion guaranteed the confidentiality of the information obtained during the interview. This procedure was easy to follow since it is a storytelling process or narrative of life experiences that allowed the researcher to understand the problem better. The researcher was the only research instrument to increase consistency in data quality. The researcher’s bilingual ability facilitated communication with HCWs and MSM and moderated the in-depth interviews.

Data Analysis Plan

The data collected answered three questions about MSM and one for HCWs. From the onset of the interview, I had the intention to record the interviews, but the MSM refused any tape-recording. They feared to leave behind traces of participation in the interviews. I then resorted to note-taking using a computer in an MS word file. Each recording was always cross-checked with the respondent for accuracy before the

participant left the room. Responses from each participant were entered serially in a table according to the questions. This arrangement helped identify the factors that influenced PN's perception to prevent HIV infection in MSM.in the Care and Treatment Center Yaounde. The advantage of using the MS word was to transcribe the content for analysis and coding and find themes (Saldaña, 2017) that respond to my research questions (Rubin & Rubin, 2012). Thus, the notes recorded during the in-depth interviews with MSM were transcribed word verbatim and printed for hand coding using the hard-copy printouts on their perceptions of PN. The practice is that hard-copy printout of code lists and coded data should be generated occasionally to permit the use of traditional writing materials such as red pens and highlighters to explore data in fresh ways (Saldaña, 2017).

The data analysis approaches were thematic analysis and category coding, qualitative content analysis, and discourse analysis following an inductive procedure. The data analysis detailed content analysis without numbers and no quantitative methods (Elo & Kyngäs, 2008). This thematic content analysis was more suitable for deducing meaning from the data collected (Braun & Clarke, 2006). The coding followed pre-determined themes that guided the categorization of the responses from the participants. I moved inductively from coded units to more extensive representations, including categories and themes that responded to the research questions (Rubin & Rubin, 2012). The thematic analysis and category coding were considered foundational inductive approaches since the researcher looked for connections within the field data and thematic patterns (Williamson, Given, & Scifleet, 2017). The themes that emerged were transcribed and then reported as tables and figures. I searched all the answers through to

find responses that matched the themes. Following the factors and responses from each participant, a thematic analysis emerged.

First, using the manual coding allowed me to manipulate qualitative data on paper and write codes in pencil to have more control over and ownership of the work (Rubin and Rubin, 2012). I then applied a vertical and horizontal analysis of the collected data to compare and contrast MSM experiences in the Care and Treatment Centers with standard medical care for everyone. First, coding on hard copy such as a printout and not via a computer monitor is a standard practice in qualitative research (Bazeley, 2007) because it may be friendlier for this coding given that the sample size is not large.

Issues of Trustworthiness

I made sure that I complied with basic research norms. For instance, I understand that research aims to develop findings that can be useful to society. For the results to be accepted and consumed, they must be trustworthy. The researcher must also understand what quality, trustworthiness, and credible research mean. Rigor is perhaps best thought of in terms of the research process (Ravitch Sharon and Nicole Mittenfilner Carl, 2016). This statement expresses the importance of quality in research and implies that a more rigorous research process will result in more trustworthy findings. In the process of data collection, I exercised rigor to ensure the quality of the data collected. I maintained transparency, validity, credibility, reliability or dependability, comparativeness, and reflexivity in the research process. I held these values to ensure rigor in qualitative research (Ravitch Sharon & Nicole Mittenfilner Carl, 2016). These virtues were all respected during the process of data collection, transcribing, and coding. The quality of

the data collection instruments contributed to the validity of the study and the data quality. However, I was aware that the quality of the data depended on the interviewer (Patton M., 2015). I was also mindful of the duty to respect privacy in the process of data collection.

I assessed the trustworthiness following initial coding as interview data was transcribed manually (Saldana, 2016). The organization of the work was considered key to enhancing the credibility and trustworthiness of a qualitative research (Ravitch & Carl, 2016). I emphasized dialogue, exchange, and close relationships. I considered these values essential to my empirical work (Ravitch & Carl, 2016). I looked for themes in such a way that will promote trustworthiness. For instance, I looked for themes in the data by looking for such qualities as repetitive ideas to build a rigorous research study that enabled me to report results that my peers considered useful and credible. (Ravitch & Carl, 2016).

Ethical Procedures

Ethical issues are related to individuals' privacy and entail decisions about how and what data related to participants will be disseminated to protect the participants from harm (Behi & Nolan, 1995). I am aware that this study involved a sensitive topic, and the personal interviews with MSM could expose their sexual orientation and their HIV positive status. The study thus required maintaining confidentiality since the two areas are sensitive and raise stigma in Cameroon. I obtained informed consent from all the study participants after making the study's purpose clear to them. I made sure that the questions posed respected the rights of participants regarding personal data. I gave

specific information on PN and personal data protection to participants before receiving their consent to participate in the study. During the interviews, the information recorded is confidential and stored in a secured cupboard or drawer as the researcher's strict property. I recorded the in-depth interviews on my personal computer, and identifiers like names, unique attributes, or job titles were not recorded and not included in my final report.

I was very cautious not to harm my research participants (Ravitch & Carl, 2016) and avoided asking embarrassing questions or saying anything that could harm me. My first ethical obligation was to my interviewees (Ravitch & Carl, 2016). I made sure that I did not involve vulnerable populations such as pregnant women, prisoners, and children that needed special protection (Slowther et al., 2006). I respected all fellow researchers during the conduct of this research (Ravitch & Carl, 2016).

Summary

In Chapter 3, I stated the methodology of the study and detailed the study design and rationale. I described the study site and summarized the procedure for recruiting participants. After, I clarified the researcher's role and defined the instrumentation before discussing the ethical and trustworthiness issues. The chapter closes with paragraphs on credibility, transferability, and confirmability. In chapter four, I have discussed the study results.

Chapter 4: Results

The purpose of this study was to assess the perceptions of MSM aged 21 to 49 years and HCWs of PN as a strategy for reducing the transmission of HIV infection in MSM in Cameroon. The acceptable sexual partners in Cameroon are men and women. The practice of sexual activities between men is unacceptable. The exclusion of MSM as recognized sexual partners has a significant limitation to their access to HIV and AIDS services (Schwartz et al., 2014). Health advisors must trace a man as a sexual contact of a woman and trace a woman if the index is a man. Ordinance N° 72-16 of 28 September 1972 introduced Article 347a of the Cameroon Criminal Code, which punishes sexual relations with a person of the same sex (Piñera, 1980). Same-sex relationships continue to be stigmatized and lack acceptance in most African countries (Holland et al., 2015b). HIV infection rates continue to rise higher among MSM populations than the general population in Cameroon, yet contact tracing efforts continue to be avoided by public health advisors (Arreola et al., 2015; Holland et al., 2015b; Ju Nyeong et al., 2014a). Although contact tracing is a useful tool in providing HIV prevention counseling and testing for partners, HCWs continue to ignore the strategy with MSM (Rutstein et al., 2014).

In this qualitative method, I used four RQs in an attempt to address the problem question. Three of them pertain to MSM; one pertains to HCWs. The four RQs are

RQ1. What are the perceptions of MSM aged 21 to 49 about preventing HIV infection among their population?

RQ2. What are the perceptions of MSM aged 21 to 49 about partner notification?

RQ3 What are the perceptions of MSM of how HCWs treat them in the Care and Treatment Center?

RQ4. How do Health Care Workers perceive PN as a strategy to prevent HIV infection in MSM?

This chapter will describe the setting, demographics, data collection, data analysis, trustworthiness, and results.

Setting

After receiving IRB authorization from Walden University and ethical clearance from the Cameroon National Ethics Committee, I started collecting data. Previously, I received permission from the Care and Treatment Center administrators to interview participants. The Care and Treatment Center is one of the oldest Care and Treatment Centers in Yaounde. It has a major HIV and AIDS treatment center with over 5,000 AIDS patients regularly enrolled for treatment. It has been offering PN services since 2015 to those who test positive for HIV. The HCWs are familiar with PN for the general population. The Care and Treatment Center HIV services are provided both to the vital communities and the public. I chose the Care and Treatment Center because HCWs consistently counsel the public regarding PN services. The environment also provides the opportunity to evaluate how HCW perform counseling with MSM and whether MSM feel comfortable disclosing sexual health issues with the HCWs. Last, the Care and Treatment Center setting provided an opportunity to determine the MSM population's perceptions of HIV prevention strategies in their communities.

Demographics

In all, I interviewed 16 MSM. The inclusion criteria for participation in the study included the following: MSM identified in the Care and Treatment Center, aged 21 to 49 years, born in Cameroon, speak English or French, lived in Cameroon for the past six months or longer, and have visited at least one health facility in the past 12 months. The upper age limit was 49 years, but most of those who consented were between 21 and 27 years. The inclusion criteria for HCWs included staff who have worked in the Care and Treatment Center for a minimum of 12 months, team working in the HIV and AIDS service in the Care and Treatment Center, staff who consent to participate in the study, and whose ages were between 21 and 49 years old. In all, five male and ten female HCWs agreed to participate in face-to-face in-depth interviews. Table 1 gives the demographics of the HCW participants.

