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Risk Perception of HIV Infection among the Nigerian African- Immigrant Population in Houston, Texas

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Abstract

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MSc University of Texas Arlington, 2005

BA, Texas Southern University, 2004

Dissertation Submitted in Partial Fulfilment

Of the Requirements for the Degree of

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Abstract

HIV/AIDS studies mostly lack distinction between the US-born Blacks and non-US-born Blacks while African Americans (AAs) continues to represent the group with the heaviest burden of AIDS deaths and new diagnosis of HIV. A review of studies on HIV infection in the US, Europe, and other Western countries revealed a knowledge gap on HIV infection with non-refugee African immigrants (NRAIs), especially the Nigerian African Immigrants (NAIs) who are non-US-born Blacks. The purpose of this descriptive phenomenological study is to address this gap by exploring the expressed views of NAIs, a sub-group of the NRAIs living in Houston, Texas, on the issue of HIV infection. In a qualitative research design, 13 NAI individuals aged 18 to 49 were purposively selected for a face-to-face interview. The health belief model provided the conceptual framework for the development of study questions and analysis of the gathered data using the phenomenological approach. The study findings showed that 90% of the participants have knowledge of HIV infection. Even though 100% of the participants acknowledged the severity of unprotected sex and multiple sexual relationships in the acquisition of HIV, 27% engaged in multiple sexual relationships and there was inconsistent use of condoms in 64% of the participants. The participants expressed low levels of perception regarding the threat of contracting HIV in their relationships. Evidence of sexual mixing was found in about 61% of the study participants. This study provided an opportunity for future research with NAIs, an upcoming set of immigrants, in the US. The study also highlighted how knowledge of the NAIs' culture and language can be used in promoting preventative interventions like the promotion of use of condoms and HIV testing.

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Dedication

I hereby dedicate this dissertation to my late mother, Madam Olufunke Anike Julianah Ogunjimi for her visions and dedication toward making sure that all her children were formally educated--a right that she never enjoyed in her own life. Mom, I wish you are here today to see your ultimate dream come true. Mom, you were my inspiration, my role model, my pillar, and supporter. When I was down, trodden, and abandoned, you picked me up and prophesied into my life that my wishes in life would not be impossible. Your prophecies came true in all aspects of my life. I couldn't have asked for a better mother. If reincarnation is true, I will ask to be your daughter again. I miss your precious absence. But I take consolation in the fact that I have made you very proud and that you are smiling down at me from heaven.

To my late brother and sister, Chief Mathew Olufemi Ogunjimi and Mary Bosede Abioye, I wish both of you are here to witness the seed that you planted in me several years ago blossom. Your belief in me that I was gifted academically made this day possible. You did everything in your power to see me succeed in life. Both of you departed too soon and I miss your presence now and always.

To my children, Funmilayo and Ademola Odutayo, even though it seemed that you are yet to understand the importance of this, I still dedicate this dissertation to you hoping that you will, one day, make me proud too. That day, I shall be there to cheer.

Lastly, I dedicate this entire experience to my mother, siblings and daughter whose battle with diabetes inspired me to pursue more knowledge in community health!

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Chapter 1: Introduction of the Study

Introduction

Human immunodeficiency virus (HIV) infections remains one of the cross-border diseases (CBDs) contracted through unprotected sex and other means. With the continuous inflow of African Immigrants (AIs) from high prevalence HIV countries into Western and European countries (Barrett & Mulugeta, 2010), contracting CBDs like HIV is possible between African-born Blacks and US-born Blacks. African-Americans (AAs) and several subgroups including refugee AIs have been an object of focus for HIV/AIDS researchers. However, no study has specifically explored a segment of the AA group who are AIs but are non-refugee. Cross-border transmission (CBT) of HIV within the non-refugee African immigrants (NRAIs) communities in the United States (US) is an area that has not been explored probably due to the categorization of all non-US born blacks as Black or AA (U.S. Census, 2011). Non-US born blacks are often immigrants from Africa that migrated from Africa due to war or for economic opportunities (Migration Policy Institute [MPI], 2009). Countries that host migrants do not only admit migrants but may also admit infectious diseases with the migrants.

In studies examining the association between international mobility and CBT of diseases such as Ebola, HIV, TB, and others, Cabada, Echevarria, Seas, and Gotuzzo (2009), Dixon and Schafer (2014), Obilade (2015), Suk et al. (2014), and Wang et al. (2015) reiterated that international mobility does contribute to CBT of infectious diseases. Dixon and Schafer (2014), Otu et al. (2017) explained how an induvial who became infected with Ebola Virus Disease (EVD) in Liberia singularly travelled across

the border to Nigeria and exposed 20 individuals to the EVD. The Liberian, therefore became an index figure (someone that fingers are pointed at) for transmitting EVD across the border to Nigeria. Cabada et al. (2009) found more than 43% of 88 young Peruvians research participants who had admitted having sexual relationships with foreigners, sex workers, and other Peruvians with an STD diagnosis. Out of the 88 Peruvians, 28% admitted having sexual contacts with foreign and Peruvian partners.

Several researchers have found evidence of CBT of HIV and other STDs in different geographical locations and with different populations across the world. CBT of HIV infection is aided when individuals with differing characteristics including age, sexual orientation, ethnicity, or geographical locations form sexual relationships in what is known as sexual-mixing (Mariscano et al., 2013). Mariscano et al. (2013) study with 1874 AIs residing in Paris found the existence of sexual activities beyond the national origins and evidence of sexual mixing between migrants from low HIV prevalence and high HIV prevalence countries. Ford, Sohn, and Lepkowski (2002) found adolescents ages 13-17 engaging in sexual mixing with multiple partners and with older age groups. As individuals with differing characteristics or from different geographical locations engage in unprotected sexual relationships, there is the tendency for individuals to become a conduit through which infectious diseases are transmitted.

Tao et al. (2013) explored the phenomenon of individuals becoming the population through which HIV or other infectious diseases are transmitted when bisexual individuals have sex with men and women. Even though Bom et al. (2013) found no connection between sexual mixing as a precursor for becoming a bridge population in the study of transmission of Chlamydia trachomatis, other studies mostly agree that when

sexual mixing occurs, individuals involved do become a bridge population in the transmission of STDs (Mariscano, Lydie, & Bajos, 2013; Rai et al., 2014). According to van Veen et al. (2009), more than 40% of the immigrants recruited for the study admitted to having sex with other ethnicities and indigenous groups. Because sexual mixing appears to be a vehicle for transmission of STIs among indigenous groups and between different ethnicities, a look at the sexual lifestyle of the NAIs in Houston, Texas procured evidence of sexual mixing that could render the NAIs as bridge population in the transmission of HIV.

This chapter discusses the concerns associated with omitting NAIs in the discussion of HIV infection. I will give some background information about HIV/AIDS and the risky behavior that may result in CBT of HIV. I will discuss the problem, highlighting the proposed research questions, discussing the study's purpose, including the proposed research questions, and review the conceptual framework associated with the phenomenon. In addition, I will highlight the operational definitions, assumptions, delimitations, and conclude the chapter with the significance of the study.

Background of the Study

HIV is one of the most devastating diseases that has affected the world. Individuals acquire HIV through blood-borne fluid of an infected person (Center for Disease Control and Prevention [CDC], 2015c; World Health Organization [WHO], 2015a). HIV infection can later result in acquired immune deficiency syndrome (AIDS), the advance stage of HIV (WHO, 2015a). AIDS occurs when the immune system of the person carrying the virus is invaded, making the carrier weaker and leaving room for opportunistic infections like TB (WHO, 2015b). HIV/AIDS continues to be one of the

causes of the high rate of morbidity and mortality in the world as over 34 million lives have been lost to HIV and about 37 million people living with HIV/AIDS worldwide (Joint United Nations Programme on HIV/AIDS [UNIAIDS], 2015b; WHO, 2015a). HIV/AIDS continues to defy eradication despite many successes recorded in the prevention and treatment of HIV/AIDS through combined efforts of various international, national, and local organizations (UNIAIDS, 2015a; WHO, 2013b; 2016b).

Although reducing HIV infection and AIDS related deaths has been a challenge, the world continues to achieve milestones in the prevention and treatment of HIV/AIDS. Globally, in 2015, about 16 million people received treatment for HIV, an increase from about 14 million in 2014 (UNIAIDS, 2015a; WHO, 2013). Through innovations and medical discoveries, more people are receiving HIV/AIDS treatment and living longer. Another recorded success is the increase in HIV testing that enables more individuals to know their HIV status (UNIAIDS, 2015a; WHO, 2013). Roy, Saha and Al Basir (2015) discussed the impact of awareness in the control of the HIV/AIDS epidemic and changing behavior from being unaware to aware played a significant role in the prevention of HIV and treatment of AIDS. In the US, the mode of prevention, treatment, and testing may not be too different when compared with the rest of the world, but there are still concerns on how to decrease new cases of HIV among certain populations.

CDC (2015a) indicated that over one million people were living with HIV/AIDS and about 50,000 people get infected with HIV yearly. In addition, about 14% of the population still lives with undiagnosed HIV infection (CDC, 2015a; 2015b) while the Division of HIV/AIDS Preventions (DHAP, 2014) indicated that in the US, one in six people do not know their HIV status. Along with reducing the number of deaths caused

by HIV/AIDS, certain racial and ethnic groups continue to suffer higher mortality and morbidity rates. Several surveillance reports pointed to the AAs as the racial group with the highest AIDS mortality rate at over 49% when compared to other groups such as Hispanic/Latinos at about 19% (CDC, 2015d). HIV infection prevalence rates among Whites were 6% compared to 15% for persons of multiple races (CDC, 2015e). As public health communities and various governmental bodies continue the fight against HIV/AIDS, decreasing the prevalence of HIV epidemic among the AAs continues to be a challenge. Parallel to the problem faced by the US in reducing the prevalence of HIV infection among AAs is the need to minimize the prevalence of HIV infection in the sub-Saharan Africa region. Around the world, the primary source of HIV transmission is having multiple sex partners and unprotected sex (WHO, 2013; 2015a; 2015b).

WHO (2015a) and CDC (2015c) emphasized that having unprotected sex with an HIV/AIDS infected person is one of the primary sources of contracting HIV among others. Unprotected sex, multiple sex partners, and delayed HIV testing are some individual contributory factors to contracting HIV (Frye et al., 2013; Gaiter et al., 2013). When individuals engage in unprotected sex with multiple partners, the risk of contracting HIV infection increases (Frye et al., 2013). Bellan et al. (2013) found that the practice of engaging in concurrent sexual relationships also helps to explain the high prevalence rate of HIV infections in Africa.

In spite of the individual risk factor of engaging in multiple sex partnering behavior, some individuals in African communities regard multiple sexual partnering or engaging in extramarital affairs as normal (see Asare, Bernard, Rojas-Guyler & Wang, 2013; Batta Box, 2013; Reniers & Tfaily, 2012; Uchudi, Magadi, & Mostazir, 2012).

This sort of belief may undermine the prevention of HIV infection services. Engaging in extramarital or multiple sex partnering relationships behavior is common in African communities according to studies conducted among various African ethnic groups (see Bellan et al., 2013; Mah & Halperin, 2010). Merrigan et al. (2015) found that multiple sexual partnering and unprotected sexual practices are the highest risk factors for contracting HIV infection.

Unprotected sex has been found to represent one of the main risk factors involved in contracting HIV. Dias, Marques, Gama, and Martins (2014), in a cross-sectional research with 1187 immigrants in Lisbon, found that 38% of the participants had more than two sexual partners, about 16% had occasional sexual partners, while 64% were having unprotected sex. In response to the identification of unprotected sex as an individual risk factor for contracting HIV, WHO (2015a) emphasized the promotion of condom use. Ugarte, Hogberg, Valladares, and Essen (2013) found more than half of the respondents disliked using condoms when engaged in sexual conduct with multiple partners. Ugarte et al. (2013) noted this sort of behavior as being conducive to the spread of HIV in Nicaragua. It is with this knowledge that I explored individual risk factors such as engaging in multiple sex relationships and use of condoms among a segment of the NRAIs, the NAIs, living in Houston, Texas.

HIV epidemic among AI communities in many European communities were noted in research. The European Centre for Diseases Prevention and Control (ECDC, 2010) reported on continuous increase in the numbers of new cases of HIV infection among sub-Sahara immigrant communities in various European countries. Studies conducted mostly in Europe continue to pointed to high rates of HIV infection among AIs

(see Birukila, Brunton, & Dickson, 2013; Dias et al., 2014; Lemoh et al., 2013, Wu et al., 2014). Despite emerging knowledge showing increases in the number of new cases of HIV infection among sub-Sahara African immigrants, African-born Blacks, especially the NRAIs, have received little attention in research communities in the US. Engaging in this study is of high importance due to limited empirical studies examining HIV risk factors among AIs especially the NRAIs such as the NAIs in the US.

The lack of studies examining HIV infection among the NAIs, given their huge presence in the US, may be missing important information about the nature of high prevalence of HIV infection among AAs. A look at population data collected on AIs in the US since after the year 2000 revealed a continuous upsurge in the numbers of African-born Blacks entering the United States, especially those from sub-Sahara African region (McCabe, 2011; Pew Research Center, 2015; 2017). As the AIs continue to increase their presence in the US, the sexual practices of the NAIs are unknown. Even though I found some HIV/AIDS studies conducted with AIs in the US, almost none had explored possible CBT of HIV to the host country. An understanding of possible sexual encounters between African-born Blacks who travel to their countries of origin is necessary to explore the potential of transmitting HIV to their spouses or sex partners as they return to the US.

There is a gap in literature on studies focusing on AIs because there are two distinct subgroups within the AIs' group, the RAIs and the NRAIs. There is a lack of empirical studies on the NRAIs, the subgroup of the AIs that immigrated to the US for economic advancement. An oversight like this undermines the fact that all AIs are not homogenous group. This study addressed the gap in knowledge regarding NRAIs' sexual

practices. I explored CBT of HIV by purposefully selecting some participants from the NAI community who had either lived or visited Nigeria in the last five to ten years and asked the participants questions about the ethnicities of their sexual partners. This study provided knowledge about the distinct characteristics of NRAIs in the US in the study of HIV/AIDS, as well as knowledge of the sexual practices of a growing ethnic population. The findings of my study gave new insights that would benefit the public health community and health care providers serving the NRAIs.

Problem Statement

Nigerian-born immigrants, a sub-group of NRAIs, may be contributing to the high prevalence of HIV infection in the AA population as they travel from a high prevalence HIV country (Nigeria) to the US. When immigrants with communicable diseases engage in sexual mixing with different ethnic groups or individuals with different characteristics, there is the possibility of cross transmitting HIV to unsuspecting individuals inside and outside the usual sexual network (Mariscano et al., 2013; Mole et al., 2014). Despite this knowledge, there are limited studies regarding NAIs and their sexual practices in the context of HIV/AIDS discussion.

According to the US Census (2011), some sub-groups of the AA population have their roots in Africa and immigrants from Nigeria make up a significant number of African-born Blacks in the US (MPI, 2009; 2014). Currently, there are about 1.6 million African-born Blacks in the US (Gambino, Trevelyan, & Fitzwater, 2014; US Census, 2014a) making up 9% of the AA population (Pew Research Center, 2015). As the number of African-born blacks continue to increase, the voice of AIs, especially NRAIs, seemed to be missing in the discussion of HIV/AIDS. The NAIs may represent a bridge

population as they travel between the US and Nigeria, a country with a high prevalence of HIV/AIDS.

Three factors may make the NAIs vulnerable to being a bridge population that passes on HIV infection to their sex partners in the US. First, the NAIs came from a country that has a high prevalence rate of HIV/AIDS, second only to South Africa (Dauda, 2012; National Agency for the Control of AIDS [NACA], 2014; UNIAIDS, 2014a; Utman, 2008). Second, the exposure of NAIs to the culture of polygamy in Nigeria may make it seem normal for this group to engage in the practice of multiple sexual relationships (Batta Box, 2013; 2015; Fox, 2014; Reniers & Tfaily, 2012). Third, engaging in unprotected sex while in Nigeria may result in cross-transmission of HIV to their sex partners in the US. Therefore, given the level of the HIV/AIDS epidemic in Nigeria and NAIs' huge presence in the US, I found a gap for the exploration of NAIs' sexual behavior.

According to the US Census (2014b), African-born immigrants accounted for 4% of the total US foreign-born population with immigrants from Nigeria being one of the four countries with the largest numbers. In addition, Texas is one of the four states with the largest presence of African-born people, hosting about 134,000 (US Census, 2014b). Houston, Texas was also reported to be one of the 10 metropolitan areas with the largest numbers of African-born individuals and NAIs make up almost half of the 50,000 African-born immigrants in Houston (Gambino et al., 2014; US Census, 2014b). Not only did NIAs make up the largest population of African-born immigrants in Houston/Harris County, they ranked 2nd in the number of foreign countries with the most amount of new HIV diagnoses within Texas (Texas Department of Health Services

[TXDSHS], 2016). Data like this may be an indicator that the NAIs may be a bridge-population.

The rebounding of HIV infection in the AA population may continue if the role of NAIs in HIV transmission is unexplored. The importance of having the voice of the NAIs as part of the discourse regarding HIV in the US prompted my desire to propose an HIV infection study with this sub-group. I used qualitative research method to engage the NIA participants in a face-to-face interview, exploring their shared experience on the topic of multiple sexual relationships (polygamy) in the context of HIV infection. The theoretical framework for the qualitative study was the health belief model (HBM). The use of some HBM concepts was necessary in this study to explore the knowledge, beliefs, perceptions, and attitudes of NAIs on HIV infection.

Purpose Statement

The purpose of this qualitative study using the phenomenology approach was to explore the role that NAIs may be playing in the prevalence of HIV infection among the AA population. I used the HBM to explore NAIs' beliefs and attitudes towards sexual behavior. My research questions targeted knowledge of HIV, multiple sexual partner relationships, and use of condoms among NAIs living in Houston, Texas. The knowledge gained through this study provided a basis for addressing knowledge and behaviors that may increase risk of contracting HIV between US-born Blacks and the NAIs. It was important to conduct this study in view of the increase in the CBT of infectious diseases as globalization of the world economy increases. Immigration has been linked to importation of infectious diseases as witnessed during the Ebola virus crisis (Buseh, Stevens, Bromberg, & Kelber, 2015; Suk et al., 2014). I explored the

NAIs' perception of HIV infection, sexual risk taking behavior, and condom use. The knowledge gained from this study contributes to the public health community's understanding of the prevalence of HIV/AIDS among the AA population with use of the following research questions.

Central Research Question

RQ1: What are the perceptions of NAIs living in Houston/Harris County, Texas regarding contracting HIV infections?

SQ1: What knowledge do the NAIs have about contracting HIV?

SQ2: What meaning do NAIs ascribe to the experience of multiple partnerships with regard to contracting HIV?