Table 1

Demographics of HCW Participants

Subj #	Qualification	Age	Sex	Years of experience in this HIV clinic
101	Medical doctor	38	F	4
102	State-registered nurse	49	F	3
103	Laboratory technician	27	F	4
104	State-registered nurse	33	F	3
105	MSc, Bio-medical	35	F	3
106	Laboratory technician	34	M	3
107	Assistant nurse	39	F	4
108	Medical anthropologist	37	F	3
109	State-registered nurse	34	M	3
110	Psycho-social counselor	34	F	3
111	Psycho-social counselor	36	M	4
112	Laboratory technician	30	F	7
113	State-registered nurse	38	M	4
114	Laboratory technician	46	M	3
115	State-registered nurse	46	F	3

The minimum years of experience for each staff in the HIV and AIDS Care and Treatment Center is three years. The longest-serving HCW in that service has spent seven years there. The ages of HCWs ranged from 27 to 49 years. There were no HCW participants within the age range of 21 to 26. Table 2 below shows the demographics of the MSM participants. I analyzed the data from all 16 MSM. The table below shows the ages of all the participants.

Table 2

Demographics of MSM Participants

Subj#	Subject age in years
101	24
102	22
103	25
104	23
105	23
106	24
107	25
108	24
109	22
110	27
111	22
112	26
113	21
114	24
115	23
116	21

Table 2 shows that the MSM participants were young men in their twenties. Older MSM who are richer probably seek health care in private clinics for confidentiality and nonjudgmental reactions from the HCWs (Hoang et al., 2015). The second observation was that the snowball method of recruitment allowed younger MSM to invite their peers more than attracting their older mates. The third observation is that the age trend in this data confirmed earlier publications that found that key populations are more at risk of HIV infection than older people (Aids, Bekker, & Hosek, 2015).

Data Collection

I collected data from two groups of participants. The first group was the MSM participant. The snowball method of recruitment worked very well for recruiting MSM. Each MSM interviewed was given a flyer to hand to a friend. The flyer was an invitation to participate in the study. If the MSM accepted and came to the interview room, I presented the consent form. After reading, the MSM either consented or declined to participate in the in-depth interviews. Similar flyers were left in each consult room in the clinic to hand to MSM, who visited the facility. A combination of the snowball method and the flyers placed in the clinics helped to recruit the number of participants needed for the data collected through in-depth interviews.

Initially, I set the sample size at 12, given that the study anticipated constraints in getting MSM. However, the snowball method of recruiting MSM participants was effective. I contacted 22 MSM participants, 16 qualified, and consented to participate in the study. I then interviewed all 16 participants. What guided the sample size of 16 was saturation (Baker and Edwards, 2012; Saldaña, 2017). The interviews took place in a

private room for confidentiality. The room was well labeled and described in the flyer (see Appendix A). I gave each MSM participant 30 minutes for the interview, but some took up to 40 minutes, and some took less than 30 minutes. We did not include any personal identifiers in the notes taken.

Initially, I had planned to audiotape the in-depth interviews, but the first two MSM declined to be tape-recorded. I consequently dropped the audiotaping and resorted to taking notes on Microsoft Word. All the participants had no problem with notetaking. On average, I interviewed two participants per day. Each MSM participant participated fully in responding to all three questions as planned.

The HCWs selected from the HIV and AIDS Care and Treatment Center constituted the second group of participants. The HIV and AIDS service has workers trained to work with key populations, including MSM. Initially, I had planned to recruit up to 8 HCWs for the in-depth interviews. However, I interviewed 15 HCWs who consented through direct face-to-face recruitment from the HIV and AIDS service to participate in the in-depth interviews. Each HCW was interviewed individually in a private room set aside for the study. I documented the responses. I did not propose to tape-record but went ahead with the computer recording and used it for the MSM participants. Each interview took about 40 minutes on average. I continued with the in-depth interviews of all the HCWs who consented until saturation was reached (Baker & Edwards, 2012). Only two HCWs refused to participate in the in-depth interviews. Due to the diversity in the HCWs composition, there were new ideas each time I interviewed a different category of HCWs. That extended the sample size to 15 before saturation. The

larger sample size helped provide rich data, which facilitated in reaching conclusions and making recommendations.

I was aware of the topic's sensitive nature and the need for confidentiality for the MSM population, so I remained very flexible to each candidate's responses and concerns. I took the time to explain and summarize the topic to the two participating groups. The data collection technique included the use of face-to-face in-depth interviews for both MSM and HCWs. I considered semi-structured interviews most appropriate for data collection techniques (Patton, 2005). Semi-structured interviews facilitate more in-depth exchange, which led to a better understanding of the barriers and obstacles to Partner Notification to reach more MSM with HIV services and thus prevent HIV infection among their population. The recruitment of both the HCWs and the MSM participants were from the Care and Treatment Center. The confidentiality of the information obtained during the interview was assured. I assured the participants that the information they gave me would be kept confidential. I also assured the participants that I will discard the information as soon as I write the paper. Since I was the only interviewer, that increased the consistency in the data quality collected and confidentiality level. The Care and Treatment Center is in a French-speaking zone in Cameroon. I am bilingual, and this assisted in the communication between the participants and myself. There was no need for research assistants and translators. (See Appendices B, C, and D for the French versions on the RQs, participant information sheet, and snowball sampling flyer.) The planning process and my communication with the participants shortened the data collection period. Data analysis started immediately after that.

Data Analysis

I first conducted personal in-depth interviews for MSM and HCWs, then transcribed the interview data using qualitative data analysis to make sense of the data. Qualitative data analysis takes various approaches that generally align with particular conceptual frameworks and methods (Hilfiker, Sun, & Hong, 2018). The strategies recommended include thematic analysis and category coding, qualitative content analysis, and discourse analysis (Hilfiker et al., 2018). I used thematic analysis and category coding, which are considered a foundational inductive approach (Hilfiker et al., 2018). There are many approaches to conducting a thematic analysis. I first familiarized myself with the data I collected and then assigned preliminary codes to describe the content. I did manual coding, just on a word processor like Microsoft Word. I found Microsoft Word very useful in coding, retrieving, and exploring relationships between and frequency of codes. Due to the complicated nature of the data, I resorted to manual coding using Microsoft Word. This approach is standard and flexible for analyzing interview data (Ose, 2016). I interpreted each statement made by the participants and then generated meaning in a short phrase that gave a vivid picture of what the participant said (Saldaña, 2016). The analysis led to the identification of relevant statements and determining meaning from the identified interviews. Finally, I created themes of meaning and merged the themes to reflect the phenomenon under study (Gibbs, 2012; Saldaña, 2016). Then I reviewed the themes and named them. The last stage was to produce a report as recommended by (Hilfiker et al., 2018). From the data obtained from the MSM and hand-coded, 18 codes emerged as listed in table 3 below.

Table 3

Codes Generated From MSM Interviews

Codes generated from MSM interviews			
1	HIV infection,	10	Have sex with many men
2	AIDS	11	Talk about HIV
3	Sexual contact	12	Tell them
4	HIV test	13	Cannot know my results
5	HIV positive	14	Be on treatment
6	HIV negative	15	One sexual partner
7	Inform family	16	Use a condom
8	Inform a best friend	17	Abstinence
9	Inform partner	18	Join an association

From the 15 HCWs interviews, a total of 31 codes emerged. The codes have been entered in in table 4 below.

Table 4

Codes Generated From HCWs Interviews

Codes generated from Health Care Workers interviews			
1	Using PN in Care and Treatment Center,	17	Do not ridicule,
2	Many sexual contacts,	18	Not being critical,
3	PN as a good strategy,	19	Expose,
4	PN is good for MSM,	20	Not suspicious,
5	High yield,	21	Group sex,
6	Positive cases,	22	Exchange of partners,
7	Live in fear,	23	Violent MSM,
8	Increased confidentiality,	24	Open to use PN,
9	PN not easy,	25	MSM hide,
10	Build confidence,	26	MSM like NGOs,
11	Contacts,	27	PN is essential,
12	Lose sexual partners,	28	Be professional,
13	Gives more positives,	29	Private life,
14	Many partners,	30	Do not intimidate,
15	Many HIV positives,	31	MSM avoid strange persons.
16	Do not judge,		

From the 18 MSM codes in table 3, four themes emerged as follows:

Table 5

Themes Generated From The MSM Codes in Table 3

Themes generated from the MSM codes in table 3	
HCWs-theme 1	Train HCWs in PN to facilitate use for MSM.
HCWs-theme 2	PN will facilitate case identification among MSM and give high yields.
HCWs-Theme 3	MSM contacts are difficult to trace.
HCWs-Theme 4	NGOs access MSM better

From the HCWs, codes, themes which emerged are as follows:

Table 6

Themes Generated From The HCWs Codes in Table 4

Themes generated from the HCWs codes	
HCWs-theme 1	Train HCWs in PN to facilitate use for MSM.
HCWs-theme 2	PN will facilitate case identification among MSM and give high yields.
HCWs-Theme 3	MSM contacts are difficult to trace.
HCWs-Theme 4	NGOs access MSM better

All the HCWs stated that they have heard of PN in the Care and Treatment Center. They did not understand what it means. Their PN definitions varied from simple disclosure of

test results to a sexual partner to tracing all sexual partners and testing them. The different levels of understanding PN did not affect the quality of their responses about using PN for MSM. The HCWs who fully understand and have used PN in the Care and Treatment Center gave a more precise assessment of the difficulties encountered in accessing MSM and their sexual partners. All 15 HCWs were unanimous that MSM constitutes a high-risk population with the highest HIV infection in the Care and Treatment Center. For the past three years, the HCWs who worked consistently in the clinic had experience using PN and believed it is an excellent strategy for identifying positive patients' sexual contacts in the Care and Treatment Center. Some of them responded that only one might be positive when you test 10 people from the general population, but four to five may be positive when you test ten MSM. The HCWs suggested that the reason for this high infection rate may be due to the many sexual partners.