SQ3: What are the perceptions of safe sex such as the use of condoms in the prevention of HIV according to NAIs?

Conceptual Frameworks

Many social scientists conceptualize and define behaviors in many ways. As a person engages in a behavior or proceeds to change any behavior, the transtheoretical model (TTM) and the HBM concepts are used in explaining the cognitive process of the individual. Painter, Borba, Hynes, Mays, and Glanz (2008) agreed that it was not uncommon to conduct interventions with individuals using the TTM and HBM concepts in tobacco smoking cessation and HIV prevention.

The Transtheoretical Model

The TTM is one of the most widely used models of health behavior focusing more on individuals in a change process (Brewer & Rimer, 2008; Prochaska & Velicer, 1997). The TTM has been found to be effective in the promotion of change behavior

surrounding smoking, improving physical activities, dietary promotion, and HIV prevention (Bayat et al., 2013; Prochaska, DiClemente, & Norcross, 1992; Prochaska & Marcus, 1994). The TTM consists of five main stages (precontemplation, contemplation, preparation, action, and maintenance).

The precontemplation stage is when an individual has no idea whether a behavior exists to be changed and has not considered changing the behavior. However, the individual's knowledge is increased as the person is provided with information and education about the disease. The contemplation stage is when the individual starts to acknowledge that a problem may exist and begins to think about making changes by weighing the pros and cons of information that was received. The action stage occurs when the individual decides to engage in behaviors that can reduce risk of diseases such as learning how to use condoms. The maintenance stage involves continuous engagement in actions geared toward preventing the acquisition of diseases or decreasing addictive behavior. At this stage, partner or family support may be necessary to further engage the individual in the change behavior activities. For example, the cooperation of a sexual partner in the use of condoms may improve the self-efficacy of the individual to use condoms. Health promotion outreach such as public health announcement may also continue to encourage the individual to use condoms. According to Zimmerman, Olsen, and Bosworth (2000), the maintenance stage is where individuals are continuously sustained with several coping skills to turn relapse into reengagement in the change process.

Relapse is common in the TTM, according to Prochaska et al. (1992). The TTM, similar to the HBM, recognizes that individuals move through the stages in a nonlinear

manner before they are actually able to achieve the desired behavior (Glanz & Bishop, 2010). In spite of the fact that both the TTM and HBM are change promotion conceptual models, there are still differences in the application of the concepts.

Health Belief Model

As the authors of HBM had intended, use of HBM assists researchers in understanding why and how beliefs influence actions. The HBM consist of six constructs: Perceived susceptibility, perceived severity, perceived barriers and costs, perceived benefit, cue to action, and self-efficacy (Glanz, Rimer, & Viswanath, 2008). While the HBM constructs of self-efficacy, lack of perceived benefits, and limited perception of susceptibility was applied by Wong and AbuBakar (2013) to explore the beliefs of the study participants in understanding the barriers to achieving prevention of dengue fever. On the other hand, Michielsen, Chersich, Temmerman, Dooms, and Van Rossem (2012) found HBM constructs useful in identifying psychological and behavioral factors that often influence risky behavior and HIV transmission. Individuals' beliefs about whether they are at risk for a disease or health problem and their perceptions about the benefits of engaging in an action may prompt them to take steps to avoid the health issue (Glanz & Bishop, 2010).

Comparisons and Similarities between TTM and HBM

The TTM, just like the HBM, mainly focuses on the individual with little attention on the impact of the environment, society or economic and physiological factors (McLeroy, Bibeau, Steckler, & Glanz, 1988; Glanz et al., 2008). The TTM further addressed other constructs found in the process of change such as self-revaluation, self-efficacy, helping relationship, and reinforcement management (Glanz et al., 2008). Both

the HBM and TTM addressed self-efficacy issues and provided opportunities for individuals to increase their knowledge of the disease, including the risk factors. However, unlike HBM, TTM makes clear distinctions between the stages and makes provision for relapse prevention (Munro, Lewin, Swart, & Volmink, 2007). Due to the opportunity to move in and out of stages of change, therefore, TTM has been argued to be a better tool for practitioners intending to change behavior while the HBM seemed more practical for researchers in understanding behaviors (Munro et al., 2007). The TTM does not put much emphasis on perceived threat and susceptibility of the individual in the acquisition of a disease (Munro et al., 2007).

For the purpose of this study, which was to understand the study participants' perceived threat and susceptibility of risks of HIV infection, HBM seemed more expedient in providing explanations for possible awareness or lack of awareness of risk of HIV infection among the NAIs living in Houston, Texas. I considered the HBM in this study as a framework that would guide the exploration and understanding of the NAIs' beliefs and sexual behaviors surrounding HIV infection. Therefore, I explored some of the constructs of HBM in understanding the perspectives of the NAIs regarding HIV infection to see if there would be the opportunity for actions in the prevention of HIV infection. I proposed the use of HBM over the TTM in this study as a framework to guide the exploration and understanding of the NAIs' beliefs, feelings, and attitudes surrounding HIV infection.

As part of this study, I explored the perceived susceptibility of HIV infection, perceived severity, perceived barriers, and cues to taking actions in the context of HIV infection among the NAIs using the HBM framework. Perceived susceptibility to

acquiring HIV through engaging in unprotected sex was one way of exploring participants' knowledge of HIV/AIDS. I used the HBM framework to develop research questions that explored the perceived severity of engaging in multiple sexual partner behavior and unprotected sex. I developed interview questions to explore the participants' perceived barriers regarding use of condoms. Finally, research questions also focused on what could cue the NAIs into taking actions to prevent HIV infection.

The use of HBM constructs in this study explored the feelings, thoughts, beliefs, knowledge, and attitude of the study participants about HIV infection. It was anticipated that the responses received from the research participants would provide rich data for an in-depth understanding of the participants' knowledge, attitudes, and behaviors from a phenomenological philosophical lens. Applying HBM constructs provided the framework for understanding the perspectives of the research participants about their beliefs and attitude regarding multiple sexual partnerships, unprotected sex, and use of condoms. Participants' responses provided additional tools for health care providers in formulating preventative interventions that would be relevant to the NRAIs living in the US.

Nature of the Study

The perception, attitude, and behavior of the NAIs on HIV infection was explored using the phenomenological approach in this study. The phenomenological philosophical paradigm was a naturalistic qualitative research design approach that explores individuals' experiences through social constructivism and interpretivism lenses (Creswell, 2013; Patton, 2015). The phenomenology paradigm helps to explain the lived experiences of individuals and their understanding of the world in which they live and

work (Creswell, 2013). Choosing a qualitative research design and phenomenological approach was more appropriate for this study in order to understand the experiences and sexual behavior of the NAIs in the US.

The application of the HBM to the development of the interview questions allowed for in-depth exploration of the phenomenon. Interview questions that were developed explored the perspectives of the NAIs on individual beliefs about contracting HIV, knowledge of HIV infection, sexual practices, and use of condoms. Among NAIs living in Houston, Texas, I purposively selected 13 respondents for the study. A face-to-face interview using open-ended semi structured questions produced data for analysis. The analysis of emerging themes generated recommendations for HIV infection prevention programs that would be culturally relevant to the NRAI population.

Definitions

Terms or phrases can sometimes have multiple meanings. In order to avoid confusion in the terms used in this study, the following definitions were provided:

African-born Blacks: A term used to describe individuals born in Africa but who migrated to the United States or other Western countries (US Census, 2014a).

African Immigrants: Description of a diverse group of African immigrants from the South, North, East, West, and Central African countries such as Nigeria, Kenya, South-Africa, Uganda, Egypt, and Ethiopia (Immigration Policy Center [IPC], 2012). In the studies conducted by Birukila et al. (2013), Loos, Manirankunda, Hendrick, Remmen, and Nostlinger (2014) on HIV/AIDS, AIs were referred to as immigrants from sub-Saharan countries.

African American: Usually used to refer to anyone with roots in Africa but is also considered a racial group in the United States (US Census, 2011). Black and African American are terms interchangeably used to define anyone with roots in Africa as a racial group in the United States (US Census, 2011). Black is another name used in identifying AAs but is also a term used in other Western countries and in Europe to describe anyone with their roots in Africa (National AIDS Trust, 2014).

Bridge Population: this term describes individuals who becomes a link through which a disease is transmitted to another person or from one geographical location to the other. Huang et al. (2011) used this term to describe sex workers who transferred STI diseases to their clients. Rai et al. (2014) and Mariscano, et al. (2013) also used this term to describe individuals that connect high HIV infection areas to low HIV infection areas.

Concurrent Sexual Partners: Having multiple sexual partners that overlap in time, a practice that increases the transmission of HIV and other STDs (Frye et al., 2013; Mah, & Halperin, 2010; Mah & Maughan-Brown, 2013).

Cross-border Diseases: The practice of transmission of infectious diseases such as HIV and STI from one geographical area to another.

Foreign-born Blacks and *Foreign-born population from Africa*: African immigrants born outside the host countries (Johnson, Hu, & Dean, 2010; NACA, 2015; US Census, 2014a)

Interpretivitism: Is a set of social constructs grouped together for interpretation (Patton, 2015)

Multiple sex partner: Having more than one sex partners or multiple sexual relationships (Dias et al., 2014).

Perception: Research participants'' expressed views of the reality of HIV infection and the risks involved in contracting HIV.

Sexual mixing: This term is used to describe sexual networks of certain populations beyond their own communities or national origin. Examples are Men who sleep with Men (MSM) who engage in sexual relationships with heterosexual women or who are bisexuals (Tao et al., 2013). Others are sub-Sahara immigrants in sexual relationships outside their sexual networks or national origin (Mariscano et al., 2013). Sexual mixing also occurs when individuals engage in sexual relationships with female sex workers (Apostolopoulos et al., 2013). Lastly, sexual mixing is possible between individuals travelling from one geographical location to another (Mole et al., 2014).

Assumptions

HIV/AIDS is a global disease that has resulted in millions of deaths while millions still live with the disease (WHO, 2015a). It continues to be a devastating disease within the AA population (CDC, 2015d) among whom are the NAIs. The NAIs, a segment of the NRAIs in the US, may not be paying attention to the possibility of an HIV outbreak in their communities if the NAIs engage in unprotected sex with concurrent partners or partners who might have been engaged in high-risk sexual behavior while visiting Nigeria. The exploration of the perception of the NAIs living in Houston/Harris County, Texas on HIV/AIDS produced willing participants who decided to express their opinions on this issue. Even though the participants voluntarily agreed to participate in this study, it was not known if the participants' responses were a true reflection of their experiences about HIV/AIDS. To counter any form of resistance in advance, I sought the cooperation of community leaders and prolonged contact with potential participants. The

prolonged professional contact took place during the process of recruiting potential participants for data gathering in a face-to-face interview. I had assumed that the information and knowledge gathered from the participants would form a platform for HIV/AIDS prevention discussion and promotion of health seeking behavior among the NAIs who share a different experience with the RAI groups and the AAs.

Scope of Delimitations

In this study, I explored the lived experiences of the NAIs that included having multiple sexual partners and use of condoms, and being some of the risk factors for contracting HIV. In studies with AIs, Dias et al. (2014), Fox (2014) in their findings affirmed that engagement in relationships with concurrent partners without the use of condoms among heterosexual individuals in Africa accounted for the majority of sources of HIV infection. I chose to utilize a qualitative design approach because many existing studies have only utilized the quantitative research design. It was assumed that this study would produce new information that would boost existing HIV prevention initiatives relative to NRAIs in the US. I reviewed works of literature that were available regarding all subgroups of AIs that included RAIs, NRAIs, and immigrants from other regions of the world. My focus was limited to NAIs whose voice seemed to be missing in the discussion of HIV/AIDS among the AIs.

Limitations

The limitations of this study included the choice of method of research design, qualitative, that allowed for use of small numbers of participants. I utilized 13 participants whose perceptions cannot not be generalized to the whole of the NAI sub-group. According to Creswell (2013), there was no ground rule on the number of

subjects in a sample size that can be used in qualitative research. It is possible to reach saturation with as few as 1-10 participants (Creswell, 2009) as long as the researcher can collect rich data on the perspectives under exploration. I was able to collect rich data due to the sampling technique that I used, the Maximum Variation. The maximum variation technique allowed for diverse selection of participants based on certain characteristics such as gender, age, and travel to or from Nigeria. It was anticipated that diverse opinion and in-depth perspectives of the participants using the phenomenological approach would produce rich data for analysis.

Even though the participants responded to my interview questions that aimed at obtaining their views about the participants' sexual practices, the participants' responses could not be assumed to be fully accurate. According to Veit-Wild and Naguschewski (2005), discussion of sexuality continues to be a sensitive issue due in part to sociopolitical reasons including gender norms, polygamy, heterosexual patriarchy, and politics. As Veit-Wild and Naguschewski (2005) wrote, "A particularly strong taboo has consistently surrounded sexuality, a terrain which in African society, has been treated with the utmost secrecy" (p. xi). Ehiwe, McGee, Filby, and Thompson (2012) cited secrecy and fear as major barriers that prevented access to care due to feeling of stigma. Therefore, it was natural that the NAIs would consider the issue of HIV/AIDS to be a sensitive topic. While there are no empirical studies on why HIV/AIDS is not discussed in African communities, many studies have identified fear of stigmatization and discrimination as the reason for reluctance to test for HIV and delay in accessing HIV treatment (see Arrey, Bilsen, Lacor, & Descchepper, 2015; Ulasia et al., 2009).

Notwithstanding the challenges of gathering credible data from the participants, I did my best to create interview questions that avoided my personal biases. I made the NAI research subjects felt at ease during the interview by reassuring them of my obligation to maintain confidentiality while also educating the participants of their individual rights. With the extra percussions taken in gathering credible data, I believe that the participants' expressed views have been accurately reported.

Significance of the Study

Lack of knowledge of HIV/AIDS and available services, poor communication between service providers and the AI groups, or lack of cultural sensitivity by the service providers may make preventative services a challenge with AI groups. Even though Fennie and Laaas (2014), Santos-Hovener et al. (2015) in their studies with AIs participants with college degrees and higher education reported 80% high knowledge of HIV/AIDS, on the other hand, Feresu and Smith (2013) reported low knowledge of HIV/AIDS by the Somalian women immigrant participants with low level education. Santos-Hovener et al. (2015) reported that one of the barriers to HIV prevention was attributed to fear of deportation if HIV status was known as articulated by 44% of the AIs study participants In another study with 52 West African AIs in New York, according to Akinsulure-Smith (2014), many of the AIs could not identify HIV services in New York.

Other issues like language barrier was attributed to reasons for late HIV testing or entry into HIV care services. In highlighting lack of good communication between service providers and the AI groups, Ojikutu et al. (2013) noted the practice of US health care providers in presenting health information that best fit the US-born Blacks to African-born blacks who do not share the same experience as US-born Blacks. To

improve relationships between service providers and diverse ethnic groups, Stubbs (2012) reiterated the importance of understanding the differences between ethnic groups as a way of enhancing treatment of HIV infection.

One of the social changes that my study intended to make was to break the culture of silence in the NAI community on HIV/AIDS discussion. As a member of the NAI community, I can say that culture of silence is a phenomenon that is present in the group. Poindexter, Henrickson, Fouche, Brown, and Scott (2013) said that silence was a defense mechanism tool used against stigmatization and discrimination by individuals with HIV/AIDS. My ability to engage the NAI study participants in expressing their views on this sensitive topic, HIV/AIDS, was the first step toward breaking the barrier of silence and engage NAI communities in the discussion of HIV/AIDS.

With my study, I intended to make a social change of correcting any misconceptions about HIV/AIDS and how communication can be improved with the NAIs. According to Barrett and Mulugeta (2010), a significant number of their study participants, Ethiopian and Eritrean immigrants in the UK, saw HIV like any other disease while others saw HIV as a human sin. Because of the unknown perceptions of the NAIs on the topic of HIV/AIDS, conducting this study was critical in the prevention of new cases of HIV infection. I was able to report the knowledge of HIV/AIDS from the study participants that address any type of misconception about HIV/AIDS. My study was also able to report the use of common cultural language used by the NAIs in their communities.

My study added to the knowledge of the research communities and health care service providers by revealing the perception of the NAIs regarding HIV infection, the

NAIs beliefs, and attitudes. One of the important things that I found out in my study was the use of broken English. This type of language can be used to connect with the AIs or NAIs that migrated from English speaking countries by HIV/AIDS service providers.

Summary

The prevalence of HIV/AIDS remains high among the AA population. However, research communities and health care providers seem to be missing the role played by some subgroups within the AA category regarding the prevalence of HIV/AIDS in the US. In spite of the massive presence of AIs in the US, empirical studies with AIs on HIV/AIDS are few. There is a need to acquire more information and surveillance data about the knowledge of all subgroups within the AA racial category in order to understand the role that each subgroup may be playing in the prevalence of HIV/AIDS.

Consequently, a study of a sub-group of AIs living in Texas is considered necessary. The Texas Department of State Health Services (2016) report indicated that Houston/Harris County is the county with the highest rate of HIV diagnosis in Texas, while Texas is the fourth state with the highest rate of HIV/AIDS in the US (CDC, 2015a). Even though the rate of HIV diagnosis remains at about 56% among the US-born national origin in Texas, the AA's rate of HIV diagnosis was at about 50% of the total diagnosis in Texas (TXDSHS, 2016). Foreign-born nationals also have a rate of 12% of new HIV diagnosis. Of the foreign-born nationals, Nigerian immigrants represented a foreign country that was second in line to Mexican immigrants with the highest prevalence rate of HIV diagnosis in Texas (TXDSHS, 2016). While there are

many studies on AA experiences with HIV/AIDS, there are few on the experiences of the NAIs living in the US or Texas.

The need to conduct the study became necessary to extend NAIs', the opportunity to give voice to their experiences in the study of HIV/AIDS. Chapter 1 addressed the background information, the theoretical framework, research questions, and purpose of the study. This chapter introduced the link between the AAs and the possible high-risk behavior of a segment of the NRAIs that might have been contributing to the high rate of HIV/AIDS in the AA group. It is with this thought in mind that the study addressed the research problem using the HBM as a lens for analyzing the study. Chapter 2 discussed the findings of seasoned researchers on HIV/AIDS through a review of literature especially among the AI population around the world and in the US. In Chapter 3, I explained the methodology that was applied to the study, while Chapter 4 provided information about data. Chapter 5 concluded the report of the study by giving information on the data gathered, the findings were presented, conclusions were made and recommendations for future study was reported.

Chapter 2: Literature Review

Introduction

HIV/AIDS studies with the AA population in the United States lack distinction between US-born and Non-US-born Blacks. Few studies conducted regarding these AIs also indicate a lack of distinction between the RAIs and the NRAIs, thereby leaving a gap in studies of HIV/AIDS among the AA population. Even though several studies conducted have established the link between travel and CBT of infectious diseases, few studies have explored CBT of HIV between AIs and the US-born Americans. Therefore, a study of NAIs is considered necessary to provide deeper insight into the NAIs' sexual practices that may expose the US-born Americans to contracting HIV.

Chapter 2 begins with the strategies employed in the literature search. The chapter discussions proceeded to the type of conceptual framework used to justify the research design. A description of the HIV/AIDS epidemic at global, regional, country, state, and local levels were part of the discussion in this chapter. Additionally, a review of current literature regarding the prevalence of HIV/AIDS among the AI populations in Europe, the US, Nigeria, Texas, and Houston were reviewed. To understand the differences between the US-born and the Non-US-born blacks' HIV/AIDS experience, I reviewed works of literature on the immigration experiences of RAIs and NRAIs. This literature review will also present information on the differences between US-born and the non-US-born Blacks and distinctions between refugee and non-refugee African immigrants.

The study of HIV/AIDS hardly indicate the use of surveillance data on AIs in the US. Some studies that expressed the importance of collecting data on AIs will be

featured in Chapter 2. Similarities in sexual behavior between US-born and non-US-born Blacks centering on concurrent sexual partners and condom use will be part of the review. In this chapter, I considered the characteristics of individuals who participate in sexual mixing and how such persons could become a bridge population for the transmission of HIV. The review in this section also took a look at literature and government reports on successes made in the prevention and treatment of HIV.

Literature Search Strategy

I acquired articles and materials for this literature review from academic websites such as EBSCOhost, PsycINFO, ProQuest Central, Academic Search Complete, Science Direct, Thoreau Multi-Database search, PubMed, and Google Scholar. Governmental websites also provided information on secondary data and reports. International health organizations such as WHO, CDC, ECDC, and Joint United Nations Programme on HIV/AIDS were sources of information on past and current efforts regarding HIV/AIDS. Furthermore, government websites provided reports on population, immigration, and HIV/AIDS as it relates to this study. Such public bodies included: The Migration Policy Institute, United States Census, National Population Commission, Nigeria, National Agency for the Control of AIDS, Texas Department of State Health Services, and Public Health England. Most of the reports and articles retrieved for review were published in the last 5 years, between 2011 and 2016.

Terms, words, and phrases used in the search engines included *African Immigrants*, *AAs*, *sub-Sahara Africa*, *HIV/AIDS*, *Refugees*, *African-born blacks*, *sexual mixing*, *condoms use and African immigrant*s, *knowledge of HIV/AIDS among African immigrants*, *Multiple partners and African immigrants*, *Concurrent sexual partners*,

immigrant health, *prevalence*, *Africa and polygamy*, *Non-US Blacks*, *US-Blacks*, *Down Low*, *Barriers*, and *HIV prevalence and AA*. To gather knowledge on the possible link between travel and HIV infection, the phrases, *migration and travels and cross-border diseases*, *Sexual mixing*, *bridge population*, and *sexual networks* were used in the search.

Existing studies on AIs, especially the NAIs in the US, appear to be limited. Several efforts were made to obtain current research on AIs or the NAIs that included a search of international agency websites. HIV/AIDS prevalence and surveillance data on AIs in US public health agencies, especially in Texas, were reviewed to provide insight into the prevalence of HIV/AIDS among AIs living in Texas.

I was able to find several empirical studies on HIV/AIDS studies in some special populations. These are AA gay and bisexual men, young AA gay and bisexual men, and Black women. However, research on AIs is very limited, and research communities are yet to perceive AIs as a special population in the study of HIV/AIDS in the US. Even though a search of HIV/AIDS literature produced some studies in Europe and other countries of the world with AIs, few studies exist in the US. The few studies that I found are very limited and tended to have RAIs as participants rather than NRAIs. Few studies on AAs attempted to make a distinction between US-born and non-US-born Blacks. Most studies on AIs conducted in the US tended to lump all AIs together with no distinction between refugees and non-refugee AIs despite differences in immigration experience. Even though there appears to be limited scholarly articles on the topic of HIV/AIDS on AIs, some researchers in the US are beginning to draw differences between US-born and the Non-US-born Blacks (see Asare et al., 2013; Blanas et al., 2013; Poindexter et al., 2013). Due to limited research on AIs in the US, studies conducted in

other regions of the world on AIs were used to draw similarities or differences between AIs living in the US and their contribution to the HIV/AIDS epidemic. Currently, there is a gap in HIV/AIDS studies focusing on the prevalence or experience of NAIs in the US despite the group being one of the prominent members of AIs from Nigeria, a sub-Sahara Africa country. As a result, an effort will be made to highlight studies conducted in other nations touching on the Nigerian population and their experience with HIV/AIDS.

Conceptual Framework

Identifying and Defining the Concept/phenomenon

I have identified the HBM conceptual framework as a relevant theoretical framework for exploring the knowledge, beliefs, and sexual practices of NAIs in this study. The HBM conceptual framework arose in the 1950s from a group of public health social psychologists questioning how to understand and predict behaviors in the prevention of disease (see Hochbaum, 1958; Rosenstock, 1974). The HBM framework consists of six concepts: Perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy (Glanz et al., 2008). The HBM is one of the conceptual frameworks that looks at behavior in the context of HIV infection. The HBM and its concepts have been used by researchers to examine the cognitive perception of participants and their beliefs about being susceptible to certain conditions and their perspectives of the severity of the condition.

Understanding the meaning ascribed to some diseases and perceptions of the severity of the disease may influence the behavior of individuals toward having or averting the condition. Individuals may have a better chance of avoiding the condition once the person understands the benefits of engaging in positive behavior. The HBM

also affords the researcher the opportunity to explore with study participants, the benefits of taking action, perceived barriers that may stand in the way of engaging in the new behavior, and the things that can cue the individuals into acting. This study will only utilize some of the concepts of HBM such as perceived susceptibility, perceived severity, perceived barriers versus benefits, and cues to taking action that directly relate to the research question and purpose of this study.

Justification for Selection of the Health Belief Model Concepts

Perceived Susceptibility

Wong and AbuBakar (2013) found awareness of Dengue fever to be high among the participants, but perceived susceptibility was low. Perceived susceptibility, a construct of the HBM exposes individual's belief about their vulnerability to acquire diseases. Muoghalu and Jegede (2013) in a study involving the Igbo ethnic group in Nigeria in Anambra State, reported that the majority of the participants believed that HIV is as a result of immoral attitudes which in turn led to punishment from God. According to Muoghalu and Jegede (2013), the participants did not perceive AIDS as a disease that can afflict anybody except if the individual engages in immoral behavior.

The health beliefs of a migrant traveler may influence how precaution is perceived. If such person does not believe that it is possible to acquire or transmit diseases, such individual may not deem it necessary to take action against being infected with diseases like malaria, hepatitis A, TB, HIV, and other sexually transmitted diseases (STDs). Mitha, Yirsalign, Cherner, McCurtchan, and Langford (2009) found the awareness of susceptibility to acquisition of HIV was found to be high among the Ethiopian immigrants. Ninety-five percent of the participants had prior knowledge of

HIV/AIDS, and ninety-four percent reported possible person-to-person transmission (Mitha et al., 2009). Despite the high awareness of susceptibility, erratic condom use was found in about 40% of the study participants (Mitha et al., 2009). Research questions were crafted to explore the NAIs' perception of HIV/AIDS with the aim of obtaining deeper insight into their knowledge of HIV/AIDS

Perceived Severity

Perceived severity is how the individual weighs the seriousness of the disease, the consequences, and the belief held by individuals on the extent of possible harm as a result of being exposed to a condition. Mitha et al. (2009) study showed a low level of perceived severity when the majority of the study participants reported being at low risk of contracting HIV. Even though 84% of the study participants had expressed beliefs that HIV could be fatal, nevertheless, 32% of the subjects believed in the cure of HIV (Mitha et al., 2009). Wong and AbuBakar (2013) found that perceived severity was low among the study participants due to lack of knowledge that Dengue fever could result in hemorrhagic fever or the shock syndrome. The subjects in this study also believed that Dengue fever was curable (Wong & AbuBakar, 2013).

The findings of Wong and Abubakar (2013) brings to mind a recent experience of a family member who lost a 15-year-old son to Dengue fever in Nigeria. By the time the family became aware of the severity of the fever and rushed the child to the hospital, the child had gone into the shock syndrome. At the arrival of the family to the hospital, the child was in the hemorrhagic stage of the Dengue fever that proved to be fatal. According to the family, they only had knowledge of malaria and yellow fever but not of Dengue fever. Low perceived severity of a situation can often lead to an unwanted result.

When individuals have adequate knowledge about the severity of HIV infection, it may be possible to decrease the danger of acquiring the disease. This study explored the knowledge of perceived severity of HIV/AIDS with the study participants through research questions that probed into their cognitive perception of the severity of HIV infection.

Perceived Barriers

Perceived barriers are what keep the individual from changing. Stigma, uncomfortable feeling with the use of condoms, the unacceptability of sexual orientation by partners in the case of a bisexual male, availability of condoms, and accessibility to medical clinics are all examples of barriers that may keep individuals from changing. The perceived barrier to engaging in a positive behavior such as the use of condoms is one of the main findings in the study of Asare et al. (2013). According Asare et al. (2013), study participants faced barriers in accessing condoms. The findings also included low level of belief in the effectiveness of condom use in the prevention of HIV and pregnancies, uncomfortable feelings with using condoms, and fear of being labeled as unfaithful by their sex partners. While the study of Asare et al. (2013) found that using the HBM model is a reliable predictor of condom use, the study of Akinsulure-Smith (2014) found that the majority of the participants expressed perceived barriers in the knowledge of HIV services and treatment centers within the immigrant community. To understand the perceived barriers in use of condoms in this study, I developed interview questions that targeted the participants' perception on the use of condoms.

Cues to taking action

Cues to action are the stimuli necessary to spur individuals into engaging in an appropriate healthy behavior. Motivation, knowing others in the immediate environment were tested for STI, being aware of the risky behavior, and being open to communication about sexuality were found to be cues that can motivate individuals into taking actions to prevent HIV in the study of Westmass et al. (2012). In their findings, Asare et al. (2013) pointed out that cues to action could be a significant predictor for condom use. As a result, I explored the study participant's perception on cues to action by formulating research questions that gave deeper understand of the things that may or may not encourage behaviors to take action.

Criticism/critique of HBM

The HBM does not specify how the different beliefs influence one another or how other factors like intoxication before sex and other combined factors influence behavior (Lollis, Johnson, & Antoni, 1997). According to Glanz et al. (2008), HBM does not make provision for how a person can be helped to enter or reenter behavior change treatment or intervention. Another limitation of HBM is that it does not address social, interpersonal, and contextual issues such as policies, funding, and economic factors, rather, HBM only focus on individuals and group behavior (Glanz et al., 2008). Glanz et al. (2008) also reiterated that the limitations of HBM may lead to the minimal achievement of effect size in quantitative research. However, Munro et al. (2007) took the position that despite these weaknesses found in many studies on behavior, HBM have the ability to predict behavior.

HBM Application

As the researcher who is also considered the instrument in a qualitative study (Creswell, 2013), I developed and utilized protocol interview questions that were reflective of HBM concepts for a face-to-face interview with the participants. Protocol guided questions formulated to elucidate the perceived susceptibility, perceived severity, perceived benefits, and perceived barriers concepts of HBM explored the perspectives of the NAIs on their lived experience of HIV. As I develop the interview questions, I paid particular attention to the experience of multiple sex partner and condom use in the context of HIV infection. My focus was to explore the susceptibility of being vulnerable to acquiring HIV with the participants through research questions. I also explored how the participants perceive the severity of acquiring HIV through well-thought out follow-up questions. Asare et al., (2013) pointed to multiple sexual partners and inconsistent use of condoms in studies conducted in Africa and among AIs around the world. Through the interview questions, I was able to find the barriers faced in the use of condoms and what the study participants perceived as benefits of using condoms. The use of HBM concepts in this study provided the avenue for understanding perceptions, beliefs, and attitudes regarding contracting HIV.

Global Experience of the HIV/AIDS Epidemic

Several controversies have surrounded the origin of HIV/AIDS in humans (Sharp & Hahn, 2011). In a recent study Faria et al. (2014) concluded that HIV/AIDS first originated in Kinshasa in the Democratic Republic of Congo (DR Congo) in the year 1920. However, Hymes et al. (1981) noted that HIV/AIDS did not come to public

attention in the US until around 1981 although HIV/AIDS might have been in existence for many years (Morbidity and Mortality Weekly Report [MMWR], 2001).

Since the HIV/AIDS epidemic, many lives have been lost but through medical break throughs, many now lives with HIV/AIDS. In the recent report of WHO (2014; 2015a), the disease had claimed over 39 million lives around the world. Figure 1 gives a visual representation of the parts of the world mostly affected by HIV/AIDS (WHO, 2014). A look at Figure 1 reveals the impact of HIV/AIDS in some regions and countries. In the year 2014 alone, HIV claimed over 1.6 million lives (WHO, 2015a). Worldwide response to several breakthroughs in the areas of prevention and treatment programs have resulted in over 37 million people living with HIV by the year 2014 (WHO, 2015a). According to WHO (2015a), 20 million individuals were receiving treatment around the world. The 20 million individuals receiving treatment represents 84% increase in the numbers of individuals receiving treatment globally (UNIAIDS, 2015a).

Coupled with gains made in the number of people receiving treatment, WHO (2015a) also reported a decrease of about 42% in the numbers of HIV/AIDS-related deaths since the year 2004 because of several interventions. Even though there had been about 35% reduction in the numbers of people having HIV infection (UNIAIDS, 2015b), several millions of people still get infected yearly. While it is true that the global communities have made tremendous gains in reducing the number of deaths associated with HIV, more than 54% of people who have HIV do not know their status (UNIAIDS, 2014a). Additionally, WHO (2015a) found over 70% of new cases of HIV infection in the sub-Sahara Africa. In 2014, about two million people still get infected with HIV

annually (WHO, 2015a). HIV transmission has no regional boundaries in the spread of the disease. Sub-Sahara Africa and the Americas regions (Figure 1) of the world have the highest prevalence of HIV/AIDS (WHO, 2014). Of these two regions, the United States and Nigeria are responsible for a significant number of HIV infection, deaths, and people living with HIV/AIDS.

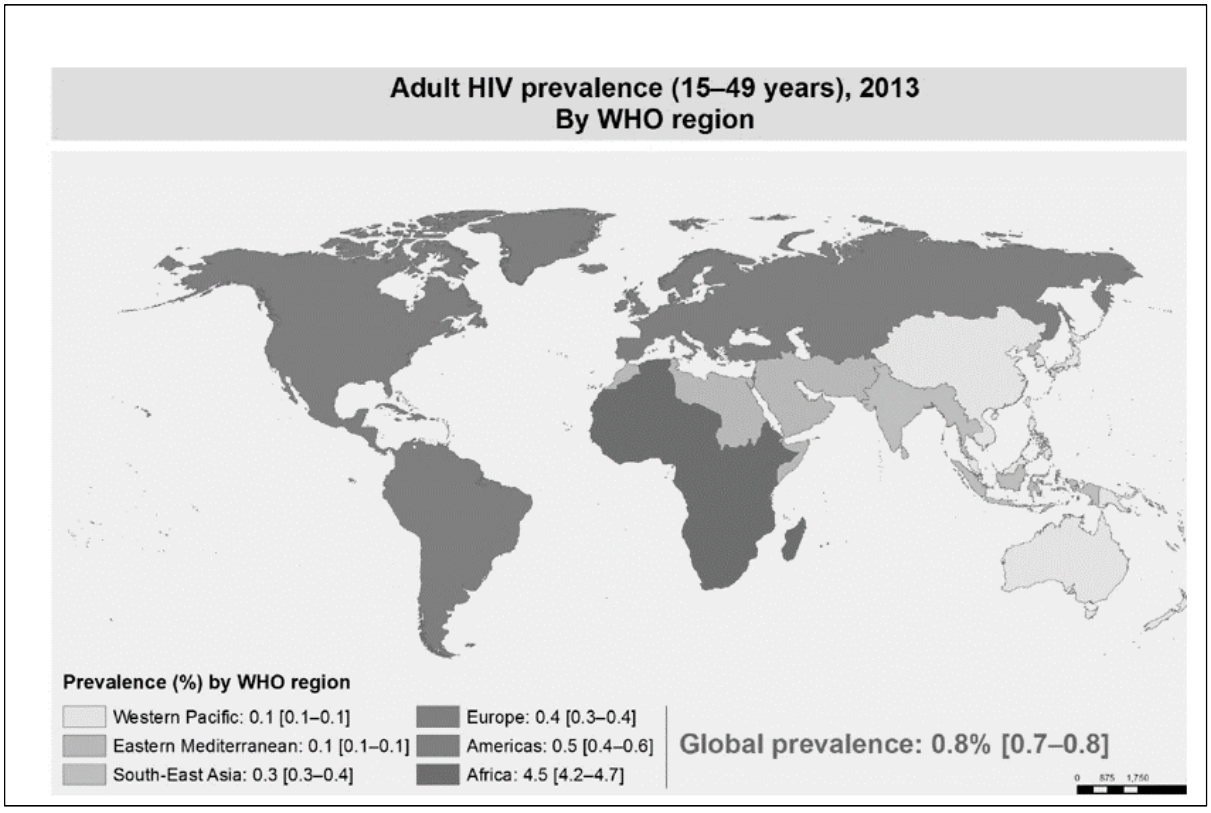


Figure 1. Global prevalence of HIV. From WHO (2014). Global Health Observatory data. Retrieved http://www.who.int/gho/hiv/en/

HIV/AIDS in Sub-Sahara Africa

Sub-Sahara Africa region continues to suffer more incidences of HIV/AIDS when compared to other parts of the world. This phenomenon can be explained with the claim

that HIV originated from Africa (Faria et al., 2014). Among 37 million people living with HIV/AIDS around the world, about 29 million are from the sub-Sahara region (WHO, 2015a; UNIAIDS, 2015b). In sub-Sahara Africa, ten countries accounted for 81% of people living with HIV (UNIAIDS, 2014). Within sub-Sahara region, South Africa, and Nigeria accounted for more than half of the people living with HIV in the region (UNIAIDS, 2014a). In the year 2013, Nigeria experienced the highest AIDS-related death at 19% followed by South Africa at 18% (UNIAIDS, 2014a). As cases of new infection continue to decline to a 33% low, South Africa still has yearly 23% new cases of HIV infection while Nigeria follows at 15% (UNIAIDS, 2014a). The two population most affected by HIV/AIDS in sub-Sahara Africa region are adults between ages 25 to 49, young women, and adolescents (UNIAIDS, 2014a). The primary source of HIV transmission in sub-Sahara Africa countries is through heterosexual activities (UNIAIDS, 2014a).