The data collected answered three questions about MSM and one for HCWs. From the onset of the interview, I had the intention to record the interviews, but the MSM refused any tape-recording. They feared to leave behind traces of participation in the interviews. I then resorted to note-taking using a computer in an MS word file. Each recording was always cross-checked with the respondent for accuracy before the participant left the room. Responses from each participant were entered serially in a table according to the questions. he answers helped identify the factors that influenced PN's perception to prevent HIV infection in MSM.in the Care and Treatment Center Yaounde. The advantage of using the MS word at this level was transcribing the content for

analysis and coding and finding themes (Saldaña, 2017) that respond to my research questions (Rubin & Rubin, 2012). Thus, the notes recorded during the in-depth interviews with MSM were transcribed word verbatim and printed for hand coding using the hard-copy printouts on their PN perceptions. It is essential to generate hard-copy printouts of code lists and coded data occasionally to permit the use of traditional writing materials such as red pens and highlighters to explore data in fresh ways (Saldaña, 2017).

The approaches used for data analysis was thematic analysis and category coding, qualitative content analysis, and discourse analysis following an inductive procedure. The study was qualitative research, and the data analysis involved content analysis without numbers and no quantitative methods used (Elo & Kyngäs, 2008). The thematic content analysis was more suitable for deducing meaning from the data collected (Braun & Clarke, 2006). The coding followed pre-determined themes that guided the categorization of the responses from the participants. I moved inductively from coded units to more significant representations, including categories and themes that responded to the research questions (Rubin & Rubin, 2012). The thematic analysis and category coding were considered foundational inductive approaches since the researcher looked for connections within the field data and thematic patterns (Williamson et al., 2017). The themes that emerged were transcribed and then reported as tables and figures. I searched through all the responses to find responses that matched the themes. I got some factors and answers from each participant, which led to thematic analysis, and themes emerged.

Using manual coding offered me the opportunity to manipulate qualitative data on paper and write codes in pencil to have more control over and ownership of the work (Rubin & Rubin, 2012). A tabular layout of the data enabled vertical and horizontal analyses of the collected data to compare MSM experiences in Care and Treatment Centers with standard medical care for everyone. First, coding on hard copy such as a printout and not via a computer monitor is a standard practice in qualitative research (Bazeley, 2007).

Evidence of Trustworthiness

Credibility: Credibility deals with issues of internal validity. I made sure that the study's phenomenon, which is high HIV infection in MSM, has been accurately represented and assessed through the use of established methods, familiarity with the context, triangulation of methods, sources, meanings, coders, and interpretations. The study process also involved transparent recruiting and informed consent, member checking, and discussion of discrepant cases or findings. All through, credibility was built into the research design, followed closely in data collection, and then accurately and transparently reported to reflect what was said and heard. In essence, I achieved credibility by showing that I talked with MSM and HCWs who were adequately informed about the research. The people I spoke to were knowledgeable about the research problem. I found out the experiences of those I interviewed by asking them politely if they are speaking from firsthand experience (Rubin & Rubin, 2012). All the HCWs were those with a minimum of 3 years of experience in HIV and AIDS work. The MSM who consented and

participated in the in-depth interviews met the inclusion criteria and willingly responded to each question to show that they understood the topic well.

Transferability: Transferability is dealing with the external validity of the study (Birt, Scott, Cavers, Campbell, & Walter, 2016). I checked to be sure that I asked for sufficient contextual descriptions. I assessed this through the thick description of context and data collection setting, a full description of relevant participant selection criteria, and recruitment and data collection details. I used credibility probes, which revealed how much substantial evidence underlies the answers, how good the interviewee's memory was, and what kind of bias or slant the participant might have. I also used peer debriefing and provided participants with summaries of the themes as a form of member-checking for validity (Birt et al., 2016).

Dependability: I provided sufficient procedural details to replicate study findings and assessed through the description of research design, details of data collection procedure, and reports of flaws, missteps, and changes in any proceedings. To ensure trustworthiness and credibility in research findings, I kept a keen eye on the accuracy of the data collected from individual participants throughout the analysis to confirm consistency.

Confirmability: This study demonstrates that the findings result from the participants' experiences and ideas rather than the researcher's characteristics and preferences. I assessed this aspect of the research through the description of my role as the researcher and my affiliation with the setting, context, and phenomenon; triangulation, transparency of the audit trail leading from data collection through

interpretation, and presentation of how I moved from data to codes to categories to themes.

These research results are fresh and real, and the conclusions are balanced, thorough, credible, and accurate, and the final report is rich with ideas (Saldana, 2016). I chose the interviewees from among the MSM, and the interviewer demonstrated excellent knowledge of the research topic and spoke very knowledgeably (Saldana, 2016). The HCWs recruited were experienced in their profession and responded to each question with confidence. I maintained validity by affirming that the findings are faithful to participants' experiences, quality, and rigor of a study (Ravitch and Carl, 2016)**.**

Results

From the three research questions for MSM participants, I generated 18 codes (table 5). From the 18 codes, four themes emerged (Table 7).

RQ 1: What are the perceptions of MSM aged 21 to 49 about preventing HIV infection among their population?

MSM Theme 1: HIV Causes AIDS

All the MSM participants, Subj # 101 to Subj# 116, responded differently, but all had a clear understanding of HIV though some of them could not make a difference between HIV and AIDS. The participants defined the two terms according to their knowledge, indicating that "HIV is a virus," and the bulk of them said "HIV causes AIDS," while others said, "HIV is an immune virus," etc. They also defined AIDS as "a disease," "a sickness caused by HIV," and "a disease that destroys the body." About a quarter of the MSM respondents said it is good to prevent HIV because it causes AIDS,

which kills. One said, "I think it is important to prevent HIV among MSM because HIV kills." Over 50% of the participants responded that HIV is transmitted from person to person through sexual intercourse. The respondents did not distinguish between unprotected anal intercourse versus vaginal, penile intercourse. They all indicated that MSM has multiple partners and desire to prevent each other from HIV infection as a sign of love. Some participants "it is good to test so that you can be on treatment Subj#103, Subj#106". The participants demonstrated that they are aware of HIV, what AIDS is, and that it is good to test and know your HIV status.

MSM Theme 2: Sharing HIV Test Results to Keep Sexual Partners and Gain Social Support

During the in-depth discussions, 15 out of the 16 participants indicated that they shared their HIV test results with somebody. Only one participant, Subj# 108, said he did not share his HIV test results with anybody. He was very emphatic that he did not want to share his findings, and the reasons were closely linked to his sexual preference. He did not want to be stigmatized and ridiculed. The participants individually indicated that they shared the results of their HIV test: "my family member, my best friend, my partner, my mother, my aunt, etc." The reasons participants advanced for their willingness to share their HIV test results included: "I did not want him to discover it himself, I did it as a sign of love, it was to gain confidence, I wanted to keep my sexual partners, just to maintain the relationship, etc." Other participants responded that sharing HIV test results is a mark of faithfulness and honesty to sexual partners. Nine participants, Subj# 101, Subj#102, Subj#103, Subj#106, Subj#107, Subj#110, Subj#111, and Subj#112, said they shared

their results with their sexual partners to gain love and support to curb with the news of infection. From the discussion, some of the participants said they needed someone to support them in such difficult times of receiving bad news and encouraging them to take their ARVs drugs regularly. Some said sharing results helped because their sexual partners gave them moral support to get out of depression. Since all the participants were people living with HIV, I based the discussion on lived experiences.

RQ 2. What are the perceptions of MSM aged 21 to 49 about Partner Notification (PN) as a strategy for preventing HIV infection?

MSM Theme 3: Prevent Infection in a Partner as Proof of Love

From the interview results, only three participants: Subj# 101, Subj#110, and Subj#115, have heard about PN before. They said they heard of it in the Care and Treatment Center when they did their HIV test. The three participants defined PN in their own words but giving the notion that it means informing sexual partners about one's test results. They had limited knowledge of PN that extends to contact tracing but was on track. I explained PN meaning to the rest of the MSM participants who did not know about PN and understood what it means. This explanation helped each participant respond with understanding to the subsequent questions. The theme resulted from the discussions that followed with each of the participants. They all felt that it is better to prevent the persons you love by ensuring that you do not infect them.

All the 16 MSM participants expressed their support for PN's use as a strategy to trace and notify the sexual contacts of index MSM. They felt that sexual partners have a duty to prevent their loved ones from infection as a sign of love to gain their confidence.

One participant, Subj# 109 expressly said, "if you love someone, you will inform him about your test results, but if you do not love him, you will not.". The other nine participants, Subj# 101, Subj#102, Subj#103, Subj#106, Subj#107, Subj#110, Subj#111, and Subj#112, said they would notify their sexual partners of their HIV test results to gain support and love from them. The support mentioned ranged from reminding the partner to take their drugs on time and giving moral and financial support. With a limited understanding of what PN means, many of the MSM involved in the in-depth interview expressed concerns with HCWs tracing index MSM contacts to inform them that they are exposed to infection. However, they had no problem doing this themselves and sharing the information with their HCWs.

RQ.3 What are the perceptions of MSM of how HCWs receive them in the clinic?