HIV/AIDS in Western and Central Europe and North Americas

Next to sub-Sahara African region (Figure 1) in high HIV/AIDS morbidity and the mortality rate is the North America followed by Western and Central Europe (WHO, 2014). In 2014, WHO (2015a), UNIAIDS (2015b) reported that 2.1 million people were living with HIV in Western and Central Europe and North America. Also, in 2014, there were reported deaths of 26,000 and about 85,000 newly diagnosed cases of HIV infection (UNIAIDS 2015b; Kaiser Family Foundation [KFF], 2015). Out of all HIV/AIDS cases in North Americas, Western, and Central Europe, US carries the burden of about 56%, followed by France with 8% and UK with 5% (UNIAIDS, 2014a). The UNIAIDS (2014) report indicated that the population with the highest burden of HIV/AIDS are gay men

and MSM, AA communities, particularly, AA women, and migrants from sub-Sahara Africa. United States tops the number of deaths, new HIV cases, and people living with HIV/ADS in these regions (UNIAIDS, 2015b).

Impact of HIV/AIDS in Nigeria

Nigeria is the most populated country in sub-Sahara Africa with approximately 177 million people (NACA, 2015). In 1985, National Population Commission, Nigeria [NPCN] (2014) reported first case of AIDS in Nigeria. Even though HIV prevalence increased in 1991 from 1.8% to 4.6% in 2008 (NPCN, 2009a), in 2013, it dropped to about 3.6% (NACA, 2015; UNIAIDS, 2014b). Though with low HIV/AIDS prevalence rate at 3.6% and home to about 3.4 million people living with HIV/AIDS, Nigeria has the second highest burden of HIV/AIDS in the world next to South Africa (NACA, 2015). New HIV infection continue to decrease from 316,733 in 2003 to 239,155 in 2013 (NPCN, 2009a). In 2014, there were 227,518 new cases (NACA, 2015). Despite the improvement in bringing HIV awareness to the country and various preventative and treatment initiatives, the HIV/AIDS incidences is still a concern in Nigeria especially with declining foreign and government funding of HIV programs in the country (The United States President's Emergency Plan for AIDS Relief [PEPFAR], 2016).

HIV/AIDS still continues to ravage this part of the world as it claimed more than 174,000 lives in 2014, a figure lower than the 2013 number of 210,031 (NACA, 2015). Females continue to bear the most burden of HIV/AIDS in Nigeria at about 210,000 yearly new diagnosis compared to the male counterpart at 103,000 in the year 2014 (NACA, 2015). The primary mode of contracting HIV is through heterosexual sex and mother-to-child transmission in Nigeria (NACA, 2015). The age groups most at risk

with highest HIV prevalence rate are those ages 35-39 at 4.4% and lowest among age group 15-19 at 2.9% (NACA, 2015). New incidence of HIV infection rate for females ages 30-34 stood at 4.2% and for men ages 35-39 was at 5.3% (NACA, 2015). Looking at the above statistics on the prevalence of HIV/AIDS in Nigeria, a NAI with distorted health belief about the use of condoms who is returning to Nigeria on visit may be highly susceptible to the acquisition of HIV. US Census (2011, 2014a) categorized Nigerians under the AA group being one of the largest foreign-born population from Africa. Also, the high presence of NAIs in Texas (US Census, 2013a, 2013b) supports the reason why it is important to involve the NAIs living in Texas in the discussion of HIV/AIDS in US.

HIV/AIDS in the United States

CDC (2015a), estimated that in the US, more than 1.2 million people are living with HIV/AIDS. An area of challenge is that nearly one in eight (12.81%) of those infected are unaware of their HIV status (CDC, 2015a). In 2014, CDC (2016b) reported rate of diagnoses by race and ethnicity as AA 44%, Hispanic/Latinos 23%, and Whites 27%. The dominant transmission route is by MSM followed by heterosexual sex, and injection drug users (IDU) (Huang et al., 2016). CDC report of new HIV diagnosis by transmission category showed 67% MSM, 24% heterosexual, and 6% IDU (CDC, 2016b). Those aged 25-49 tended to have the highest prevalence rate of HIV infection in the US (Huang et al., 2016). In spite of this grim picture, yearly new HIV infection in the US has remained stable at about 50,000 (Huang et al., 2016). However, Blacks continues to be the population at greatest risk of contracting HIV/AIDS in the US and having the highest burden of newly diagnosed HIV status (CDC, 2015a).

According to a 2016 CDC factsheet on HIV among Blacks, AAs accounted for an estimated 44% of new HIV infections in 2014 even though the group represents approximately 14% of the US population. AAs are at greater risk of contracting HIV in 33 states out of the 50 states in the US (CDC, 2015a). Overall, Blacks accounted for 41% of people living with HIV infection in 2012 (CDC, 2015a). Seventy percent of AA men and 30% of AA women accounted for new HIV infections; while Black gay men and bisexual men are mostly affected (CDC, 2016). Some of the challenges of preventing HIV infection among AAs included the prevalence among the group, having sex with partners from the same race/ethnicity background, high rates of STDs in the AA communities, lack of awareness, and social-economic issues (CDC, 2015a). CDC (2016a) predicts that soon, 1 in 13 black men will be diagnosed with HIV as will 1 in 32 black women. While researchers have carried out studies on HIV/AIDS and collected surveillance data on diverse groups such as the MSM, Black MSM, sex workers, incarcerated, IUD and youth populations, research on African-born immigrants in the US are less known. In recent years, more studies are emerging out of Europe to support the assertion that AI communities do have high HIV infection rates (Mariscano et al., 2013). AIs from Nigeria represent one of the prominent sub-groups of the AIs and the discussion of HIV/AIDS among AIs will not be complete without the knowledge of sexual practices of the NAIs in any part of the world. A study with the NAIs has become expedient because Nigeria is a country with a high prevalence rate of HIV/AIDS (NACA, 2015) and with scores of its citizens' having migrated to several other countries of the world for education and economic reasons (Darkwah & Verter, 2014).

HIV/AIDS in Texas

African Americans' vulnerability to HIV transmission and the high morbidity and mortality rate suffered is not only a national concern, but it is also a state and local concern. Between 2014 and 2015, there were 27 million residents in Texas (US Census, 2015a). The racial/ethnicity population consisted of 44% White, 39% Latino/Hispanic, 12.5% Black, and 5% Asian (US Census, 2015a). Texas is one of the Southern states with the high prevalence of HIV/AIDS as illustrated in Figure 2 while the AA in the South also have the highest diagnosis of HIV as illustrated in Figure 3 (CDC, 2015h, 2016c). In spite of the high prevalence of HIV diagnosis in Texas as the state ranked 3rd among US 50 states with high prevalence of HIV new cases (CDC, 2015a), Texas is known for being one of the worst State's for health care provision (CDC, 2015g; Reif et al., 2014). Given the above statistics, it is not a surprise that the AAs have been identified as a group that is most affected by the epidemic of HIV probably due to their significant presence in the South (Reif et al., 2014). Among the AA living in Texas are the African Immigrants.

Texas is home to over one million foreign-born populations including 134,000 immigrants from sub-Sahara Africa (US Census, 2014a). Nigerians and Ethiopians represented the largest amount of African-born population in Dallas-Ft. Worth and Houston metropolitan areas (Capps, McCabe, & Fix, 2012; US Census, 2014a). Out of about 50,000 African-born immigrants in Houston-Sugarland-Baytown metropolitan cities in Texas, NAIs group population is over 20,000 (Gambino et al., 2014). Not only are NAIs mostly concentrated in Houston/Harris County, but they also occupy the 2nd

highest risk of being diagnosed with HIV infection and AIDS by country of national origin in Houston/Harris County (TXDSHS, 2016).

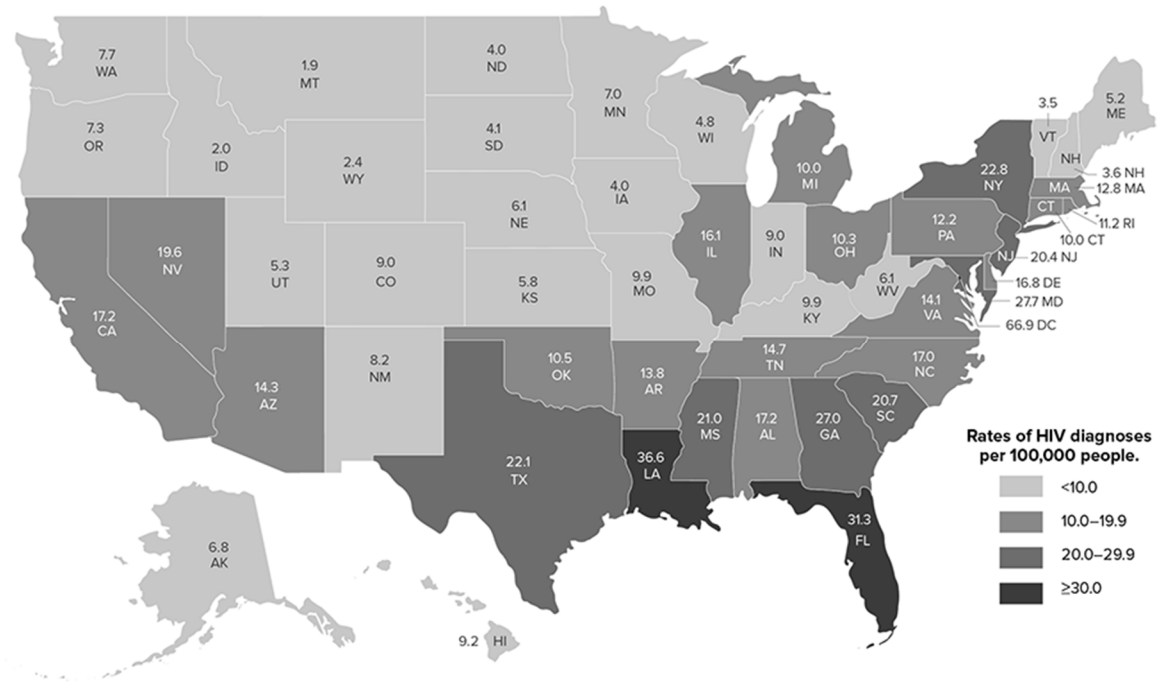


Figure 2: US Maps of HIV locations. Illustrated rate (per 100,000 people) of HIV diagnosis by region in adults and adolescents in the US. Southern region at 18.5, Northeast at 14.2, Western region at 11.2, and the Midwestern region states at 8.2 US maps showing geographical locations of HIV diagnosis per 100,000 people (CDC, 2016c). Visual image of HIV diagnosis by race in year 2014 and the region of residence. Retrieved from http://www.cdc.gov/hiv/statistics/overview/geographicdistribution.html

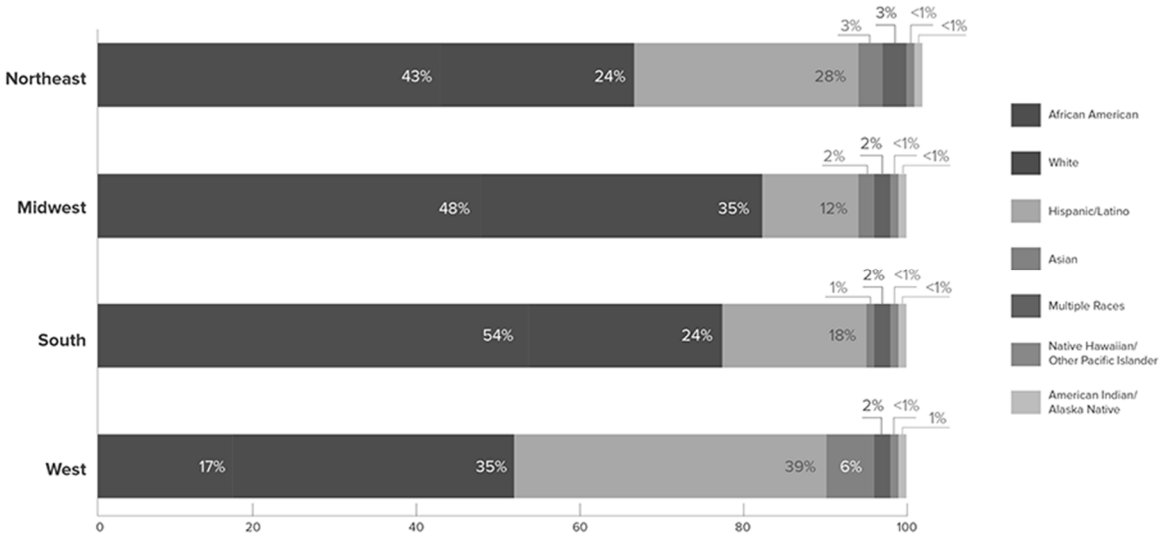


Figure 3. 2014 HIV infection diagnosis by racial groups and region of residence CDC, 2016c). Retrieved from http://www.cdc.gov/hiv/statistics/overview/geographicdistribution.html

Impact of HIV/AIDS cases in Houston, Texas

Houston/Harris County, is one of the most racially diverse cities in the US and home to a large number of ethnic groups (Kinder Institute for Urban Research, 2015). Texas' total population is 27 million and out of this number are over 5 million people living in Houston (US Census, 2015a; 2015b). The city recorded more than 83 spoken languages with 42% of the total population speaking another language other than English in their homes (Capps, Fix, & Nwosu, 2015; US Census, 2013b). The racial diversity in Houston is the largest among the five most populous metropolitan areas in Texas that included 31% White, 42% Hispanic, 19% Black, and 8% Asian/others (US Census, 2015b). Of the 254 counties and 1,752 cities in Texas, the cities of Houston-Baytown-Sugarland appears to be profoundly impacted by HIV/AIDS epidemic ranking 8th among

all cities in the US (Houston Health Department, [HHD], 2012; 2015). Blacks represented 52% of all adult HIV cases in Houston, Texas (HHD, 2012). New cases of HIV infection are found in 23% heterosexual, 43% MSM, and 23% of unknown source (HHD, 2012; 2015). Among the AA population affected in the US are the foreign-born blacks who are either refugees or non-refugees. HIV/AIDS studies in Europe and other Western countries continue to detect a high prevalence of HIV infection among AIs, but there is a gap in HIV/AIDS studies in the US with the AIs.

HIV/AIDS among Western Countries

African-born immigrants continue to emerge as a hidden population in the discussion of HIV/AIDS studies as research findings continue to show a high prevalence of HIV infection among African-born immigrants through heterosexual encounters in Europe and other Western countries. In a cross-sectional study in Lisbon, Portugal with 1187 immigrants, of which 34% of the participants were Africans, unprotected sex was reported to be common among women, Africans, and older individuals (Dias et al., 2014). In the United Kingdom (UK), Black Africans are next to MSM in the high prevalence of HIV infection (Public Health England [PHE], 2015). Furthermore, 34% of immigrants from sub-Sahara Africa living in the UK were reported to have HIV/AIDS among all Blacks living in the UK in 2012 (National AIDS Trust, 2014).

In a study by Lemoh et al. (2013) in Australia with 12 HIV positive African-born adults, eight of the participants reported having been exposed to HIV in the countries of origin, seven in Australia, and three stated that their exposures took place in other nations. Furthermore, the findings in the study of Birukila et al. (2013) in New Zealand also confirmed the possibility of HIV infection in Africa with African migrants and

refugees having a high prevalence of HIV/AIDs before immigrating to Christchurch, New Zealand. Studies including Africans, Caribbean, and other Black people in Canada presented findings that risk of HIV infection was higher among those with higher social-economic status (SES) than those with lower SES (Baidoobonso, Bauer, Speechley, Lawson, & The BLACCHI Study Team, 2013), a perspective that may require further exploration.

Inattention to foreign-born Blacks in the discussion of HIV/AIDS will be counterproductive in the study of HIV/AIDS. NACA (2015) reiterated the importance of including foreign-born blacks in HIV/AIDS studies as did in European countries. However, the US public health research community is just beginning to embrace refugees from Africa in their research. With this new awareness of including the AIs in HIV/AIDS studies by US public health research communities rarely are non-refugees AIs included in HIV/AIDS studies. The NAIs represent one of the non-refugee foreign-born blacks who have migrated from one of the high HIV prevalence countries in sub-Sahara Africa and with a significant presence in the US (NACA, 2015), but who had received little or no attention in HIV/AIDS research.

HIV/AIDS among African Immigrants in the US

A consistent search of many academic websites and journals on HIV/AIDS studies produced limited studies on AIs in the US in spite of the exponential rate in the number of Africans migrating to the US (McCabe, 2011; Pew Research Center, 2017). Two potential reasons for the limited studies of AIs in the discourse of HIV/AIDS among the AA population include, (1) categorization of AIs under the Black/African America group, and (2), lack of distinction between the refugee and non-refugee African

immigrants. Lack of distinction between these sub-groups may underestimate the differences in social, political, educational, and economic experience that may influence belief and response to sexual behavior. According to US Census (2011) the Caribbean and the AIs are marginalized groups within the black/AA category.

Having the US-born blacks, refugee, and non-refugee AIs under one umbrella in the study of HIV/AIDS, therefore, leaves a gap in HIV/AIDS study of the Black/AA racial category. With the indication that the numbers of AIs, especially the non-refugees, entering the US had surged, there is a need to start focusing HIV/AIDS study among the NRAIs (Alex-Assensoh, 2009; IPC, 2012). A look at the population of immigrants from Africa indicated 4% of US total population (MPI, 2015a). Furthermore, in a Pew Research (2015) study, AIs made up about 9% of the total AA population. The presence of AIs is also projected to double by the year 2060 (Pew Research, 2015). Despite this information, the AIs, especially the NRAIs, are yet to receive adequate attention from researchers exploring the possibility of AIs playing a role in the high prevalence of HIV among the AA population.

A recent report from CDC (2016a) expressed concern that AA population is one of the special populations responsible for almost half of all new cases of HIV infection and people living with HIV and AIDS. However, to capture all the factors responsible for high prevalence of HIV/AIDS among the AA, it is important to have specific studies targeting the AIs in the study of HIV/AIDS. A closer look at the role that AIs may be playing in the prevalence of HIV/AIDS in the AA group is necessary because many African-born blacks listed under the racial/ethnic category of Black/African Americans by the US Census (2011) do not share the same experience of HIV/AIDS epidemic.