MSM Theme 4: HCWs Do Not Maintain Confidentiality in Service Delivery

All the MSM participants have attended the Care and Treatment Center, especially the HIV/AIDS treatment clinic, and remember how they are received and treated in the clinic. They expressed concerns about the reception and treatment they receive from HCWs in the Care and Treatment Center by HCWs. These are the perceptions of HCWs by some of the MSM:

Table 7

Perception of HCWs by MSM Participants

Participants Codes	Perception of HCWs by MSM
Sub# 101, Sub# 102. Sub# 103, Sub# 111	" when we go there, the nurses talk about us in the corridors, can even talk about your HIV results among themselves, ridicule and stigmatizing you"
Sub# 101, Sub# 102. Sub# 103, Sub# 109, Sub# 111, Sub# 115, Sub# 116	"---prefer to go to the Gay Center, where we are well received and treated fairly"
Sub# 102, Sub# 103, Sub# 111, Sub# 115, Sub# 116	"---HCWs receive us very well when they do not know that we are Gay"

Five participants expressed reservations about disclosing their sexual orientation to the HCWs. They perceived that disclosing their sexual orientation to the HCWs will lead to less than optimal care. Once the HCWs know that the individual is Gay, the quality of care is not the same for other regular patients. These perceptions confirm past studies, which revealed that gay men prefer private clinics that preserve their confidentiality and are non-judgmental (Hoang et al., 2015).

The participants expressed that they are always well received by the HCWs when they talk only about their illness and do not let the HCWs understand who they are. One

participant said: "I do not talk about being MSM. I go there because I want to receive medical care as if I was just a normal person," Sub# 102. As a researcher, I was embarrassed by the word “normal,” but not surprised about it within Cameroon's context. The gays feel comfortable not talking about being MSM as revealing "who you are, will make you not to be well treated," as one of them said. The fear of being criminalized, stigmatized, or ridiculed places the MSM in a vulnerable position and thus makes them receive less than optimal HIV and AIDS care in most African countries, including Cameroon clinics (Wirtz et al., 2014, Kennedy et al., 2013, Papworth et al., 2015)**.** The MSM is a high infection population, and creating barriers to reaching them hinders case identification and reduces the chances of reaching epidemic control within the estimated time frame.

RQ4. How do Health Care providers perceive PN as a strategy to prevent HIV infection in MSM?

From the research question four for the HCWs participants, 31 codes came out. The 31 codes were merged into four themes, as follows:

HCW Theme 1: Train HCWs in Partner Notification to Facilitate Use for MSM

HCWs had a shared understanding of PN. In 2015, the implementers HIV and AIDS services trained the Care and Treatment Center staff in PN. The staff trained are currently working in the HIV and AIDS section of the Care and Treatment Center under the HIV-Free project funded by PEPFAR under the Centers for Diseases Control and Prevention (CDC) Atlanta. From the training, the HCWs are supposed to practice PN in the clinic for all patients that seek care. From the in-depth interviews, the HCWs

indicated that they understood what PN means. They all defined PN differently but correctly. Two more accurate participants described PN as "an activity that involves the search for the sexual contacts of the those who are HIV positive to stop further transmission, HCW#1, and "a process of informing a sexual partner of the status of the partner so that the contact can come for testing" HCW#2. Since 2016 the HCWs have been using PN in the general population, but they did not demonstrate adequate knowledge of using PN in the MSM population during the in-depth interviews. The staff indicated that they have received some MSM patients and are aware that they may be at high risk of HIV infection or have multiple sexual partners. The infection rate among MSM makes PN a perfect strategy for identifying positive sexual contacts among MSM. Some HCWs indicated that they had used PN successfully to trace MSM connections just like they have done for all other patients in the clinic. PN services are not offered to MSM consistently, and routine tracing and testing are absent for their sexual contacts. During the in-depth interviews, the HCWs indicated that they provide PN services for everyone who is HIV positive but highlighted the need for further training in PN for staff who work in Care and Treatment Centers to enhance their proper skills PN service delivery.

HCW Theme 2: Partner Notification Will Facilitate Case Identification Among MSM and Give High Yields

All the HCWs were unanimous in their responses that PN is an excellent strategy to identify the HIV positive partners of the MSM index case. They stated that PN is an effective but not an easy-to-use method and, therefore, not often accepted by the patients.

Participants said HCWs are repeatedly harassed by the index cases who feel that PN exposes their confidential information. "The police threatened me when this strategy started in our clinic. Other patients did not want to hear about PN. I told them that PN is an excellent way to help more people to know their HIV status and be on treatment." HCW #1. Other participants expressed similar concerns about using PN and stated that those who use the PN strategy to trace sexual contacts must be trained in it first. The respondents said it is vital for HCWs to know how to approach the sexual contacts, do proper counseling, maintain confidentiality, avoid ridiculing or stigmatizing the index cases and their sexual contacts. "Using PN for MSM requires more preparation than using it for the background population" HCW #2, HCW #4, HCW #10, HCW#14. The MSM is a hidden population in Cameroon and usually does not want their identity known for fear of being stigmatized and criminalized. This fear makes some of them hesitant if the HCWs are not cautious in approaching them. This knowledge gap explains why HCWs said there is a need for extra training for the HCWs who wish to use PN to trace and test the sexual contacts of MSM index patients.

HCW Theme 3: MSM Contacts Are Difficult to Trace.

The in-depth interviews and the themes that emerged from the MSM community in Cameroon can be challenging for inclusion in a partner notification strategy and prevention program. As some of the HCWs participants indicated, "MSM in Cameroon hide and do not feel comfortable to talk in public" HCW #1, HCW #5, HCW #9. It also came out that the MSM index cases are not willing to give their sexual contacts to the HCWs to trace, notify, counsel, and test them. Even though the HCWs said the MSM

have higher HIV infection levels and that PN will facilitate locating their contacts, they also pointed out that it is difficult. This view of accessing MSM HIV positive contacts is most likely made worse by the index cases' negative aspects of HIV/AIDS. Past studies point out that newly diagnosed HIV-positive MSM have a relatively high negative perception of HIV/AIDS in cognitive and emotional aspects (Wu et al., 2018b). Thus, one can understand why it is hard to interview the newly infected HIV positive MSM and obtain their sexual contacts to trace and test. In the Care and Treatment Center HIV and AIDS clinic, the HCWs do not use PN consistently in identifying MSM sexual contacts. This failure to use PN may always be the logical consequence of the MSM index cases' reactions.

HCW Theme 4: NGOs Access MSM Better.

Both the HCWs and MSM respondents indicated that the reason MSM are difficult to access is the fear of stigma, ridicule, disclosure of their sexual orientation to the general public, and criminalization (Taegtmeyer et al., 2013, Scheibe, Kanyemba, Syvertsen, Adebajo, and Baral, 2014). There are NGOs in Cameroon that have studied the MSM populations and know how to work with them. From the in-depth interviews, two HCWs stated that "MSM talk to NGOs better, and NGOs can easily obtain information on MSM" HCW #1, HCW #5. The NGOs work better with MSM because they can maintain the confidentiality of information obtained, pose little threat to their sexual preferences, and treat them with respect (Claire E. Holland, Papworth, Billong, Kassegne, et al., 2015b). The NGOs are not judgmental and do not stigmatize the MSM.

Past studies confirm the fact that MSM are more likely to access health services provided by NGOs and community-based organizations (Henry et al., 2010).

Summary

Chapter four was devoted to the results of this study. The setting of the study was the Care and Treatment Center in Yaounde. There were four research questions for the study. The demographics and characteristics relevant to the study included the description of the two participating groups. The first group of participants was made up of 16 MSM aged 21 to 27. From the coding and thematic analysis of the data obtained from the three questions for the MSM, a total of 18 codes came. After grouping, four themes emerged. The second group of participants was made up of 15 HCWs. The HCWs had five males and ten females. The ages of HCWs ranged from 27 to 49 years. After coding the data, I generated 31 codes. From the 31 codes, four themes emerged.

I collected from the participants using in-depth face-to-face discussions, entered in a computer, and analyzed using Microsoft word. I maintained confidentiality throughout the data collection and analysis. The themes that emerged were discussed under the results heading in chapter four. I have discussed, drawn conclusions, and made recommendations in Chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this study was to assess the perceptions and acceptability of MSM and HCWs regarding PN as a strategy to reduce HIV transmission in MSM in Cameroon. When I conducted this study, HIV and AIDS was still a global problem, especially in Sub-Saharan Africa (AIDS, 2017; Dwyer-Lindgren et al., 2019; Kharsany and Karim, 2016). Cameroon was still one of the countries with a high HIV infection rate (UNAIDS, 2018b). The MSM population is known globally to have a high HIV prevalence (Bowring et al., 2019; Harris, Tuttle, Sellers, Dozier, & Dunn, 2014; Rebe and McIntyre, 2017; Wu et al., 2018; Yan et al., 2014). This trend is similar in Cameroon but is made worse by the absence of a clear strategy to test and trace the sexual contacts of the positive cases and test them further.

Furthermore, MSM are not allowed to talk about their sexual practices in public. Most often, they are ridiculed and criminalized for their sexual practices. The criticism has driven the MSM population into hiding, thus making HIV case identification difficult (Murray et al., 2018). In this study, I evaluated both HCWs and MSM's perceptions of the use of PN services. In many Western countries, health officials use PN to identify the sexual contacts of HIV positive index cases and notify and test them for HIV (Helen Ward & Bell, 2010). Those who are positive are then linked to care and treatment.

I used the qualitative study to explore how MSM and HCWs perceive PN as a strategy for HIV prevention. The research was grounded in the HBM, which researchers and HCWs use to promote disease prevention and encourage positive behaviors (Glanz et al., 2008) and predict behavior (Jeihooni et al., 2015). There were four RQs:

RQ 1: What are the perceptions of MSM aged 21 to 49 about preventing HIV infection among their populations?

RQ 2. What are the opinions of MSM aged 21 to 49 about partner notification as a strategy for preventing HIV infection?