It is true that the US-born blacks and Non-US born blacks share the same ancestral root in Africa; however, these two groups have distinct differences in the American experience. According to Allen, Jackson, and Knight (2012), Bredeloup (2013), Conteh (2013), Ngugi, 2011), there are distinct differences in areas of language, culture, discrimination, and economic status. Differences, as mentioned by these researchers may influence the non-US born blacks' beliefs about HIV/AIDS and sexual practices. Not only are differences in America experience, but there also seemed to be epidemiological differences between the US-born blacks and other foreign-born blacks in HIV/AIDS studies. The study by Johnson et al. (2010) conducted between 2001 to 2007 with an estimated number of black adults and adolescents diagnosed with HIV infection in 33 US States noted that about 12% were foreign-born that included 54% Caribbean and 42% Africans. In a more recent study by Ojikutu et al., (2014), the researchers pointed out differences in HIV testing between US-born blacks and Non-US-blacks in which Non-US-born blacks were less likely to test for HIV than the US-born blacks. Observed differences in the studies of Johnson, et al. (2010) and Ojikutu et al. (2014) then raises the question as to why there are epidemiological differences between the US-born blacks and foreign-born blacks. This proposed study may be able to bring to light why there are HIV epidemiological differences between the US-born blacks and other foreign-born blacks.

Characteristics of African-Born Blacks in the US

Further challenges for researchers of HIV/AIDS among foreign-born blacks is the ability to recognize that among black/AA racial category is African-born blacks that migrated voluntarily and non-voluntarily. The conditions in the countries of migration

influence the worldview and future travel experience of immigrants (Flahaux, 2015). While most studies refer to studies with African-born blacks as if the group is homogeneous, AIs are more diverse. The African-born immigrants that migrated forcefully as a result of war or political persecution are typically referred to as "refugees" or "asylees" (Akinsulure-Smith, 2014; Capps, et al., 2012). On the other hand, more than half of AIs are non-refugees that migrated voluntarily for economic and educational advancement (Alex-Assensoh, 2009; IPC, 2012).

One unique characteristic difference observed with the AIs is that the NRAIs have the liberty to travel between their host countries and countries of origin due to lack of war. The ability of the RAIs to return to countries of migration for visit at will may not be that feasible due to the presence of war. This difference alone can play a part in how HIV is transmitted and acquired in the NRAIs and RAIs groups. As the NRAIs have the liberty to travel back and forth their countries of origin, it is likely for the NRAIs to acquire HIV if they engage in unprotected casual sex. Still, HIV/AIDS studies are lacking with the NRAIs in the US. Evidence of lack of specific research with the NRAIs is present in studies involving African-born immigrants. This is because most studies with AIs usually refer to the participants as AIs or refugees from Africa (see Adedimeji et al., 2015; Asare et al., 2013; Blanas et al., 2013; Bocanegra et al., 2014; Dias et al., 2014; Ojikutu et al., 2014; Worthington, Este, Strain, & Huffey, 2013).

Most recent data on immigration are showing significant numbers of RAIs entering US from conflict countries like Sudan, Ethiopia, and Somalia (MPI, 2009). The RAI sub-groups have mainly been exposed to contracting HIV during the war in their countries through sexual violence (Akinsulure-smith, 2014). On the other hand, the

NRAIs have largely been exposed to contracting HIV through sexual behavior rather than through sexual violence that is present during wars. Therefore, lumping together of voluntary and non-voluntary immigrants as a homogeneous group may be giving the impression that all AIs have the same HIV/AIDS experience. Overlooking the differences in epidemiological rates among the sub-groups of the AA population may obscure real picture of the factors responsible for high prevalence of HIV infection among AAs. In tackling this problem, gathering surveillance data that collects countries of origin of all those that identified themselves as foreign-born blacks at the time of HIV diagnosis may provide researchers with more tools. A data source with the country of origin of the AIs will make it easy for researchers to access accurate information when researching prevalence of HIV (Koku et al., 2016) especially with the AA groups.

Lack of Surveillance Data on African immigrants in the US

Non-availability of HIV/AIDS surveillance data on non-US-born blacks may be responsible for few studies directly conducted on the prevalence of HIV infection among the non-US-born blacks living in the US. An analysis of surveillance data and 15 articles addressing HIV among AIs, Blanas et al. (2013) found high rates of new HIV diagnosis among AIs living in the US. In addition, Blanas et al. (2013) reported that women bear the greatest burden of the disease, HIV transmission was mostly through heterosexual encounters, while AIs are likely to be diagnosed late. In agreement with the findings of Blanas et al. (2013) on late diagnosis, my curiosity to engage in this study began with my encounter with some AIs in my professional life. In my role as a social worker in one of the best community hospitals in the country, I often encounter female NAIs who had come to the hospital with a late diagnosis of HIV/AIDS. Marginalization of certain sub-

group or racial/ethnic minorities is best explained by Nnaji and Metzger (2013) in their study. According to Nnaji and Metzger (2013), there were weaknesses in the compilation of health data under race rather than by ethnicity by public health communities, policymakers, and community advocates.

The gap in HIV/AIDS studies with non-US-born blacks is crucial for research communities because AAs are not one homogenous group According to Nnaji and Metzger (2013), viewing black/AA as one racial group undermines the heterogeneity of the group. A homogenous view of the black/AA population deprives the non-US-born blacks of the need for ethnicity focus surveillance data and appropriate HIV interventions as highlighted by Koku et al. (2016). In recognition of the differences between various ethnic groups, the State of Massachusetts decided to take a different approach by aggregating HIV/AIDS surveillance data according to ethnicity.

The Massachusetts Department of Public Health [MDPH] (2015a) in the data collected between 2011 and 2013 found that 34% of non-US born individuals who were racial/ethnicity minorities were diagnosed with HIV. Of the non-US born blacks with new HIV diagnosis, 31% were from sub-Sahara Africa and 29% were from the Caribbean with Uganda being one of the top five countries with HIV diagnosis (MDPH, 2015a). Massachusetts took a step further by specifically gathering data on people of color and their countries of origin. Data obtained indicated that non-US born blacks from Uganda and Kenya were among the top five countries with 63% HIV diagnosis in Massachusetts (MDPH, 2015b). In a related HIV infection surveillance data, New York reported a total number of HIV diagnosis in 2013 with US-Born blacks at about 29% while non-US-born blacks accounted for about 12% of new cases of HIV infection (New York Department of

Health and Mental Hygiene [NY DOHMH], 2013). Non-US-born blacks are from different parts of Africa and Caribbean spreading across the US and having a large presence in various cities.

Immigrants from Nigeria, a major sub-group of the black/AA population, have a recorded significant presence in New York, Texas, and Maryland (MPI, 2015b). The NAIs have the liberty to travel between their host country, US, and their country Nigeria, due to lack of war. Despite the significant representation of the NAIs in the US, HIV/AIDS surveillance data and surveys are lacking with this group. Oversight of the data on NAIs may be missing the possibility of cross-transmission of HIV within and outside the NAIs sexual network when the NAIs travel from the US and to Nigeria, a country considered having high HIV/AIDS prevalence. The NAIs may engage in casual and unprotected sex when they visit their country of origin. The engagement in high-risk sexual behavior can transform the NAIs into being the vehicle through which HIV is passed to others as found in many studies on CBT of diseases by migrants that travel between two geographical locations.

Impact of Travel on Cross-border Transmission of Diseases

Looking back at the history of HIV infection pandemic, enormous evidence supports the spread of HIV due to movement of people from one geographical area to the other (Cheong et al., 2014; El-Bassel et al., 2016). As the movement of individuals around the globe has become easier with the advent of improved transportation and technology, traveling between their countries of origin and host countries poses a danger with the likelihood of importing or exporting diseases. Suk et al. (2014) in their argument, posited that drivers of emergency public health issues like Ebola, Dengue

fever, Measles, and Avian influenza included global trade and travel. When immigrants go to high disease prevalence areas and return to their host countries, it is possible to cross-transmit diseases. In their study, Xiridou, van Veen, Coutinho, and Prins (2010), concluded that immigration and sexual behavior tended to increase the spread of HIV. Bocanegra et al. (2014) affirmed the relationship between migration and spread of HIV as the researchers reported in their findings that out of 927 immigrants that were studied for imported diseases in a teaching hospital in Barcelona, Spain, 419 (45.2%) immigrants were diagnosed with one to three conditions. In the study of Bocanegra et al. (2014), the researchers found 540 participants with Infectious diseases and 72 participants were diagnosed with non-infectious diseases (Bocanegra et al., 2014). In a quantitative study by Birukila et al. (2013) with African migrants and refugees, even though 245 respondents were diagnosed in New Zealand, the majority of them were believed to have been infected in Africa. Cross-border transmission of diseases between countries affects both the health of the immigrant and that of the host country's population.

In various studies supporting the knowledge that diseases do not respect borders (Cheong et al., 2014; Yan-Heng et al., 2014), transmission of illness from one geographical area to the other is now a common phenomenon as a result of global interconnectedness. In a systematic review of 275 articles and 22 studies on HIV infection conducted by Goldenberg, Strathdee, Perez-Rosales, and Sued (2012), there was substantial evidence of the relationship between diseases and geographical location. Other types of infectious diseases like TB, Chagas, Dengue Fever, and recently, Zika virus indicated that the originality of these diseases was in other regions of the world (see Bocanegra et al., 2014; Focosi, Maggi, & Pistello, 2016; Garcia, Chismark, & Eggert,

2015; Requena-Méndez et al., 2015). Nevertheless, these diseases have found their ways into the United States. With overwhelming empirical evidence that diseases such as HIV/AIDS often spread from high to low prevalence areas, other researchers took the position that behavior, rather than migration is responsible for cross-transmission of diseases.

In a study of 44 countries from 1990 after the emergence of HIV/AIDS epidemic, Docquier et al. (2014) concluded that immigration does not have a significant impact on the spread of HIV, rather, behavior was responsible for the spread of HIV. Kenyon, Colebunders, Voiete, and Lurie (2014) also asserted in their research findings that there was no association between immigration intensity and the peak of HIV prevalence in 141 countries. The assertions that immigration does not have a direct impact on the spread of diseases by Docquier et al. (2014) and Kenyon et al. (2014) may be correct due to empirical evidence that linked the spread of HIV to behavior (CDC, 2015a). In as much as some researchers have claimed behavior as the primary culprit in the spread of infectious diseases, behavior alone cannot be viewed in isolation of migration. Recent public health emergencies around the world have since proved that migration plays a significant role in the spread of diseases.

When one takes a look at public health emergencies created by EVD and Zika viruses, one will realize that diseases have no border. For example, while the EVD originated from West Africa and Zika viruses originated from Africa, South East Asia, Caribbean, and the Pacific Islands, it had spread to other regions of the world (CDC, 2015f; Hennessey, Fischer, & Staples, 2016). In support of CBT of diseases is a quantitative study by Matteelli et al. (2013) with about 112,180 ill-travelers having

different forms of STIs when diagnosed after travel and during travel. According to Matteelli et al. (2013), more than 30% received the diagnosis of non-HIV related STI diagnosis while another 28% have acute HIV infection at diagnosis. As a result, Matteelli et al. (2013) suggested that STI prevention should target men and travelers that travel to visit friends and relatives. Men travelers tend to be more risk takers in the transmission of STIs as asserted by Tiruneh et al. (2015), that male and young adults who traveled for about 30 days were more likely to be diagnosed with STIs than women travelers. In alliance with different positions taken by researchers, I find it expedient to propose a study that would look at both behavior and travel with the NAIs on HIV/AIDS. The result of the study may be able to identify the relationship between migration and behavior as has been found in studies of HIV/AIDS conducted with AIs in other European countries.

Evidence of cross-border transmission of HIV among AI populations in Europe and other countries continue to support CBT of diseases, but few studies have targeted AI group in the US. Harmful lifestyles such as having multiple sex partners and inconsistent use of condoms continue to emerge as risk factors in several empirical studies on HIV infection. An understanding of the NAIs' presence in the US would explain why it was necessary to conduct my study.

Nigerian-born Immigrants in the United States

Presently, population data indicates that over 1.6 million African-born immigrants migrated to the US with about 36% of them from West Africa (US Census, 2014a). The US Census report (2014a) also indicated that one of the largest populations of African-born blacks living in the US are the NAIs.

NAIs are members of the AIs having a high presence in the US with about 376,000 populations (MPI, 2015b). The NAIs represents 14% of all African-born blacks in the US (MPI, 2015b; US Census, 2014a). The NAIs migrated from Nigeria, a country second in line to South Africa with a high prevalence of HIV infections and deaths (NACA, 2015). Being one of the prominent members of the AIs, the NAIs have high population number, the ability to speak fluent English, acquisition of high educational standard, and having higher median income (MPI, 2015b) that makes acculturation easier than other members of the AIs. Having the attributes that may make it possible to mix with the US-born blacks may quickly pave the way for sexual mixing with US-born blacks. A search of works of literature in the US, Europe, and other Western countries does not produce studies on the sexual practices of NAIs despite their huge presence in these regions, hence the need to engage NAIs in the study of HIV/AIDS. It was assumed that this study with the NAI, would provide some understanding about the NRAIs sexual lifestyles.

Sexual Lifestyles among the US-born and Non-US-born Blacks

According to Frye et al. (2013), CDC (2016a), the second-leading cause of HIV transmission is through heterosexual activities in the US. In a study with 25 men in a formative research, Frye et al. (2013), found several high risk behaviors such as inconsistent use of condoms and concurrent partnering as reasons for overrepresentation of heterosexual AAs with cases of HIV/AIDS. Nunn et al. (2014) found concurrent sexual partnerships, among other risk factors like the interaction of AA men, to be present in 51% of the study participants consisting of men and 39% women. NAT (2014) found about 50% late HIV diagnosis among newly diagnosed black Africans receiving

treatments as a London clinic. Understanding the risky sexual behaviors among the different sub-groups of the black/AA communities may help policy makers, the public health communities, and affected communities in reducing rates of new HIV infection. Among the US-born and non-US-born blacks, some of the factors responsible for the high prevalence of HIV/AIDS is having multiple sexual partners and inconsistent use of condoms (Frye et al., 2013; Nunn et al., 2014).

Concurrent/Multiple Sex Partner

Having a concurrent sexual relationship is considered high-risk behavior and has accounted for the high rate of HIV infection in the AA communities (Nunn, et al., 2014). According to Andrasik, et al. (2012), in a study with 80 African-born blacks and African-born blacks, US-born blacks, concurrency was a common theme found with the majority of the participants. A study with 570 AA women in a STI clinic also corroborated the notion of sexual concurrency among one-quarter of the participants (Waldrop-Valverde, et al., 2013). Several reasons have been advanced for why AAs engage in a concurrent relationship.

Some studies on HIV/AIDS have often point to social and structural forces as the reasons why heterosexual transmission of HIV are high among Blacks and driven by sexual concurrency. For example, in a study by Pouget, et al. (2010), sex ratio and incarceration rates were found to be significantly related to having multiple sex partners. According to Adimora et al (2013), King, Latkin, and Davey-Rothwell (2015), sexual concurrency was common in the black communities because crime, of low levels of sex ratio of men to women when compared to other races, poverty and incarceration. In the analyses of National Survey of Family Growth and other databases in Counties on sex

ratio, Adimora, et al. (2013) found that when compared to Whites at 99.5%, and Hispanics at 93.7%, only about 8% Blacks lived in balanced sex ratio counties. In this same study, about 5% White, half of Hispanics, and three-fourth Black lived in counties with more than 20% same-race poverty. Likewise, King et al. (2015) in study of how separation of AA families through incarceration promotes sexual concurrence found that about 95% of the participants were more likely to report sexual concurrency. King et al. (2015) reported poverty and incarceration of black men as playing a major role in why AA women have multiple relationships. While structural factors may explain sexual concurrency in the black communities, "down-low" behavior is another social factor found to be related to the practice of sexual concurrency.

Down-low (DL) behavior is usually found in what appears to be outwardly heterosexual black males who concurrently engaged in same-sex relationships but conceal their same-sex relationships from their female partners (Goparaju & Warren-Jeanpiere, 2012, Han, et al., 2013). Goparaju and Warren-Jeanpiere (2012) findings concluded that AA female experienced internal struggle in accepting or rejecting DL behavior of their AA male partners which then negatively influence communication of sexual orientation by AA man. In a focus group study by Paxton, Williams, Bolden, Guzman, and Harawa (2013) with 24 AA women involved in sexual relationship with men who have sex with men or transgender individuals, one of the themes that emerged during the discussion included stigma toward homosexuality and bisexuality. As a result of stigma, the male partners hid their sexual orientation and failed to communicate concurrent same-sex relationships to their female partners thereby increasing the risk of HIV transmission (Paxton et al., 2013). Sexual concurrency seemed to be a common

theme that stands out in studies with US-born and Non-US-born blacks. On the part of AIs, the phenomenon of having multiple/concurrent sexual partners may have been hidden in the culture of polygamy, a practice that is socially acceptable in most parts of Africa (Fox, 2014).

In many studies conducted in Europe and other Western countries among AIs and in Africa, involvement in concurrent sexual relationships tended to account for many cases of the high prevalence of HIV infection (Dias et al., 2014; PHE, 2015). Mah and Maugha-Brown (2013) review of several literatures concluded that concurrent partnership does increase the size of HIV epidemic. Birukila et al. (201 in study of African refugee and AIs from 13 countries also found sexual concurrency among others as cause of STI diagnosis. While the practice of polygamy marriage is socially unacceptable in the US and other industrial countries, culturally, many Africa countries' social and justice system support the practice (Faucon, 2014). It is acceptable for men to be involved in traditional marriages outside the court system with several women at the same time or even have concurrent sexual relationships (Ezejiofor, 2012; Jonas, 2012). Most studies on HIV transmission in Africa revealed that men continue to be the greatest source of STIs in heterosexual relationships as a result of the culture of polygamy that allows men to have multiple sex partners (Osuafor and Mturi, 2014). The practice of polygamy leads to the rapid linkage of individuals into connected sexual networks, yet the practice of polygamy appears to be an acceptable practice in many sub-Sahara African countries.

Nigeria is one of the countries that practice polygamy as noted by Brooke (1988), Batta box (2013, 2015). The beliefs surrounding the practice of polygamy is more

articulated in a Nigerian News magazine where the writer merely normalized the practice of polygamy citing culture and religion in defense (Ewherido, 2015). In support of the view that polygamy is normal in Nigeria, a study by Doosuur and Arome (2013) with 4500 participants of equal numbers of men and women found that most of the participants admitted that polygamous marriages exist, an indicator for risk of contracting HIV. Therefore, it was important to explore the sexual practices of the NAIs in the context of HIV infection for shared experience of polygamy culture that encourages and normalize engagement in multiple sexual partnerships.

Furthermore, while the search of databases for scholarly written articles to support the practice of polygamy in the AI communities did not yield much, studies conducted with AIs by Schmidt, Olomo, and Corcoran (2012) in the UK may have revealed the thinking of some African immigrants. In the study, one of the participants stated, "I am African and practice polygamy . . ." (Schmidt et al., 2012). An utterance like this supported the need for the exploration of AI communities' perception about engagement in multiple sexual relationships within and outside their sexual networks. Engaging in multiple sexual relationships is not the only factor responsible for the transmission of HIV, engaging in unprotected sex and inconsistent use of condoms are equally high-risk sexual behavior that is more likely to accelerate acquisition of HIV infection.

Attitudes toward Condom Use

Findings on the use of condoms among AA population and AIs shows inconsistent condom use. Researchers often find various reasons given for inconsistent use of condoms by both men and women of African descent. In the studies of Kogan, Cho, Barnum, and Brown (2015), Hunter and Tilley (2015), drug use before sex,

impulsive decision making, cultural factors, imbalance number of male to female, and male attitudes were given for inconsistent use of condoms. In a quantitative study of 38 low-income heterosexual AAs by Noar et al. (2012) environmental factors, self-regulation, distrust, type of relationship, and uncomfortable feelings were all some of the reasons provided for use or none use of condoms. In a mixed-method quantitative study by Hock-Long et al. (2013) conducted with 80 AAs and Puerto Rican heterosexual partners, 80% of the participants reported use of condoms with casual partners while 39% reported low use of condoms. Interestingly, use of condoms by some of the participants was attributed to the desire of preventing pregnancy but not for preventing HIV or STI infection (Hock-Long et al., 2013). In studies conducted with young adults in a Historically Black Colleges and Universities (HBCUs), non-use and inconsistent use of condoms were identified (Murray, Huang, Hardnett, & Sutton, 2014). The majority of the study participants found with the inconsistent use of condoms gave partner trust and dislike of condoms as their reasons for inconsistent use of condoms (Hock-Long et al., 2013). El Bcheraoui, Sutton, Hardnett, and Jones (2013) found inconsistency in responses to the use of condoms. Although 64% of the participants admitted to use of condoms, more than one-third of the college students were not using a condom (El Bcheraoui et al., 2013). Pregnancy prevention was the main reasons for the use of condoms among 64% of the participants that used a condom. However, El Bcheraoui et al. (2013) attributed non-use of condoms by one-third of the study participants to casual sex, beliefs of not being at risk, and perception of partners.

Having a knowledge of the risk involved in unprotected sex does not stop individuals from engaging in unprotected sex. An online survey carried out with 1051

students of 24 HBCUs indicated that the majority (95%) of the students acknowledged that non-use of condoms during sexual act constituted risky behavior (Murray et al., 2014). Despite the knowledge of consequences surrounding unprotected sex, 25% of the HBCUs students believed that removal of the penis before ejaculation will protect them from HIV (Murray et al., 2014).

Inconsistency in the use of condoms does not only make the black/AA population vulnerable to contracting HIV but also puts AIs at risk. In a pilot study by Akinsulure-Smith (2014), almost half of the 52 forced immigrants from West-African countries that participated in the study in New York admitted not using condoms during sexual encounters. In Nigeria, Amoran and Ladi-Akinyemi (2012) research findings found alarmingly low rate of condom use among participants living with HIV/AIDS. The NACA (2015) report on Nigeria also relayed the challenges faced with having sexually active individuals in using condom given the practice of concurrent sexual relationships relating to cultural nuances. Other factor responsible for inconsistent use of condoms was attributed to mobility of people in the struggle against HIV transmission (Peeters, 2013). As individuals move from one geographical area to the other, the opportunity for engagement in sexual acts in casual relationships with people of different characteristics is present. Men and women engaging in sexual mixing then become the bridge for transmission of HIV.

Factors Responsible for Cross-border Transmission of HIV

In sub-Sahara countries, population mobility has been claimed as playing a role in the spread of HIV throughout the world. When migrants are in transit between two locations, their patterns of behavior may put them at risk of contracting HIV especially

when they engage in less frequent use of condoms or substitute their usual sex partners for whoever is available. Some migrants become a bridge population vessel through whom diseases are transmitted. Birukila et al. (2013) warned of possible more new HIV infections within and outside the African communities due to on-going sexual- mixing. As concluded in findings by Tiruneh et al. (2015), immigrants having sexual conducts within and outside their sexual networks (sexual mixing) are capable of spreading HIV infection if engaged in risky behavior of unprotected sex and having multiple sex partners.

Sexual Mixing

Migration of individuals or groups from one geographical location to the other sometimes result in the importation of infectious diseases. Faria et al. (2014) presented the argument that even though HIV infection was first reported to have its origin in sub-Sahara Africa, Hymes et al. (1981) to the position that HIV was first diagnosed in the US. Since the diagnosis of HIV/AIDS in the early 1980s, HIV had spread to every region of the world. One of the major factors responsible for the spread of HIV has also been attributed to having sexual-mixing within and outside sexual network (Frye et al., 2013; Waldrop-Valverde et al., 2013).

Sexual-mixing is the involvement in sexual relationships with partners having distinct characteristic differences found in age, race, ethnicity, geographical location and sexual orientation. In an earlier study, van Veen et al. (2009) had found substantial evidence of sexual mixing with 41% of the 2105 study participants drawn from migrants from Surinam, Cape Verde, Ghana, and natives of Netherlands. In a recent study of AIs in New Zealand, the research expressed concern for further spread of HIV within AI

communities due to the sexual mixing of ethnic groups (Birukila et al., 2013). The study of Birukila et al. (2013) found that AI men were more likely to have a sexual relationship with White women than AI women having sex outside their communities. Mariscano et al. (2013) in their study also found evidence of sexual network beyond national origin among the 1874 sub-Saharan African immigrants involved in research in Paris. In a systematic review of post-migration acquisition of HIV with migrants from a high prevalence HIV living in Europe, Fakoya et al. (2015) reported that 18 out of 27 studies reviewed indicated migrants having acquired HIV/STI after migration to their various European countries, an indicator of possible sexual mixing. With findings of studies like these, it was important that research communities begin to pay more attention to the role that migration and sexual behavior may be playing in the study of HIV/AIDS in the US among AAs.

The behavior of engaging in unprotected sex and having concurrent sexual partners have escalated the transmission of HIV and other STI with increased risk when sexual mixing occurs as individuals move between two geographical locations. Apostolopous, Sonmez, and Massengale (2013) found sexual mixing in their studies with truck drivers as the truck drivers engage in casual unprotected sexual relationships with sex workers during their trips to high HIV epidemic areas and then returning home to have sex with their partners in low HIV epidemic areas. Besides, evidence of between geographical location transmission of HIV and STIs was found in the study of Bom et al. (2013) as Surinamese migrants develop sexual relationships within and outside their sexual networks. The studies of Merli, Moody, Mendelsohn, and Gauthier (2015) conducted in Shanghai, China supported increased risk of HIV and STI transmission in

bridge populations. According to the research with 61% natives and 56% migrants, it was found that even though there was evidence of sexual mixing regarding age, education, and with female sex workers, the potential to transmit HIV was low but was high for STIs (Merli et al., 2015). Studies in the US tend to be missing the fact that NRAIs from high prevalence HIV/AIDS countries can become a form of bridge population in the spread of HIV when sexual mixing occurs.

Bridge Population

A carrier of HIV from one geographical location to the other or from one individual with different sexual preference to the other, or people with different age group to the other are often referred to as, bridge population (Huang et al, 2011, Wang et al., 2015). In several studies, pieces of evidence of an infected person transmitting STI or HIV infection to a different set of population was observed in the studies of Tao et al. (2013) and Singh et al. (2014) in bisexual men. The DL behavior of some AA men who outwardly pretend to be heterosexuals but secretly engage in sex with other male partners (Bond et al., 2009; Goparaju & Warren-Jeanpierce, 2012) also show these men as possible bridge population through whom some AA women acquire HIVs.

Additionally, individuals engaging in sexual mixing are found in the studies of Mariscano et al. (2013), Rai et al. (2014), van Veen et al. (2009) to be a link for transmission of STI from one ethnic group to the other. Prudden et al. (2015) study conducted in West Africa found evidence of younger female HIV prevalence with older men. In Prudden, et al. (2015) study with older men, it was also found that men who were engaging in purchase of sex from younger women also have multiple sex partners. The above findings in studies with bridge population attested to the reality that it is

possible for NAIs with unknown HIV status to serve as a bridge through whom HIV can be contacted. If NAIs engage in unprotected sex while in their countries of origin that is known to have a high prevalence of HIV/AIDS, there is the possibility for CBT of HIV.

United States' Effort to Decrease HIV Infection

As the United States continue to record declines in the numbers of new HIV diagnosis since the year 2005 (CDC, 2015i), HIV testing and prevention efforts remain one of the strategies employed in the prevention of HIV/AIDS. Schackman et al. (2006) admitted that a lifetime saving of $303,000 is possible with HIV prevention in one person over the cost of treating an HIV infected person. A further benefit of HIV prevention was found by Huang et al. (2015) affirming HIV testing of individuals as a more cost effective way for HIV prevention. Subsequently, one of the national goals in the prevention of HIV was also to increase HIV testing by 4% among black/AAs (Dietz et al., 2014).

According to Dietz et al. (2014), Center for Disease Control and Prevention pronounced that prevention works, borrowing from three decades of experience with HIV treatment. Increasing knowledge of HIV-positive status, reducing risky sexual behavior, and reducing late stage of HIV diagnosis were among the prevention indicators listed in CDC National HIV Prevention Progress Report of 2015 (CDC, 2015i). To this extent, CDC directed allocation of substantial funds to HIV testing, prevention with HIV-positives and their partners, and condom distribution (Huang et al., 2015). For example, HIV prevention funding for health departments and community-based programs was significantly increased between years 2010 to 2014 for priority risk groups and the profoundly affected populations to the tune of more than $200 million (CDC, 2014).

Despite these initiatives, few studies have been directed at the AIs in the US especially the NRAIs. In addition, there seemed to be missing literature evidence of exploration of possible cross-border transmission of HIV between the US-born and the Non-US-born blacks when they engage in sexual mixing within and outside their sexual network. None identification of specific HIV/AIDS research studies with the NRAIs exploring their knowledge, sexual practice, beliefs, and possible CBT of HIV were the reasons that prompted my interest to conduct this study.

Summary

There has been limited empirical research focused on AIs in the study of HIV/AIDS in the US. Among the AIs are immigrants that are non-refugees who have received almost no attention in the study of HIV/AIDS in the US. Therefore, this study explored HIV/AIDS knowledge, attitudes, and behaviors of NAIs living in Harris County, Texas and their perceived susceptibility and severity of contracting HIV. The literature reviewed in Chapter 2 highlighted the use of HBM that aided in the formulation of research questions that provided deeper insight into the sexual behaviors of the NAIs. As a result, literature reviews were conducted on past studies that have utilized the HBM conceptual framework to explore or predict behavior.

In chapter two, studies were reviewed on the impact of HIV/AIDS globally, in the sub-Sahara Africa, Western and Central Europe and North America, US, Nigeria, Texas, and Houston/Harris County. Factors that contributed to the oversight of AIs, the NRAIs, and NAIs in the study of HIV/AIDS in the US centering on the misconception that all blacks are AAs and lack of surveillance data on AIs in the US were presented in the literature review. In Chapter 2, I also reviewed the impact of travel and high-risk

behavior such as having multiple sex partners and inconsistent use of condoms in the cross-transmission of communicable diseases like the HIV among AIs in several European and Western countries, the United States, and the sub-Sahara region.

In this chapter, I also reviewed studies examining the similarities of high-risk sexual behavior among the US-born and non-US born blacks. A literature review of US-based articles has failed to specifically address the behaviors and attitudes of NAIs in the study of HIV. The gap that existed in studies with the NRAI groups led to my interest in exploring the sexual behaviors and attitudes of the NAIs in Houston, Texas. In Chapter 3 of this study, I highlighted, in detail, type of research methodology, the protection of data collected, and steps taken to minimize researcher's bias and the protection of the participants.

Chapter 3: Research Method

Introduction

The purpose of this study was to understand the role of NAIs in the prevalence of HIV infections among the AA population in Houston, Texas using the qualitative research design and methods. This chapter addressed issues concerning the study design, the role of the researcher involving all biases, power over participants, and conflicts of interest. The chapter included a discussion on methodological activities that centered on subject selection, the instrument and justification of the choice of instrument, how and who collected the data, and steps taken in addressing bias. Furthermore, Chapter 3 addressed issues of trustworthiness such as the credibility, transferability, reliability, and objectivity of the study. As part of Chapter 3, all ethical procedures involving access to participants, data protection, and steps to securing the Institutional Review Board's (IRB) approval were included. In rounding up the discussions in this chapter in a summary, a transition to Chapter 4 was provided.

Research Design and Rationale

In employing the qualitative research design and using the phenomenology lens, this study described the central experience of NAIs' perception of HIV infection. I proposed to explore the knowledge and beliefs of the study participants regarding what was considered as risk factors that would make individuals vulnerable to HIV infection. The research design chosen was particularly useful in understanding expressed views found in themes without relying on statistical data (Creswell, 2013). I based my decision for using the qualitative research design on the fact that most knowledge that had emerged on AIs in the study of the HIV/AIDS epidemic had been through the use of

statistical representation. In choosing the narrative method to understand the perceptions of study participants about the risk factors of HIV infection, the findings of this study provided in-depth insight into the participants' knowledge, beliefs, and experience surrounding HIV infection.

While it may be expedient in knowing how many people contracted HIV, how many engage in unprotected sex, or how many are involved in multiple sexual relationships using statistical data, this qualitative narrative design provided a descriptive analysis of feelings, beliefs, and attitudes behind the high-risk behavior that may lead to contracting HIV. In describing the meaning of qualitative research, Creswell (2009) stated, "qualitative research is a means of exploring and understanding the meaning individuals or groups ascribe to a social or human problem" (p.4). Therefore, using the phenomenological approach in a face-to-face interview with volunteers, the study explored the participants' knowledge and the meaning ascribed to experiences of HIV infection. The phenomenology approach, first applied by the German philosopher Edmund H. Husserl, was used in describing feelings and cognitive representations of an experience. An in-depth investigation of the deep feelings surrounding contracting HIV allows for a thorough collection of data through the expressed perspectives of the participants. According to Patton (2015) and Chan, Fung, and Chien (2013) using the phenomenological framework helps the researcher gain a deeper understanding of the meaning, structure, and essence of everyday living experiences.

Many Africans including Nigerian immigrants have had the experience of polygamy culture (see Fox, 2014; Saddiq, Tolhurst, Lalloo, & Theobald, 2010). Even though the practice of polygamy had dwindled with exposure to Western ways of life,

multiple sexual relationships are still a common phenomenon widely accepted by many people that live or had lived in Africa, including Nigerian immigrants (Batta Box, 2013; 2015). As phenomenological approach provides insight to what people experience and how individuals interpret their feelings (Patton, 2015), the method becomes useful in understanding the meaning of HIV infection and how NAIs interpreted the experience of having multiple sexual relationships.

Notwithstanding the benefits of using a qualitative design, Creswell (2013) cautioned about the difficulty involved in using phenomenology approach such as the researcher having a common connection with the subjects that could result in researcher's bias if the researcher does not adequately bracket personal experience during interpretation of the data. To counter this, I set aside any prejudgment (bracketing) regarding my observations as a member of the Nigerian immigrant community having a connection with the observed phenomenon. I was able to set aside any preconception about HIV/AIDS through bracketing during rigorous data analysis and comparison of emerging themes in order to identify core issues as expressed by the study participants.

The expressed perceptions of Nigerian immigrants surrounding contracting HIV were obtained by engaging the participants in an interview using open-ended questions exploring feelings, experiences, and behaviors centering on HIV infection. The study involved 14 male and female Nigerian immigrants or their first generation children who had traveled or had lived in Nigeria in the last 5 to 10 years. The use of phenomenology approach in this study helped provide in-depth collections of data by applying the following central and sub-questions as a guide in formulating the interview protocol questions:

RQ1: What are the perceptions of NAIs living in Houston/Harris County, Texas regarding contracting HIV infections?

SQ1: What knowledge do the NAIs have about contracting HIV?

SQ2: What meaning do NAIs ascribe to the experience of multiple partnerships with regard to contracting HIV?

SQ3: What are the perceptions of safe sex such as the use of condoms in the prevention of HIV according to NAIs?

Role of the Researcher

As Criswell (2013) and Patton (2002) postulated, the primary role of the qualitative researcher is to be the instrument of data collection. This role requires that the researcher immerse him or herself in the formulation of interview questions, recruitment of participants, and the interpretation of data. As the researcher, I was responsible for securing and protecting all materials, documents, and audio recordings gathered during the study. In this role, I also procured IRB approval before approaching subjects for recruitment and data collection. With the consent of the participants, I audio taped all interviews and field notes were written as much as possible.

Avoiding Researcher Bias

Being aware of researcher bias, I took necessary steps to minimize the influence of bias during the development of protocol interview questions and data analysis. As a member of the NAI community, I attend church and social gatherings within the community. Also as a member of the NAIs, I do share the experience of polygamy and the challenges involved in maintaining a monogamous relationship due to cultural background. Even though I had observed individuals within the community involved in

multiple sexual relationships, I cannot claim to have a knowledge of any community members' personal experience until such individuals express their thoughts. Unless the people who have shared the same experience or challenges regarding polygamy relationships give an insight into their sexual behavior, one cannot conclude that involvement in multiple relationships is a high risk factor for contracting HIV among the study group. Based on this, the study was designed to explore the knowledge and behavior of the NAIs regarding HIV infection.

As a member of the NAI community living in Houston and also playing the dual role of a researcher, it was important for me to be neutral and separate myself from any bias during the process of formulating the research questions, interview, and data analysis. For example, separating myself means being mindful of my biases in such a way that the conversation is shaped by the participants' experience and not my experience (Chan et al., 2013). In the practice of bracketing myself from being judgmental, I employed the use of journaling to note my feelings, thoughts, and perspective as recommended by Janesick (2011).

As a researcher, achieving the state of an epoch is to have a critical look at my feelings, thoughts, and be aware of my biases. As Patton (2015) advanced, reaching the state of an epoch is for the researcher to be nonjudgmental when looking at an issue by setting aside personal biases and by refraining from being involved with the subject. The development of protocol research questions helped me to be focus and to be objective as much as possible. To prevent any bias or conflict of interest, one of the pre-screening questions that was asked potential study participants was to state if they have ever come into contact with the researcher in any of the hospital systems in Houston as their social

worker. If the answer had been yes, such individual would have been excluded from this study. Individuals attesting to having any personal relationship with me would have also been exempted from this study. Excluding some potential participants that have had personal professional relationship with me allowed for more relaxed and trust-building relationship between me and the participants. Using these strategies helped to insulate collected data against any of my personal biases.

Methodology

Logic of Selecting Participants

The population of interest in this study were the NAIs and their first generation children who had lived in Nigeria or migrated to the United States. The first generation children of the NAIs are children born in the US or outside the US but had lived or visited Nigeria at one point or the other in the last five years or ten.