RQ.3 What are the perceptions of MSM of how HCWs receive them in the clinic?

RQ4. How do health care providers perceive PN as a strategy to prevent HIV infection in MSM?

Interpretation of Findings

I extended the sample size from 12 to 16, hoping to have older MSM, but none came through the snowball recruitment method. I found out that most of the MSM who responded to the recruitment flyers were below 30 years of age. A few were below 21, and so I excluded them from the study. Almost all the MSM who met with me were willing to participate in the interview. I proposed tape-recording the in-depth interviews, but none of the first five MSM participants accepted, so I did not record the interviews. The MSM participants visibly resented being tape-recorded, most likely from fear of stigma and ridicule.

I set the sample size for HCWs at eight at the beginning of the study. I interviewed 15 HCWs before attaining saturation. The ages of HCW participants ranged from 27 to 49. There were no HCWs aged below 26 years. Of the 15 HCWs, five were men, and 10 were women. There were one medical doctor and 14 paramedical staff. There were three RQs for the MSM participants, from which 18 codes and four themes emerged.

Research Question 1

In Research Question 1, I sought to know how MSM perceive HIV prevention. I focused the subquestions on the MSM's understanding of what HIV is and how they define AIDS. All 16 respondents showed some knowledge of HIV, though some could distinguish between HIV and AIDS. The participants defined the two terms according to their understanding, indicating that "HIV is a virus," and the bulk of them said "HIV causes AIDS," while others said, "HIV is an immune virus." One participant said AIDS is another name for HIV. Two themes emerged from Research Question 1.

MSM Theme 1: HIV Causes AIDS. The first theme emerged from the common understanding of the MSM participants that "HIV causes AIDS." The majority of the MSM participants gave this definition. It was more challenging to define AIDS, but some participants were able to say AIDS is "a disease," "a sickness caused by HIV," and "a disease that destroys the body." From the interviews, I gathered that the MSM participants understood what it means to be infected by HIV. Out of the 16 MSM participants, 14 expressed a good understanding of the importance of preventing HIV and said HIV causes AIDS, which kills. One said, "I think it is important to prevent HIV among MSM because HIV kills." Over 80% of the participants responded that HIV is transmitted through sexual intercourse, and only one added that HIV is also transmitted from mother to child. They all indicated that multiple sexual partners result in more chances of HIV transmission. All 15 out of the 16 MSM participants reported having numerous sexual partners and expressed the desire to prevent themselves and their sexual

partners from being infected with HIV. Over 50% of the participants said HIV testing is vital because it enables the HCWs to place the HIV positive cases on treatment.

MSM Theme 2: Sharing HIV Test Results to Keep Sexual Partners and Gain Social Support. The second theme that emerged from the data analysis from Research Question 1 focused on sharing HIV test results. esting and knowing one's status is essential, but positive index cases must be contact-traced to test them further and stop the transmission in the population (Ju Nyeong et al., 2014b). One of the subquestions centered on knowing with whom the participants shared their test results. In all, 15 out of the 16 participants indicated that they shared their HIV test results with at least one significant person. The person was either a family member or a sexual partner. One participant, however, said he did not share his test results with anyone. The reason for not sharing his test results was fear of stigma.

I further inquired about the MSM participants' reasons for sharing their HIV test results, and the responses indicated the desire to maintain their sexual contacts. Some of them felt that this was a mark of faithfulness to their sexual partners. In contrast, others stated that they did not want their lovers to discover that they are positive else they will be violent or just cut off the relationship by themselves. One participant said the reason for sharing his test results with the person was to enable his sexual partner to do his test. The majority of the participants indicated that they shared their test results with their sexual partners to gain love and support to curb the bad news of the HIV infection. One participant said, "after receiving the bad news, I needed someone to support me in such difficult times and keep supporting me to take my drugs regularly and offer me moral

support to get out of depression." All the participants were people living with HIV and AIDS and had enough experiences to share.

This theme supports the literature where sexual partners who revealed their HIV status gained financial and social support (Dessalegn et al., 2019, Maman, Van Rooyen, & Groves, 2014). However, studies also reveal adverse reactions from sexual partners when their loved ones disclosed their positive HIV status (Dessalegn et al., 2019). Generally, there is always the fear of losing sexual partners after disclosing positive HIV status to sexual partners. In this research, participants indicated instances where prompt disclosure of one's HIV status has positive outcomes. In effect, participants indicated that when a sexual partner who tests HIV positive informs his sexual partners that he is HIV positive, the sexual partner will consider it a mark of love for him, a mark of confidence, and a sign that one cares. The reaction from such a partner will be loving or, at most, less violent. In most cases, the literature reveals that there is always the fear of violence and losing sexual partners when HIV-positive status is disclosed (M. M. Wamuti et al., 2015, Shamu, Zarowsky, Shefer, Temmerman, & Abrahams, 2014).

Research Question 2

In the second research question, I assessed the readiness of MSM to use PN to prevent HIV in their population. Many participants in question one indicated their willingness to share their HIV test results with some significant other, but none said they did so with everyone they had sex within the last year. Partner Notification (PN), another name for contact tracing, goes beyond sharing test results with only one person. In contact tracing, the health advisor traces all known sexual contacts of the index case for

the past 12 months, and confidentially informs them that they are heard about PN and further asked if they think PN is essential for tracking more people exposed to HIV. From those who indicated that they shared their results with someone, I asked them if their contacts were HIV positive persons. From the analysis of the responses obtained, a third theme emerged:

MSM Theme 3: Prevent Infection in a Partner as Proof of Love. Some participants who had heard about PN in the HIV and AIDS treatment center in the Care and Treatment Center when their HIV test results were disclosed to them said PN meant communicating test results to somebody. The definition gave a limited meaning of PN. I then explained to each of them after failing to provide the full description of PN that PN means tracing and notifying all the sexual contacts of the index case for the last 12 months that they are exposed to HIV infection. An invitation followed the information to test the sexual contacts. If the sexual connections are positive, then the process will continue until the health advisor has no more positive sexual contacts. That is when we say we have broken the chain of the infection. The purpose of this explanation was to make sure the MSM participant understood the questions well before participating in the in-depth interviews. From the description, each participant understood the meaning of PN before participating in the in-depth interviews. The theme emerged after the data analysis. Each participant indicated that it is vital to prevent the person you love by ensuring that you do not infect him.

All the participants indicated that they would readily use PN as a strategy to trace and notify their sexual contacts. Most of them said that sexual partners have to prevent

each other from HIV infection to gain trust, confidence, and love. From the interviews, 15 of the 16 MSM participants said they would use PN to notify their sexual contacts of their HIV test results. The majority of the MSM indicated that they have multiple sexual partners. I started looking for the phrase "notify sexual contacts" to be sure they understood the importance of notifying all sexual contacts and not just "my best friend" or "my partner," as some said during the in-depth interviews. The success of PN lies in identifying all the sexual contacts.

The MSM, in responding to my question about the number of sexual partners, gave figures indicating that some of them had more than 35 sexual partners in one year. Some said they could not count the number of sexual partners they had in the last 12 months. These responses indicated that PN's use for case identification among the MSM in Cameroon helps curb the high HIV infection rate in the country.

The MSM involved in the in-depth interviews expressed concerns with their high exposure to HIV infection, needing some action to reduce the infection rate. The MSM indicated their willingness to adopt PN to solve the high HIV prevalence in their population. The discussions that lead to this theme confirm the findings in the literature review, which pointed to the absence of HIV/ADS effective services for MSM in most African countries, including Cameroon (Claire E. Holland, Papworth, Billong, Tamoufe, et al., 2015; Djomand, Quaye, and Sullivan, 2014; Lane et al., 2011; Nel, Yi, Sandfort, and Rich, 2013). What also emerges in support of literature is PN's timid use in case identification in the general population in most African countries, even though it is effective and feasible (Brown et al., 2011). Cost is a barrier to access to health services in

Africa (Macha et al., 2012), but PN services are cost-effective (Althaus et al., 2014). According to the literature review in Chapter Two, we can use PN in the MSM population with the highest HIV infection in Cameroon (Claire E. Holland, Papworth, Billong, Tamoufe, et al., 2015; Lorente et al., 2012; Park et al., 2013a).

Research Question 3

The focus of research question three was to find out how MSM perceive the reception HCWs give them when they arrive at the Care and Treatment Center, especially during service delivery. I centered the research sub-questions on how HCWs receive and treat the MSM in the Care and Treatment Center. The MSM population functions in hiding in Cameroon. Thus, I directed the research interview questions towards getting their experiences in the Care and Treatment Center during service delivery. The discussion was frank and free. One theme emerged from the analysis of the data collected from the MSM during these discussions.

MSM Theme 4: HCWs Do Not Maintain Confidentiality in Service Delivery. I interviewed all 16 MSM participants and gathered that they do not feel well treated by the HCWs when they come to the Care and Treatment Center. They complained about the discriminatory reception and treatment they receive from HCWs in the Care and Treatment Center by HCWs when the HCWs know that they are MSM. They expressed the concern that HCWs do not treat personal information with confidentiality. They particularly hated the idea of HCWs discussing their personal information with their colleagues in the corridors. They expressed worries that HCWs do not treat them with respect and thus said they feel comfortable in the Gay centers where they are treated with

respect. They indicated that HCWs receive them very well when they arrive as regular patients, but then as soon as they know that they are gay, the treatment changes. The participants indicated that this treatment had made the MSM not disclose their sexual preferences to be treated just as "normal people." Most participants also preferred to visit private clinics than public clinics. Past studies have similar findings where Gay men prefer private Care and Treatment Centers to public Care and Treatment Centers for confidentiality (Hoang et al., 2015).