Sampling Strategy

This qualitative study utilized small samples to gather rich data through convenience and purposeful sampling of carefully selected participants within the NAI community. Also, I adopted the maximum variation (heterogeneity) technique in the sampling of the participants for this study. The maximum variation sampling strategy helped to obtain diverse characteristics from the study participants. Maximum variation sampling allowed for selection of participants from different settings. According to Patton (2015), "This strategy aims at capturing and describing the themes that cut across a large amount of variation" (p.283). Using the maximum variation strategy allowed for the representation of individuals with different characteristics having shared a common life experience. The maximum variation sampling technique chosen provided the

opportunity for in-depth and rich data collection as I varied the age, gender, and migrant status of the participants.

Criterion for Participants Selection

This study used the maximum variation sampling, a technique known to capture and describe themes that spread across a diversity of opinion (Parton, 2015). I developed a grid (Table 2) to reflect the themes and diversity of opinion of the maximum variation and as a guide during participants' recruitment. The choice of criterion maximum variation sampling offered the opportunity for fair representation and diversity of expression of the study participants.

Maximum Variation of How Participants will be Selected

The required criterion as a participant in this study is to identify self as being a Nigerian immigrant or first generation child of a Nigerian-born immigrant parent. The participants must have migrated to the US or lived in Nigeria. For the volunteers to meet the criterion, male and female were chosen from each age group as highlighted in the grid (Table 2) that was developed during participants' recruitment to guide selection.

Sample Size and Justification

I initially proposed to recruit 12-16 participants from both gender that would fall within the 18-49 age range. Twenty individuals responded to the recruitment flyers. After screening of the volunteers, 14 were found to have met the criteria set for participation. Data were collected from 13 participants with one of the participants dropping out of the 14 volunteers. I was able to reach saturation point with 13 participants. According to Creswell (2009), Maxwell (2005), and Patton (2002), researchers' intent, knowledge of the population, event, and setting are some of the

reasons for the choice of sample size. The findings of Hegdahl, Fylkesnes, and Sandoy (2016) in a study conducted in 18 countries in the sub-Sahara Africa indicated a high prevalence of HIV among individuals ages 15-24 and 25-49. In 13 countries out of the 18 countries participants between the age of 15-24 years had the higher ratio of high prevalence of HIV when compared to those aged 25-49 (Hegdahl et al., 2016). It was with this thought in mind that I decided to choose the age groups as indicated in the grid (Table 2) created during participants' recruitment. The selection of this sampling size was also supported by the assertion of Creswell (2009, 2013) that qualitative sample size may range from one to ten. Using the phenomenology framework of the qualitative design, Patton (2015) also supported the use of small sample size as being capable of providing in-depth and rich information of a case study with well-crafted and probing questions.

Participants' Selection Technique

For this study, the sample was purposively selected from among NAIs living in Houston /Harris County, Texas. The settings where the samples were selected included locations around faith houses, businesses frequented by the NAIs such as the Southwest Farmers Market, Suya Hut, and the World Lace fabric store as approved by IRB. I used recruitment flyers posted in IRB approved locations, as well as engaged community leaders in identifying possible study participants that fitted into the maximum variation criteria. It was anticipated that I may extend the recruitment of participants to the use of WhatsApp, a popular APP used by Nigerian community to communicate with each other if I ran into difficulty in obtaining the desired numbers of participants. It was also anticipated that I may run announcements in two of the Nigerian local television channels

offering coverages to the Nigerian community in Houston areas. The use of WhatsApp or running television announcements in Nigeria media outlet was not indicated in my IRB approval, so it was not necessary to deviate from the original plan of posting recruitment flyers and approaching potential participants at IRB approved locations.

In addition, it was proposed that where possible, I would give information section (background information), using the Letter of Intent (see Appendix C) to familiarize the members of the community or potential volunteers on the issue of HIV/AIDS. Engaging in information section was not necessary as I was able to directly access my participants using the bulletin boards and standing outside the approved locations to distribute recruitment flyers.

Choosing several different locations for the recruitment of the study participants allowed for selection of volunteers of various ages, gender, and religious background. The use of this strategy stemmed from the knowledge of the sample population, the setting, and the type of events that brings this group together. For example, the Southwest Farmers Market offered a variety of African food stuff favored by many African populations and in particular, this location was frequented by Nigerians of different religious beliefs when they shop for groceries used in cooking ethnic food delicacies. Other areas that Nigerians are mostly found are social organizations formed for the discussions of issues affecting their communities in Nigeria). However, I did not request for IRB approval of social organizations, so I did not use such locations. Faith-based organizations within the NAI communities also bring together individuals of two main religious beliefs found in Nigeria, Islamic and Christianity. I used the Southwest Farmers market, one Islamic and one Christian faith-based houses, and Nigerian owned

restaurants locations to post of flyers and approached individuals outside the business locations. These settings provided easy access of diverse characteristics of individuals proposed for sampling in this study.

Sample Size and Saturation

The purpose of any study determines the sampling strategy and sample size which can be as few as one or as many as in thousands (Creswell, 2013, Patton, 2015). In a qualitative study, a sample size may range from 1-10 or more (Creswell, 2009). Using a large sample size in any qualitative study with the goal of reaching data saturation may result in loss of focus as a result of data overload (Miles, Huberman, & Saldana, 2014). Even though failure to reach data saturation may have an impact on the quality of the study (Fusch & Ness, 2015), one cannot confuse quantity of large representation with quality of data (Maxwell, 2005) because numbers are not data saturation. Saturation can be achieved in a qualitative study when enough information has been collected to attain replication and when further coding was no longer feasible (Fusch & Ness, 2015). In this study, I had proposed a sample size of 12-16 participants, but I was able to achieve saturation through self-crafted probing questions that produced thick and rich data based on responses from 13 individuals. The data collection method using the criterion of maximum variation also assisted me in collecting thick and rich data because I was able to gather data from diverse participants as supported by Patton (2002), (2015).

Instrumentation

In qualitative research, the researcher is the instrument in the development of research questions, the collection of data, and in the analysis of collected data (Creswell, 2013; Patton, 2015). I was the instrument in the collection of data from the study

participants through the development of a letter of intent, recruitment flyers, informed consent form, screening form, and interview guide containing open-ended questions relating to each research question.

Data Collection Process

The tools needed for the collection of data for this study included digital audio tape, interview protocol, and a notebook to take notes. I was personally responsible for obtaining two audiotapes to ensure proper back-up in order to avoid loss of data. I used computer software such as Microsoft Word, Excel, and NVivo 11 for the organization and management of procured data. QRS International NVivo 11 Starter for Windows (n.d.) is one of the software used in qualitative research for data analysis. NVivo 11 software was used to analyze imported manuscripts and documents for discussion and recommendations. The manual provided by QSR International, NVivo 11 Starter for Windows was particularly useful in exploring the imported material for themes, run text search query, create memo, and visualize the results. NVivo 11 made volumes of uploaded materials manageable, less challenging, and easy to navigate. I used NVivo 11 Starter for Windows student version that gave free 15 days' license.

As the instrument of the study, several steps were taken to assure the validity and reliability of the study. One of the steps taken was the development of the research interview protocol (Appendix B) with semi-structured open-ended questions. The protocol questions provided uniformity, focus, and structure. The protocol questions were prepared with the knowledge of the culture of the participants to address the reliability and validity of the instrument.

I had planned to meet with volunteer participants in a face-to-face interview after completing all the preliminary preparations. The preparations included flyer posting and meeting with community leaders as may be necessary, having the participants complete a screening form for inclusion or exclusion, and procurement of informed consent. The flyer that was posted and the letter of intent given to potential participants contained information about the study that assisted in the collection of unbiased information about the topic from the participants. Data collection took place in a face-to-face interview immediately upon my ability to secure informed consent and appointment with the participant.

Participants were debriefed by thanking them, going over the previous HIV/AIDS studies with other AIs in the US, linking existing research to the present study, and asking them for their thoughts on what could be done to engage the community in future research or possible future research topic. To avoid missing data or unclear statement during transcription, participants were informed that I may contact them again for clarification, validation, or correction of information collected during the face-to-face interview.

Data Analysis

This study utilized the interpretative phenomenology approach in guiding the analysis of data collected inductively and in making sense of how the participants perceive HIV infection. According to Patton (2015), search for themes, patterns, and categories in the data was necessary in order to make sense of the phenomenon. The interpretive approach affords the researcher the opportunity of appreciating the contents and complexity of the meaning of collected responses from the participants (Chan et al.,

2013). As suggested by Creswell (2013) data analysis involves preparation and organization of the transcript and images. I transcribed and organized the data. I read the typed transcript over several times to understand emerging themes and patterns that formed the preset categories connecting the data to specific research questions. Careful coding involved constant memoing, comparisons, and separations of segments from the data of analysis (Maxwell, 2005; Miles et al., 2014; Patton, 2002). Once I completed the coding of collected data, I started to run reports of the emerging theme that helped in the discussion of important concepts and themes found during coding. While engaging in the inductive analysis, I noticed some deviant cases.

Miles et al (2014) noted that during data analysis, some elements of cases that strayed from the majority of the observed phenomenon may be found. Truly, such cases were noted during the data analysis and were discussed in the findings of this study. The new themes that emerged outside the majority of the framework were revealed during data analysis. I then developed a category or phrase that speaks to the new theme found within the data that were brought up for discussions as strengths and limitations in the study.

Issues of Validity and Reliability in Qualitative Research

Even though the quality of any research is found in the ability of the study to be reliable, valid, and generalizable, the focus of the qualitative research is to produce quality work rather than generalizability (Patton, 2002, 2015). Triangulation is used to test validity and reliability of a study and to control bias (Golafshani, 2003, Patton, 2015). As a step toward addressing the issue of validity in strengthening the credibility of this study, I used three types of triangulation to ensure reliability and validity. According to

Patton (2015), five types of triangulation can be used in qualitative studies. One of such steps is to ensure the consistency of what was said (Patton, 2015). To achieve this, I used member checking by sharing the manuscript from the recorded interview with each participant for validation and consistency. Secondly, Patton (2015) also recommended the comparison of perspectives of people with different points of view. In order for me to achieve this, I used peer reviewers who had graduated from Ph.D. programs in checking the designed instrument and data analysis to make sure that the work being submitted meets Walden University quality standards. According to Golafshani (2003) and Patton (2015), using multiple methods of investigation such as observation, interviews, and recordings also pave the way for validity and reliability of qualitative research. I used the combination of observations recorded in the field notes taken during the interview to draw inferences that the oral response could not produce.

According to Lincoln and Guba (1985), achieving trustworthiness (reliability/validity) in a qualitative study entails four major areas: credibility, transferability, dependability, and confirmability. Lincoln and Gubar (1985) addressed the issue of reliability in qualitative research using the word, dependability. This simply refer to the inquiry audit which is used to examine the process and the product of the study for consistency (Lincoln & Guba, 1985; Golafshani, 2003). Furthermore, qualitative researchers use different language in addressing issue of validity and reliability under the central idea of trustworthiness.

Issues of Trustworthiness

I tried to ensure that the information obtained from the study participants is as reflected in my analysis. Sharing the transcript of the data collected from a participant

with same participant is another way of ensuring trustworthiness. Therefore, while collecting and analyzing data, issues of trustworthiness was at the back of my mind.

Credibility

The richness of the information gathered is more of concern to a qualitative researcher than the quantity of data collected. Lincoln and Guba (1985) recommended reasonable engagements, intent observation, triangulation of data, peer debriefing, and participants or members of the community's checking to achieve credibility. In achieving this, I engaged in interaction with potential participants as much as necessary over the telephone, texting, and in person to develop trust. During the interview, I listened and reflected back to the participant, what was stated in exploring details of the lived experience of the participants in this study as a means of obtaining in-depth and rich data. In enhancing credibility, a reflective journal was kept to write my feelings and thoughts about the whole process during the interaction period. The art of journaling helped to identify and minimize areas of influence by researcher during data gathering (Chan et al., 2013). Furthermore, according to Creswell (2013), triangulation is achieved by the presentation of evidences from multiple sources that validates the credibility of a study. During the interview, I journaled, offered the participants the opportunity to review the transcripts for accurate reporting of their expressed views, and sought peer input over analyzed data.

Transferability

The readers of a study determine the degree to which any research can be transferred to other contexts, known as transferability (Lincoln & Guba, 1985). Specific details of the research situation and method are noted and then compared to a similar

situation. If those specifics are comparable, then the original research could be deemed credible. To achieve this, I described in detail, the phenomenon under study and methods used for this study to allow for transferability. Also, I maintained an audit trail by highlighting and recording all actions taken that may allow other researchers to duplicate the study for similar result.

Dependability

Study consistency and its ability to be repeated is what are known as dependability. According to Thomas and Magilvy (2011), reliability can be measured by the standard used in conducting the research, method of analysis, and in how it is presented. In this study, I have highlighted in the methodological section, the design approach and the steps taken during the process to support the dependability of the study.

Confirmability

When members of the study can confirm the quality of the research, confirmability is achieved (Lincoln & Guba, 1985). Therefore, quality of the results produced during the analysis of the collected data were checked and rechecked with members throughout the process. Confirmability is similar to objectivity, and it occurs when credibility is established and research findings are supported by collected data (Thomas & Magilvy, 2011). If audited, the audit trail of collected data and how I made each decision for confirmability have meticulously been preserved.

Ethical Considerations

As part of Walden University's dedication toward maintaining ethical standards in social and scientific research, it is prohibited for a researcher to approach potential subjects without first acquiring IRB approval (Walden University, 2015). The IRB sets

the ethical standards for researchers to follow to protect and respect the privacy of research subjects before collection of data and in managing the data (Endicott, 2010). The process of obtaining IRB approval attests to the integrity of the researcher and protects the university. After having successfully defended the proposal to conduct this study, I applied to the Walden University for IRB approval and was issued certificate number 02-16-17-0239269. IRB approval information was provided on the recruitment flyer and in the informed consent given to participants. I provided education and statement about research subjects' rights to the volunteers before the informed consents were signed. In the Appendixes that were listed below, on the final recruitment materials, IRB approval number was highlighted on the recruitment flyer, letter of intent, and the informed consent

Creswell (2013) and Patton (2002) suggested some of the techniques for data storage and handling. I provided backup of copies of computer files for data management and security. I masked names of participants on the transcripts so that personal information was separated from collected data to protect participants' identity. All data were kept in a well-secured place. I documented and procured signed informed consents from the participants. Alongside with information of data acquisition was how data was managed to protect the privacy of the subjects (Horner & Minifie, 2011). In adherence to protection of privacy of the subjects, a master record of types of information gathered such as the high-quality audio tape was kept in a separate and secure place for at least five years. All electronic data were password protected. I was the only one with access to the secured raw data. The dissemination of the research findings will be shared

with the research participants, the Walden University, the world of academic institutions, policy makers, and HIV/AIDS researchers.

HIV/AIDS issue is a very sensitive topic. With this realization, I envisioned some challenges in the recruitment of the research participants. The anticipated challenge of recruitment was due in part to the fact that the researcher is a member of the NAIs sub-group and also employed in a community teaching hospital attended by some of the NAI members. To overcome this challenge, I immediately disclosed my community and professional affiliations to potential volunteers to give them the opportunity to make an informed decision as to whether they would participate or not in the study. As a follow-up and in order to obtain a written evidence to the fact that participants did not have any prior relationship with me before their recruitment for the study, I asked each potential participants to complete the screening form (Appendix E). Any potential participant, who did not complete the screening form or answered yes or no to prior relationship with me, did not sign the informed consent, or agree to a face-to-face interview were not selected for participation.

The participants were given detailed information of how the data would be protected and their identity kept confidentially. For example, volunteers were assigned numbers rather than mentioning their names in the analysis. I provided the participants, both verbal and written information about their rights to participate or withdraw their consent at any point. The benefits or psychological risk that may amount to the level of stress that would be greater than what may be experienced in a normal life as a result of participating in the study were discussed. I did not envisage a psychological distress that

would be greater than what participants experienced in their lives since the study did not focus of HIV status and testing.

To address any adverse effect, I debriefed the participants after the interview. I anticipated that the participants may start to see themselves in a different light as being potentially at risk for HIV infection after the interview. I wanted to provide HIV/AIDS educational resources and the locations for confidential HIV testing to participants but I could not secure IRB approval for this because my anticipation could not be justified as a possible psychological risk to the participants.

Summary

This chapter described the methodology that was employed in this study including all ethical concerns to be addressed during the next stage of this process. The phenomenon, the research design, and role of the researcher were all highlighted in this chapter. The issue of trustworthiness, addressing the credibility, transferability, dependability, and confirmability were all part of the discussion in Chapter 3. Having highlighted the issues surrounding methodology; the Chapter 4 will delve into the actual study.

In Chapter 4, the study was conducted and the steps taken were described including data analysis. Chapter 4 contains the description of the settings and participants' demography. Also, in Chapter 4, I will highlight and discuss data collection process, and display analysis of gathered data. Once again, evidence of trustworthiness would be addressed in Chapter 4. The results of the study with supporting statements to each research question will be part of Chapter 4.

Chapter 4: Results

Introduction

The purpose of this phenomenology study was to explore the role that NAIs may be playing in the prevalence of HIV among the AA population in the US. The expressed views of 13 purposefully selected participants among the NAIs living in Houston, Texas were explored to understand the meaning ascribed to contracting HIV. The framework that guided the study was HBM. A gap in knowledge was identified through a literature review of the prevalence of HIV infection across the globe, and in particular, among the AIs living in Europe and the US. An in-depth interview with 13 participants within the age range of 18-49 produced the findings reported in Chapter 4. The study was guided by one overarching research question designed to be answered by three sub-questions:

RQ1: What are the perceptions of NAIs living in Houston/Harris County, Texas regarding contracting HIV infections?

SQ1: What knowledge do the NAIs have about contracting HIV?

SQ2: What meaning do NAIs ascribe to the experience of multiple partnerships with regard to contracting HIV?

SQ3: What are the perceptions of safe sex such as the use of condoms in the prevention of HIV according to NAIs?

In this chapter, I present the findings of the study through an in-depth discussion of the participants' setting, demographics, the method of data collection, and the trustworthiness of the data.

Research Setting

I offered the participants two IRB approved locations to meet for the face-to-face interview. However, I conducted the interviews with the participants at sites that were most convenient for participants to accommodate their daily schedule and family needs. Twenty participants responded to the recruitment flyers posted in different areas of the community such as the Celestial Church of Christ, Masscult Lahi II Fathi Society of Houston, Southwest Farmers Market, Finger Licking Restaurant, and Suya Hut, as approved by the IRB. Some of the flyers were also distributed by hand outside the approved locations. Some of the volunteers for the study that showed interest were referred by other community members.

Fourteen volunteers were screened and found to meet the selection criteria. I proceeded in scheduling interviews with participants and conducted face-to-face interviews with 13 participants. The 14th participant changed his mind at the last minute and wanted a telephone interview instead of a face-to-face interview he had earlier agreed to have with me. As a result, the 14th participant was dropped from the study as I was only approved for face-to-face interview by the IRB. Two weeks was set aside to conduct the face-to-face interviews. I started the transcription of the audio recorded interviews simultaneously during the period set aside to do all interviews but needed an additional week to complete the transcriptions. The raw transcriptions of participants' recorded audio interviews were sent to members of the study group to confirm accuracy of transcription.