However, some participants indicated that they go to the Care and Treatment Center because they are sick and need treatment, and so do whatever it takes to receive the care. The MSM said they prefer to make the HCWs happy and comfortable to offer them the care the MSM needs. The MSM participants concluded that it is unnecessary to talk about being gay while in the Care and Treatment Center seeking care because that will lead to poor reception and treatment. From this finding, it was clear that the fear of being criminalized, stigmatized or ridiculed places the MSM in a weak position and thus makes them to receive less than optimal HIV and AIDS care treatment in some African countries, including Cameroon (Kennedy et al., 2013, Papworth et al., 2015; Wirtz et al., 2014). The Ministry of Health (MOH) needs to target removing these barriers if the country wants to reach epidemic control within the target date. No country can reach epidemic control without targeting the most vulnerable and highly infected populations.

Research Question 4

In research question four, I assessed if HCWs perceive PN as a strategy they can use to prevent HIV infection in MSM. I administered sub-questions in the in-depth

interviews to obtain this information. HCWs demonstrated excellent mastery of their professions and indicated different levels of understanding of PN and how they applied it in the service. From the in-depth interviews, four themes emerged from question 4.

HCWs Theme 1: Partner Notification Will Facilitate Case Identification Among MSM and Give High Yield. The HCWs in the Care and Treatment Center indicated that they have been taught PN and use it in the Care and Treatment Center. From the interviews, it was clear that the HCWs had different levels of understanding of PN and how the Care and Treatment Center uses it. All of the HCWs limited PN's definition of "the process of disclosing results to sexual partners." The explanation is good enough, but not precise. The description helped in the discussion to know the services the HCWs offer to the general population using the PN strategy. Using PN for the general public was accurate from the in-depth interviews, but the HCWs did not have the same responses when asked to describe how they use PN in the MSM population. Some HCWs responded by explaining how PN functions instead of sharing how they apply it to the MSM to identify sexual partners of the index cases. From the in-depth interviews, it was clear that HCWs understand what PN means, but its application is limited to the public. The HCWs indicated that they do not make a distinction between the general population and MSM. This explanation agrees with the MSM responses, where most of them said they do not disclose their sexual preferences to the HCWs when they go to the Care and Treatment Center. Most HCWs indicated that they have received MSM patients in the Care and Treatment Center and know that the MSM is a population with high HIV infection rates. The majority of the HCWs participants indicated that they

had not done contact tracing routinely for the sexual contacts of the index patients, including the MSM.

The message from the in-depth interviews was that PN is an excellent strategy for identifying the sexual contacts of HIV positive, whether in the MSM population or the general population. The HCWs also pointed out that the MSM generally has many sexual partners and constitutes the population with many HIV positive cases. The HCWs who have successfully used PN indicated that they could successfully trace MSM contacts, just like for all other patients who come to the Care and Treatment Center. The HCWs reported that they had not routinely offered PN services to MSM index cases and their sexual contacts but they have offered PN services to everyone who is HIV positive. The HCWs said that PN services require patience, excellent counseling skills, and more trained personnel to be effective.

HCW Theme 2: Train HCWs in Partner Notification to Facilitate Use for MSM. The sixth theme that emerged from the data analysis was that if we train HCWs properly, they will offer PN services effectively in the MSM population. The HCWs were unanimous in their responses during the in-depth interviews. PN is an excellent strategy to identify the HIV positive partners of the MSM index cases. The HCWs stated that PN is an effective strategy in the general population but not easy. They also indicated that some patients in the background population do not accept PN services. HCWs are often harassed, assaulted, and intimidated by the index cases who feel that PN exposes their confidential information to third parties. They cited some examples of assault on HCWs following PN's application in the Care and Treatment Center. Some HCWs in this Care

and Treatment Center said they were threatened with police arrest and exposed to harsh words from the sexual contacts who informed them of their exposure to HIV infection. The HCWs indicated that they had to resort to counseling and to reassure the sexual contacts that PN is an effective strategy to help sexual contacts know their HIV status to put on treatment. With this assurance, some of the sexual contacts accepted that we test them. The HCWs then recommended that training in PN will lead to more acceptance of PN services.

The PN training should include the knowledge on how to approach the sexual contacts of the index cases, offering proper counseling, maintaining confidentiality, and not ridiculing or stigmatizing the index and his sexual contacts. Some of the HCWs participants insisted that PN services for MSM require more preparation and skills than using it for the general population.

From the literature review in chapter two, I found out that the MSM population in Cameroon is vulnerable and usually does not disclose their identity for fear of being stigmatized or criminalized (Park et al., 2013a, Cange et al., 2014). These social injustices create barriers to vital HIV and AIDS services for the MSM (LeBreton et al., 2014a, LeBreton et al., 2014b). The HCWs indicated that the social injustices against the MSM make some of them hostile. The HCWs must be cautious in approaching the MSM for fear of resistance. Thus, the HCWs expressed the need for adequate training in PN for those who want to be involved in contact tracing and testing of the sexual partners of HIV positive MSM.

HCW Theme 3: MSM Contacts Are Difficult to Trace. From the in-depth interviews and the themes that came out, it was clear that MSM in Cameroon are unwilling to give their sexual contacts to be traced and notified of their HIV exposure so that HCWs can test and, if positive, place them on treatment. The MSM constitutes part of the population of Cameroon. Still, it is hard to identify and inform them that they are exposed to HIV infection because their identities are not readily known. Some HCWs participants indicated that the MSM in Cameroon hide and do not feel comfortable talking in public. The literature review in chapter two supported this statement, where I found out that the MSM in Cameroon tends to hide their identities for fear of stigma and legal prosecution (Holl et al., 2015, Murray, Gaul, Sutton, and Nanin, 2018).

The MSM index cases are not willing to give their sexual contacts to the HCWs to trace, notify, counsel, and test them despite their higher levels of HIV infection. The use of PN will facilitate the tracing and testing of their sexual contacts. However, this task is difficult.

The index MSM cases in Cameroon have a negative view of HIV and AIDS, making the acceptance of PN challenging. Past studies point out that newly diagnosed HIV-positive MSM have a relatively high negative perception of HIV/AIDS in cognitive and emotional aspects (Wu et al., 2018b). Thus, it is hard to interview the newly infected HIV positive MSM and obtain their sexual contacts to trace and test. The HCWs in the Care and Treatment Center of the Jamot hospital do not perform PN consistently in identifying MSM sexual contacts due to the MSM index cases' reactions. It will require more effort by training and giving health education to make PN an acceptable strategy for

use in Cameroon's HIV and AIDS services. For this to happen, the government will need to address its laws relating to MSM activities.

HCW Theme 4: NGOs Access MSM Better. The data analysis of the in-depth interviews with the HCWs emerged that NGOs do better accessing MSM and providing services than mainstream health facilities. Both the HCWs and MSM participants at the in-depth interviews indicated that the reason the MSM population is difficult to access is the fear of stigma, ridicule, disclosing their sexual orientation to the public, and criminalization. Chapter Two confirms this in some literature reviews (Taegtmeyer et al., 2013, Scheibe, Kanyemba, Syvertsen, Adebajo, and Baral, 2014). From the literature review, NGOs in Cameroon have studied the MSM populations, worked with them successfully, and built more confidence in their working relationship (Holland, Papworth, Billong, Kassegne, et al., 2015a). The NGOs work better with MSM from the literature search because they can maintain the confidentiality of information obtained, pose little or no threat to their sexual preferences, and treat them with respect (Claire E. Holland, Papworth, Billong, Kassegne, et al., 2015b). The NGOs are not judgmental and hardly stigmatize the MSM. Past studies confirm that the MSM population is more likely to access health services provided by NGOs and community-based organizations than in government health facilities (Henry et al., 2010).

From these findings, there is a need for the health authorities to design interventions to reach MSM with essential health services, including HIV and AIDS care. The government must relax the country's laws that forbid MSM activities to facilitate access to HIV/AIDS services. HIV infection in MSM remains a significant health

problem in the country. The attainment of the UNAIDS target of 95-95-95 of the epidemics by 2025 will be elusive if measures are not put in place to offer acceptable HIV and AIDS services to the MSM. We cannot ignore the MSM population in Cameroon because it constitutes a significant HIV pocket.

Limitations of the Study

The first limitation arises from the restriction of the views expressed by the participants. At the beginning of the research, I set the sample size for MSM at 12. I succeeded in recruiting up to 16 MSM participants, but their views do not represent all MSM views that visit the Care and Treatment Center or the MSM living in Yaounde, Cameroon. The participants interviewed expressed their lived experiences and not those of all MSM visiting the Care and Treatment Center. The MSM that visit other health facilities may have different skills from the HCWs. Some of the experiences expressed may arise from what the MSM perceive following the existing laws in Cameroon, not from the reality of service delivery practices in the Care and Treatment Center.

The second limitation with the MSM participants arose from the inclusion criteria. One of the MSM participants' inclusion criteria was MSM aged 21 to 49, but I did not find MSM participants up to 49 years old. The bulk of the MSM recruited was below 30 years of age, and the views of the young MSM may not reflect the opinions of the more aged MSM. The inability to find older MSM is a reflection of what exists in the country. There is the practice of VIP patients in HIV and AIDS treatment centers in Yaounde. Those who belong to this class of patients are the well to do, high-level state employees and some married people. Key personalities in the city who are HIV positive do not want

their names mentioned in the Care and Treatment Center records. In particular, the MSM, who are of high reputation in society, do not want to make their sexual preferences known. Some of them are lawmakers and policymakers and know that MSM activities are illegal in Cameroon and prefer to hide their identity. The existence of these unique groups of people in society explains why it is difficult to find older MSM to study this nature.

Another limitation arises from responders' bias by not giving correct and truthful answers due to the topic's sensitive nature. The activities of the MSM population are illegal in Cameroon. The MSM may hide information for fear of criminalization and give just what is politically correct for public consumption. In a study of this nature, the MSM may withhold the right information because of the research topic's sensitive nature (Scott et al., 2015).

The fourth limitation is the selection of the study site. I chose the Care and Treatment Center as the site of the study because it is an HIV and AIDS Care and Treatment Center. This choice might have introduced selection bias into the sample (Heckman, 2013). Another possible site selection bias is that the HCWs in the clinic received training in PN in 2017, which guided the choice of the site. The desire was to interview those who understand what PN is and their real experiences using the strategy for HIV case identification.

The HCWs sample of 15 was adequate for the study, but their views may not represent the broader views of the HCWs in the treatment centers around Yaounde. The HCWs may not have reported the reality of the reception they offer to the MSM who

attend the Care and Treatment Center for care. The HCWs' understanding of PN might have guided their responses more than the reality of MSM patients' care.

Despite these limitations, the interviews were conducted with a lot of professionalism to avoid bias. Currently, the HIV infection burden in Sub-Saharan Africa is on youths aged below 26 years, and this high HIV infection rate is attributed to sexual relationships (Avert, 2019). Most of the participants interviewed in this study fall within the ages of 21 to 27 years. The absence of older MSM to participate does not affect the validity of the findings. PN has been functioning in the research site since 2017. However, the questions sought to know how HCWs apply PN to MSM and do not pose a validity problem. It was typical that the MSM did not talk freely during the interviews, given that MSM activities are illegal in the country.

Recommendations

I conducted this study wne HIV and AIDS needed urgent preventive interventions implemented to reach epidemic control in Cameroon within the UNAIDS target date. did qualitative research in a major Care and Treatment Center in Cameroon's capital city, involving MSM participants aged 21 to 26. I have formulated some recommendations for service improvement in the country.

Recommendation 1: Further Studies Are Needed. This study did not assess the MSM number that access services at the HIV Care and Treatment Center in Yaounde. Future studies are needed to determine the uptake of services at HIV and AIDS clinics by MSM to inform policymakers on changes required. Partner Notification is new in Cameroon, and evidence from literature recommends expanding it to all the country

regions. The perceptions of older MSM may be different from those of younger MSM. The qualitative study should include MSM aged up to 50 years. Multi-site research will usher in various views from HCWs and MSM.

Recommendation 2: Implement HIV Case Identification Among MSM.

When I conducted this study, HIV and AIDS was still a global problem, especially in Sub-Saharan Africa. From the in-depth interviews, the HCWs participants confirmed that the MSM is the most highly infected population and that they are not easily accessible for HIV and AIDS prevention, care, and treatment. HCWs also confirmed the vulnerability of MSM to HIV infection and the laws in the country. The HIV case identification among MSM is low and needs to be stepped up to curb the high HIV prevalence rate in Cameroon.

Recommendation 3: Adopt Partner Notification for National HIV Case Identification. The HCWs indicated that when they use PN in the clinic, they can reach the sexual contacts and test for HIV. In most cases, about 50% to 70% of the contacts tested are positive. Case identification through contact tracing is valid. From this finding, I recommend that PN be generalized among MSM in all health facilities in Cameroon. The use of PN for HIV case identification will help Cameroon reach epidemic control within the target timeframe.

Recommendation 4: Protect HCWs Using Partner Notification for Case Identification. The HCW participants highlighted the adverse reactions they have received from MSM index cases during service delivery to have their sexual partners. HCWs received some adverse reactions from the sexual contacts in the field during

contact tracing. One of the participants said: "There are instances where we have been physically assaulted because we are telling the contact that he is exposed to HIV infection and needs to be tested." Another participant said they as HCWs, had been held bound on some occasions to say how they knew the sexual contacts. Similar assaults have been reported in the past of HCWs who are involved in contact tracing.

Recommendation 5: Add a Module on Partner Notification to the Training of HCWs. The HCWs participants indicated that HCWs who have not received proper PN training and thus may not apply PN well to MSM index and contacts. The MSM is a vulnerable population and should not be treated the same as all other patients. The MSM has some health peculiarities that need more attention. They may not want to explain all their health conditions to the HCWs, but the HCWs explicitly trained to handle Key populations will know the questions to ask or know what to look for during physical assessment. PN training, the confidentiality of the information given, and building trust will enable the MSM to provide more sexual contacts for tracing. Counseling that is sensitive, non-judgmental, and targeted is more likely to gain the counselee's confidence. I recommend that all paramedical training schools add a PN counseling module to enable HCWs to function effectively when they go to the field.

Effective capacity building in PN will enable the HCWs to function better in contact tracing the sexual partners of Index MSM. Contact tracing will increase HIV testing yield and reduce HIV infection rates in the MSM population in Cameroon. The positive cases identified among MSM will be brought to care and treatment. The cases placed on treatment will further reduce the chances of transmission of the virus.

Recommendation 6: Draft Legislation to Protect MSM Populations in Cameroon. The HCWs participants explained that the MSM population tends to be reactionary due to the fear of being criminalized, stigmatized, or ridiculed. This intimidation has made the MSM in Cameroon not have the freedom to express themselves because the laws of the country are harsh. The law's harshness has not stopped MSM activities but has instead made them shy away from seeking vital services. The MSM population is deprived of services, including HIV and AIDS care and treatment. I recommend that the government reconsiders the laws relating to MSM activities and amend the sections that criminalize them. Prompt government action will enable the MSM to freely seek care and participate in public life on sexuality matters.

On the other hand, the government will control Gay activities better when the individuals are known. Now it is hard to say who is and who is not gay in Cameroon. There is a general denial syndrome where many people say there is no MSM in Cameroon.

Recommendation 7: Foster the Spirit of Social Inclusion and Living Together. From the interviews, the MSM is willing to share their results with someone they trust. PN services will be more useful for tracing the sexual contacts of MSM index cases since the MSM participants indicated that they shared their HIV test results with somebody during the interviews. The MSM, from every indication, is ready to live together as a population and share their daily activities with those that tolerate and treat them well. They are willing to share their results, but the fear of stigma, ridicule, and criminalization hinders them from openly sharing their activities. If the community and

family members understand the MSM population and are non-judgmental, that will foster the spirit of living together in society.

Recommendations for Practice 8

One of the key findings was that MSM is a difficult population to reach health interventions and do not readily disclose their sexual contacts. HCWs indicated that it was difficult to trace and notified the sexual contacts of MSM. The MSM community likely would embrace contact tracing counseling with a public health system. Still, the laws must protect the confidentiality, and even more importantly, the HCWs must be thoroughly trained in sexual orientation issues, safer sex counseling, etc.

Another key result was that MSM trust NGOs better than HCWs. From these two findings, I recommend that more NGOs be encouraged to work among MSM, especially in the fight against HIV/AIDS. Some NGOs are involved in health care in Cameroon. It is essential that these NGOs target MSM populations, penetrate the Gay clubs and into other MSM social gatherings and offer them systematic and comprehensive packages of HIV/AIDS services. This case identification will bring more MSM to care and treatment.

Participants in this study indicated that when a sexual partner who tests HIV positive voluntarily informs his sexual partners that he is HIV positive, the sexual partner will consider it a mark of love, a sign of confidence, and an indication of a caring spirit. The reaction from such a sexual partner will be loving or, at most, less violent. This finding is supported by literature where sexual partners who revealed their HIV status gained financial and social support (Dessalegn et al., 2019, Maman, Van Rooyen, and

Groves, 2014). We can use this example in clinical practice to encourage the disclosure of HIV positive test results so that sexual partners can do their tests.

Implications

The Potential Impact at Individual, Family, Organizational, and Societal/Policy Levels

Cameroon's government has not implemented preventive strategies to curb the high HIV transmission rates in the MSM population. The failure to pay attention to the MSM population has exposed them to persistent HIV infections. This study has recommended Partner Notification (PN) to reduce HIV infection in MSM in Cameroon. HCWs will rapidly carry out HIV case identification in the MSM population and place the positive ones on treatment by implementing this recommendation.

The study has also recommended revising the laws in Cameroon that criminalize MSM for their sexual orientation. These laws have driven the MSM into hiding, making it difficult for them to access health care in public for fear of arrest. The removal of the legal barriers will further lead to a reduction in stigma and discrimination and result in positive social change in the lives of MSM in Cameroon. The MSM will no longer be taken to court and brutalized because of their sexual orientation.

Methodological, Theoretical, and Empirical Implications

Qualitative studies are used to study health interventions, and I used it to study the phenomenon of high HIV infection among MSM. I used the Health Belief Model (HBM), one of the intrapersonal theories that focus on individual characteristics that influence behavior change, such as knowledge, skills, attitudes, and beliefs (Glanz et al., 2002). The

use of this theory facilitated the understanding of how the "perception of a health behavior change is influenced by general health interest and health concern, beliefs about vulnerability to a health threat and beliefs about the consequences of a health problem" (Elliott et al., 2007). The perceptions of MSM of HIV and how HCWs treat them confirmed their vulnerability to HIV. Since the MSM indicated that they believe in their susceptibility to the HIV infection and its severity, they also believed in benefiting from preventing it. The MSM's readiness to adopt PN confirms the HBM theory that people are willing to adopt a preventive action against perceived health threat to one's health if the perceived benefits of acting outweigh the perceived barriers (Elliott et al., 2007). It also implies that "in the context of health-related behavior, an individual's intentions and actions depend on the desire to avoid disease and the belief that a specific health behavior will prevent illness (Glanz et al., 2008). The HBM was developed to assess why people use or not use an intervention (Abraham & Sheeran, 2007). The HBM helped me determine why MSM use or do not use the health facilities and why the HCWs use or do not use the PN for case identification. The MSM needs behavioral change to combat HIV in its population (Rosenstock et al., 2013). HBM purposes of preventing diseases and encourage positive behaviors (Glanz et al., 2008). The HBM facilitated the understanding of Health Care Workers of how PN will help prevent HIV transmission in the MSM population.

Conclusion

In RQ 1, this study sought to determine the perceptions of MSM aged 21 to 49 about preventing HIV infection among their population. This question led to the findings

that the MSM understands HIV infection and will share their test results with someone they trust. The findings revealed that there was no contact tracing among MSM.

RQ 2 provided an opportunity to evaluate if MSM aged 21 to 49 will accept Partner Notification as a strategy for HIV case identification to reduce the HIV infection in their population. The findings showed that if HCWs trained in counseling delivered PN services, it will be an effective strategy in case identification among MSM. The HCWs currently offer PN services in the Care and Treatment Centers, mostly to the general population.

In RQ.3, This study assessed how MSM perceive how HCWs receive them in the Care and Treatment Center. The findings showed that MSM hides their sexual orientation to be well treated in the Care and Treatment Center. Once the HCWs are know that the person belongs to the MSM population, the treatment will not be cordial. This finding has led to a recommendation for a social change in policy to accommodate MSM in the community. A second recommendation from this finding is for Cameroon's government to amend the laws that criminalize MSM for their sexual orientation.

Finally, RQ4 offered HCWs the opportunity to say if PN is a strategy to counsel, test, and trace the index cases' contacts. All the HCWs participants indicated that PN is an excellent strategy for HIV case identification. However, the findings revealed that they do not use PN among MSM purposefully. This finding confirms the initial literature review finding that PN is used successfully in the general population but not in the MSM population even though it is more infected by HIV. From this confirmation, I have

recommended Cameroon's government to include a module on PN in nursing and medical training programs.

I applied the Health Belief Model (HBM) in this study to find out how we can empower MSM to reach self-efficacy in seeking vital and life-saving health services in a country that criminalizes them. This theory guided me to understand how general health interests, concern about health well, and beliefs about vulnerability to a health threat and the consequences of a health problem influence the perception of a health behavior change. The MSM has ideas about HIV/AIDS and its effects on human life. The findings from this study confirmed the constructs of the HBM stages of change that lead to self-efficacy to withstand a threat to one's health. The MSM can fight against HIV infection in their population in an environment that enables them to reach self-efficacy. The government needs to provide an enabling environment for the MSM to grow and attain self-efficacy. I have made recommendations to assist the government in this direction.

I devoted Chapter 5 to discussions, interpretations of findings, stating the limitations of the study, making recommendations for further action, and highlighting the implication for social change. Results from this study show that the MSM in Cameroon are most at risk of HIV infection but are not targeted with HIV and AIDS services. The absence of active prevention of HIV among MSM in Cameroon has led to high HIV prevalence among them. Once the government of Cameroon amends the laws that criminalize MSM, the MSM will freely access effective HIV interventions. Health care workers should also adopt a friendly attitude towards MSM who attend the Care and Treatment Center for services. Collaborative action among the government, the HCWs,

and the MSM population will result in the reduction of stigma and ridicule, less legal action against the MSM, and usher in positive social change in the MSM population in particular and in the community as a whole. A second benefit from implementing these recommendations will be the attainment of HIV epidemic control in Cameroon. The achievement of epidemic control in Cameroon will contribute to the global effort of controlling the HIV pandemic.

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Appendix A: Flyer for Study

Message to potential participant:

This flyer is given only to those who are 21 years and above. You may meet a researcher in room 10 along the corridor who will discuss his research topic with you. You are totally free to go to the room or not to go. It is your decision to go there or not. He will tell you what the research is about, and you can then freely make a decision to participate or not. Your participation or no participation will not affect your attendance at this clinic.

Appendix B: French Version of the Research Questions

ANNEXE 3. QUESTIONS DE RECHERCHE EN FRANCAIS POUR LES HOMMES AYANT DES RAPPORTS SEXUELS AVEC DES HOMMES (HSH)

QR. 1. Les perceptions des HSH âgés de 21 a 49 ans sur la prévention de l'infection à VIH au sein de leur population

1. Selon vous, qu'est-ce que le VIH ? Dites-moi aussi ce que vous entendez par SIDA.
2. Dites-moi, s'il vous plaît, comment une personne peut-elle savoir qu'elle est séropositive ?
3. Pourriez-vous me dire ce qu'est un test VIH ?
4. S'il vous plaît, dites-moi avec qui avez-vous partagé les résultats de votre test ?
5. Avec combien d'hommes avez-vous eu des relations sexuelles au cours des 12 derniers mois ?
6. Comment déterminez-vous si vos partenaires sexuels ont ou non le VIH ?
7. Comment vos partenaires sexuels déterminent-ils si vous avez ou non le VIH ?
8. Pouvez-vous me citer tous les moyens que les gens peuvent utiliser pour réduire l'infection à VIH ?
9. Comment le partage de vos résultats avec votre partenaire sexuel contribuera-t-il à réduire l'infection à VIH ?
10. Comment aideriez-vous quelqu'un qui a le VIH à ne pas le transmettre ?

QR. 2. La perception des HSH âgés de 21 à 49 ans à propos de la NP

1. Avez-vous déjà entendu parler de la notification du partenaire ?
2. Que signifie notification du partenaire pour vous ?
3. Où avez-vous entendu parler de la notification du partenaire ?
4. Pourquoi les gens informent-ils leur partenaire sexuel de leur statut VIH ?
5. Dites-moi, s'il vous plaît, quelques-unes des raisons pour lesquelles les gens peuvent vouloir informer leurs partenaires sexuels de leur statut VIH.
6. Quels sont les inconvénients de la non notification des partenaires sexuels de l'infection à VIH ?

Q.R 3 De quelle manière les HSH perçoivent-ils les travailleurs de la santé dans la clinique ?

1. Au cours des 12 derniers mois, avez-vous visité une formation sanitaire de Yaoundé ou des environs qui fournit des services aux HSH ?
2. Veuillez décrire la formation sanitaire où vous vous êtes fait soigner.
3. Veuillez décrire la manière dont les travailleurs de la santé vous ont reçu ou traité pendant votre visite à la formation sanitaire au cours des 12 derniers mois

Questions De Recherche En Francais Pour Les Groupes De Discussion Des Travailleurs De La Santé

RQ4. Comment les prestataires de services perçoivent-ils la NP en tant qu'une stratégie pour prévenir l'infection à VIH chez les HSH ?

Dans un groupe de discussion, comment les prestataires de services perçoivent-ils la NP en tant qu'une stratégie pour prévenir l'infection à VIH chez les HSH ?

1. Dans quelle mesure connaissez-vous la notification du partenaire ?
2. De quelle manière la NP est-elle utilisée ou de quelle manière est-elle appliquée dans votre clinique ?
3. Quelle est votre perception de l'utilisation de la NP chez les HSH ?
4. Quelles sont les caractéristiques spécifiques de la NP que vous percevez comme s'appliquant ou non aux HSH ?
5. Dans quelle mesure l'utilisation de la NP chez les HSH est-elle facile ou difficile ?
6. Dans quelle mesure êtes-vous susceptible d'utiliser le NP chez les HSH ?
7. Si vous aimeriez recommander l'utilisation de la NP chez les HSH, que diriez-vous pour convaincre les travailleurs de la santé d'utiliser la NP chez les HSH ?
8. Si vous n'aimeriez pas recommander l'utilisation de la NP chez les HSH, que diriez-vous pour convaincre les travailleurs de la santé de ne pas utiliser la NP chez les HSH ?

Appendix C: French Version of the Participant Information Sheet

Annexe 8 : Flyer pour la salle 10

Message à un participant potentiel

Ce dépliant est remis uniquement à ceux qui ont 21 ans et plus. Vous pouvez rencontrer un chercheur dans la salle 10 le long du couloir qui discutera de son sujet de recherche avec vous. Vous êtes totalement libre d'aller dans la chambre ou de ne pas y aller. C'est votre décision d'y aller ou non. Il vous expliquera en quoi consiste la recherche et vous pourrez alors librement décider de participer ou non. Votre participation ou aucune participation n'affectera pas votre présence à cette clinique.

Appendix D: French Version of the Snowball Sampling Flyer

Annexe 9: Flyer pour l'échantillonnage Snowball.

Ce dépliant est remis uniquement aux hommes de plus de 21 ans et qui peuvent accepter d'appeler l'étudiant chercheur mentionné ci-dessous. Son nom est Pius Tih et son numéro de téléphone est le [redacted]. Il est généralement assis dans la salle n ° 10 de Care and Treatment Center Lorsque vous appelez, il vous indiquera le but de la recherche. Ce n'est qu'à ce moment que vous déciderez d'aller ou non pour aller le rencontrer. C'est entièrement votre décision d'appeler ou de ne pas l'appeler. Si vous décidez de ne pas l'appeler, cela n'affectera pas votre relation avec the Care and Treatment Center.