Even though I had offered the participants a choice between using the public library and a church reception room earlier approved by the IRB for the interview, most

of the participants chose locations that they felt most convenient for them and that could provide the privacy required. I met for interviews with two participants at the church recreational room. Two wanted a public library, and the rest of the members chose their homes. Even though I interviewed some of the participants in their homes, I still gave out the $5 gift certificate that I had promised to give out in my recruitment flyers. All interviews were conducted privately at the chosen location after each participant was given a chance to review the information letter and informed consent form emailed earlier to volunteers.

The recruitment and informed consent forms provided a clear description of the purpose of the study, some examples of the research questions, and privacy rights. After the participants had voluntarily agreed to be interviewed verbally and in writing, interviews were recorded using a digital audiotape. All interviews were individually conducted face-to-face between March 15 to April 1, 2017, at a time and date chosen by participants lasting 15 to 30 minutes. There was room for interactive communication for clarification of questions and responses during the interview. I requested that the participants ask further questions or share their thoughts about the study at the end of the interview. There were no personal or organization conditions that could have influenced the gathering and interpretation of the data because I did not involve any organization in the collection of data or in recruiting the participants.

Study Participants' Demographics

I selected study participants from among NAIs living in Houston, Texas. Table 1 shows the demographic makeup of the participants. Female participants were seven (54%) while male participants were six (46%). Participants were grouped into different

clusters to allow for a diversity of representation in Table 2. The age of participants is from 18 to 49. One participant had a Ph.D. degree, one Master's degree, four with Bachelor's degree, two with some college credits, two Associate diplomas, and two High School diploma. All the participants that indicated having high school diploma, associate diploma, and some college admitted being currently enrolled in college in pursuit of a bachelor's degree except one with an Associate diploma who is currently working a full-time job.

Table 1

Participant's Demography

Name	Gender	Age	Age Group	Marital Status	Education
PPN01	Male	22	18-25	Single	Some College
PPN02	Female	44	26-49	Married	Post Graduate
PPN03	Male	18	18-25	Single	High School
PPN04	Female	38	26-49	Married	College
PPN05	Female	25	18-25	Single	Masters
PPN06	Female	38	26-49	Married	College
PPN07	Male	30	26-49	Married	College
PPN08	Female	25	18-25	Single	College
PPN09	Male	22	18-25	Single	Some College
PPN10	Male	25	18-25	Single	Associate Diploma
PPN11	Male	37	26-49	Single	Associate Diploma
PPN12	Female	19	18-25	Single	High School
PPN13	Female	22	18-25	Single	Some College

Note: PPN=Participant. Numeri figure=name of participants

Table 2 shows the diversity of the participants following maximum variation technique of participants' selection. The cluster of the participants is as reflected in Table 2. The total population of participants were thirteen ($N = 13$). Male and female NAIs age 18-25 were represented at 8% each. Male NAIs age 26-49 were 15% and

females age 26-49 NAI were 23%. Child of Nigerian African Immigrants (CNAIs) who were male and 18-25 years old made up 8% of the total population of the participants. Female CNAIs 18-25 years old made up 15% of the participants' population. Furthermore, male and female CNAI ages 26-49 were represented by 8% and 15% respectively.

Table 2

Maximum Variation Grid Representing Participants

Characteristics	Age Group 18-25 Male	Age Group 18-25 Female	Age Group 26-49 Male	Age Group 26-49 Female
Nigerian African Immigrants	1	1	2	3
Child of Nigerian African Immigrant	2	1	1	2

Note: NAI=Nigerian African Immigrant; CNAI=Child of Nigerian African Immigrant

Data Collection

To be able to fill the maximum variation grid (Table 2) designed by this researcher for participants' selection, I prescreened interested volunteers with the screening questionnaire (see Appendix E), approved by IRB. The screening questionnaire was intended to give basic demographic information and with some yes and no options for selection of the volunteers. Some of the questions asked if the potential participant was a NAI or CNAI and have lived or visited Nigerian in the last 5-10 years. The screening questionnaire also served as an opportunity for the exclusion of special population, that is, those with a mental health challenge, a minor, those living in

institutions, or pregnant. The collected demographic information data on the screening questionnaire are: name, age, sex, gender, education, and immigration status, email address, marital status, and income as reflected in Tables 1 and 2.

Two of the CNAI (PPN03 and PPN05) were born in the US and only visited Nigeria briefly. One CNAI (PPN01) was born in the US but lived in Nigeria for about four years for middle school and high school education. The three remaining CNAI (PPN09, PPN11, PPN13) were born in Nigeria and attended elementary or secondary school in Nigeria before migrating with their NAI or joining their NAI parents later in the US. Four of the 13 participants are married, PPN02, PPN04, PPN06, and PPN07. Nine of the remaining participants are single. I used 17-item interview questionnaires (IQs) to answer the Research Question (RQ). The 17-item questionnaires were designed to obtain deeper insight into the three Sub-Questions (SQs) that explored knowledge, attitude, and behavior of the participants on HIV infection. These 17-item questions helped to answer the RQ. Each participant attended an audio recorded interview that lasted between 15-30 minutes according to how participants responded to the IQs. I asked participants for permission to take note during the interview. Note taking served as my reminder for journaling of participants' verbal and non-verbal communications such as emotion, facial, and body languages. Some of my write-ups in the table and in the body of the chapter may result in multiple grammatical errors as these are direct phrases/words used by the participants as contained in the transcripts.

Data Analysis

To protect the participants, I masked all data received from each participant using letter and number such as PPN01 to identify each source of the data collected. I

randomly assigned letters and numbers to each participant. Prior and during the interview, I verbally educated each participant using the informed consent to remind them about their rights, confidentiality, and privacy. I informed each participant that letters and numbers would randomly be used to represent the data collected from each participant in my analysis.

After completing the transcription of each participant's interview, I emailed the transcripts to the participants through a secured server so that each participant could review the transcript for accuracy and I also requested participants to add any thought to the transcript that they might have omitted during the interview. PPN1, PPN4, PPN6, PPN8 responded to the request for member checking, and their responses were incorporated into the final transcribed data. I also transcribed field notes. I listened to the audio recording several times. Analysis of the data collected started with the organization of the data gathered using a Microsoft Word document and Excel spreadsheet. There were Interview Questions (IQs) for each SQ. For example, SQ1 was explored using IQs 1-4. I used IQs 5-12 to explore SQ2. Lastly, IQs 13-17 helped to gain a deeper understanding of the question asked in SQ3. The SQs were designed to answer the RQ.

Participants' response to each IQ was arranged on a long spreadsheet that afforded me the opportunity to read all participants' response to each SQ at a glance. The creation of the Excel spreadsheet also enhanced my ability to immerse myself in the data collected. As I immersed myself in the data, I started developing concepts and notes. I imported participants' transcripts into NVivo 11 which in turn produced axial of categories. These categories were arranged and rearranged until a logical sense could be

made of the data. The compilation of concepts and notes helped me to form categories in NVivo 11 marking each unit of analysis with codes. Coding in NVivo continued to produce new nodes while some nodes were merged or deleted. Coding of each unit of analysis response to the categories included highlighting statements and phrases that are relevant. I ran queries in NVivo 11 that produced themes under each category. Running of queries to compare participants' responses was made easy by NVivo 11. I present inductively emerging themes from the SQs in Table 3. A description of what is in the tables will follow, and I will directly quote some of the participants' responses to support the themes found in each SQ.

Table 3

Themes Emerging from Sub-questions

Sub-Question 1: IQ1-4 What knowledge do the Nigerian African-Immigrants have about contracting HIV infection?	Sub-Question 2: IQ 5-12 What meaning do Nigerian-African immigrants ascribe to the experience of multiple partnership in contracting HIV infections?	Sub-Question 3: IQ13-17 What are the perceptions of safe sex such as the use of condoms in the prevention of HIV among the Nigerian-African Immigrants?
HIV is contracted through sex but mainly through unprotected sex	” I'm from Africa and Africans believe in polygamy.”	Experiences of having protected and unprotected sex.
“First time I ever heard about HIV was when I lived in Nigeria and was I young.”	“I don't support it because it is unhealthy physically, morally, and psychologically.”	“It is better to use condoms for protection against sexually transmitted diseases.”

These themes emerged from exhaustive coding of transcripts imported into NVivo 11 after synthesizing the data into a manageable form for each of the participants. The IQs served as a means for obtaining an exhaustive description of the overarching RQ. There were two discordant cases of participants PPN5 and PPN12 who had chosen abstinence and had never had sex.

Evidence of Trustworthiness

Evidence of trustworthiness in qualitative research involves meticulous attention paid to issues of credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985, p 300). As a researcher, immersing self in the process of data collection and the data collected, which is the rigor of phenomenology method, generates a descriptive phenomenology, a Husserl inspired method. Immersing self in the data is perceived as the tools needed by a researcher to reveal the essential general meaning of the phenomenon (Finlay, 2009) that is of trustworthiness in a qualitative study.

Credibility

One of the ways that I ensured the credibility of this study was by completing the course on human protection through the acquisition of the certificate of completion from the National Institute of Health (Appendix D). I adhered to all conditions stipulated in the IRB letter of approval and participants were given as much time as they needed to express their views. I developed necessary relationship with the participants needed to encourage participation in the study. Participants expressed feeling comfortable and confident before, during, and at the end of the interview. Even though I had planned on recruiting about 16 participants, 20 volunteers initially showed interest. Due to the criteria used for participants' selection (Appendix A), after pre-screening forms were

completed (Appendix E), I ended up selecting 14 participants that met the criteria. The 14th participant was dropped from the study because the participant opted out of face-to-face interview.

Saturation was reached with the 12th participant, but I proceeded to conduct the interview with the 13th volunteer as a back-up in case any of the interviewed participants rescinded consent. With member's check of the transcription emailed to all the 13 participants, none of the participants indicated the desire to withdraw from the study. Hence the use of data from all the 13 participants was made possible. During the interview, I listened very well and keenly observed the interviewee while probing questions were asked. I took field notes during the interview for thoughtful analysis at the time of data analysis. I was able to triangulate the field notes with the recording while listening to the recorded interview of each participant. Participants questions for clarification and confirmations were answered before and during the interview. I sent the typed transcripts to the participants for comment, clarification, and confirmation of accurate representation of the participants' words during the recorded interview. Credibility was ensured with adherence to the IRB approval conditions, the protection of subjects, my ability to be present with the participants during interview, and the meticulous way that data was collected. Furthermore, I have been able to ensure credibility by paying attention to unexpected data looking for alternative themes and by bracketing myself to avoid predispositions and biases Patton (2015).

Transferability

Transferability of this study was established for any future researcher who may be interested in conducting research in similar settings or context. However, according to

Lincoln and Guba (1985), the readers of the study determines the degree to which a research is transferrable to another context. Even though my study cannot be regarded as generalizable to all NAIs in the US or other countries of the world due to the sample size, a study is possible in similar settings with large numbers of non-refugee African immigrants. Some of the ingredients of establishing transferability are the collection of rich, in-depth data describing the lived experience of the participants under study. Another strategy to ensure transferability is by providing a detailed description of the context of the underlying assumptions relevant to the central question of the research. In analyzing this data, reading the data several times, organizing and reorganizing the data, looking for patterns and themes, and search for relationships in emerging themes, the result presented in this chapter produced the visual display of the information and the write-up. With this study, I have provided a detailed description and visuals to readers for consideration of transferring the research design and context to other settings.

Dependability

I accomplished dependability of this study by establishing an audit trail that documented the research design, the approach used, and the methodology. The research design portrayed a qualitative research using phenomenology approach, while the process of data collected and steps that were taken to achieve dependability has been highlighted in this study. Validation of my study participants were authenticated with signed informed consent, audio record, and the use of NVivo 11 software to code the transcribed responses for emerging themes.

Confirmability

As a qualitative researcher, maintenance of neutrality is important during study design, participants' selection, data collection, and data analysis (Thomas & Magilvy, 2011). One of the ways I was able to confirm the quality of this study is by obtaining members check on transcribed recorded interview. The result of the analysis was also shared with the study participants for triangulation and member confirmability. Sharing the transcripts and result of the study findings with participants ensures credibility and objectivity.

Study Results

In this section, I addressed the responses of participants to the themes found in each SQ as gathered from the analysis of the data. I was able to identify six themes (Table 3) from the three SQs during the data analysis. The themes identified gave a deeper understanding of the lived experiences of the research participants on the culture of polygamy, perception of HIV infection, and attitude toward the use of condoms. An overview of the table gave the themes that emerged. Using the Hermeneutic interpretative data analysis approach (Abbot, 2004), I continuously interpreted the phrases found in the transcript to understand the meaning ascribed to it by participants. In using narrative approach, I looked for repeated similarities in the stories of the participants. I was able to achieve in-depth analysis by coding the transcribed data of each participant from the interview and field notes. I moved back and forth between data and emerging concepts and between descriptive and interpretative techniques that are both deductive and inductive in nature (Merriam, 1998) to identify the themes and patterns helpful in answering the RQ and in illustrating the themes found in the HBM.

The first cycle of coding was deductive in nature as I created a provisional coding by generating a start list from the SQs as recommended by Miles et al. (2014). As other codes emerged during coding (inductive), I continued to revise, modify, delete, and expand the provisional codes as necessary. In addressing the research problem, I was able to create an understanding of how NAIs perceive the issue of multiple sexual relationships as a precursor to HIV infection.

The following paragraphs display the descriptions of the main themes found in the data analysis using NVivo 11. Using the modified version of van Kaan's system for data analysis in qualitative studies, these steps included identifying themes found in categories, grouping the data, patterns and themes identification, textural data reduction, clustering, and elimination (Moustakas, 1994). The results of my study were based on the alignment of sub-questions that generated themes and subthemes. Participant's responses facilitated a deeper understanding of the lived experiences of the culture of polygamy and HIV epidemic in Nigeria. Rather than analyzing the data on a question by question basis, I summarized key themes in the SQs and applied selected quotes to illustrate the themes.

Central Research Question

The Central-RQ (C-RQ) was: *What are the perceptions of the NAIs living in Houston/Harris County, Texas regarding contracting HIV infections?* I investigated the C-RQ with three SQs that helped me to address the problem statement. The possible contribution to the prevalence of HIV infection in the US by the NAI due to their ability to travel between a high prevalence HIV country, Nigeria, and a low prevalence country, US was one of the focus of my study. Some researchers have corroborated the existence of little research on AIs (Nnaji & Metzger, 2014) on HIV/AIDS issue. I identified a gap

in research centering of the fact that RAIs have been lumped together with the NRAIs on the discussion of HIV in the few research that existed on AIs. This study aimed to explore the possible perception of the NAIs on their knowledge of HIV infection, the NAIs beliefs about the culture of polygamy and multiple relationships, and their feelings about the use of condoms.

To obtain a clear and deep insight into the attitudes and behaviors of the study participants on HIV infection, I developed three SQs that generated 17 IQs. The participants answered the 17 IQs that gave in-depth understanding of their perspectives. The study participants expressed their views and knowledge of HIV infection, the experience and feelings about multiple sexual relationships, and attitude toward the use of condoms. Most of the participants had a shared experience of having lived or visited Nigeria and had been exposed to the culture of polygamy. The participants' views toward contracting HIV infection were explored with SQ1.

SQ1:

What knowledge do the NAIs have about contracting HIV infection?

I proceeded to explore the knowledge, attitude, and feelings of the participants about multiple sex relationships due to the shared experience of culture of polygamy in Nigeria with SQ2:

SQ2:

What meaning do NAIs ascribe to the experience of multiple partnership in contracting HIV?

My last strategy was the use of SQ3 to explore the participants' thoughts and behavior toward use of condoms in the prevention of HIV infection and other sexually transmitted diseases.

SQ3

What are the perceptions of safe sex such as the use of condoms in the prevention of HIV according to NAIs?

The following discussions will highlight the themes found in each of the SQs using the developed IQs. For SQ1, four IQs were used to obtain the themes as contained in Table 4 and followed by the descriptive analysis of the themes. Eight main concepts emerged from coding of the SQ1 (Table 4). For SQ1, four IQs were asked the participants.

SQ1*: What knowledge do the NAIs have about contracting HIV?*

IQ1: Can you describe to me what you know about HIV and when you first learn about it?

IQ2: What factors contribute to contracting HIV?

IQ3: When someone is infected with HIV, research has confirmed that the disease can go unnoticed for several years before the person starts to show symptoms of AIDS. How will you know that someone has HIV?

IQ4: How can a person that contract HIV in Nigeria infect someone in the US?

Table 4

Participant's Knowledge of HIV Infection

Responses and themes	No. of Participants' Responses	% of Participants
Casual sex and Unprotected sex	21	11%
Contact with blood and infected bodily fluids	11	8%
Early Knowledge of HIV	16	17%
Having multiple sex partners	3	1%
HIV is a killer disease	8	7%
HIV does not show for face	11	10%
Symptoms of HIV	8	13%
Sharing Needles, drugs, contaminated sharp objects	11	11%
Other factors associated with contraction of HIV	10	11%
Being dirty	2	3%
Mother to Child transmission	1	1%
Homosexual practice	4	4%
Travel	2	2%

Note: Participants (N=13) could provide more than one answer

SQ1 (Theme 1): Casual sex and unprotected sex

All the participants (N=13) unanimously expressed the views that HIV can be transmitted through sex, most especially when the individual engage in unprotected sex. Most of the participants identified sex or unprotected sex as the number one factor for contracting HIV and as reflected through the statement of PPN01:

> "Most common is through sexual intercourse that most people get it. I think that's most one of the ways, that one of the most people get HIV from sexual intercourse."

In addition to sexual contact, other factors were identified by the participants for contracting HIV.

SQ1 (Theme 2): Contact with blood and infected bodily fluids

The participants' expression of contracting HIV through contact with blood and bodily fluid of an infected person indicated another factor for contracting HIV. PPN01, PPN05, PPN07, PPN10, and PPN12 did not express the view of contracting HIV through blood or bodily fluid. Only PPN02, PPN03, PPN04, PPN06, PPN08, PPN 09, and PPN13 indicated knowing that HIV infection can occur through exposure to blood and bodily fluid. For example, PPN08 stated that:

> "when there is a contact with your blood or any form of body fluid like saliva with someone who has the infection."

SQ1 (Theme 3): Early Knowledge of HIV was in Nigeria

One major theme that drew my attention was the fact that the all the participants had early knowledge of HIV/AIDS when they were young living in Nigeria. Even though 11 of the N=13 participants learned about HIV in Nigeria, PPN3 single male and PPN5 single (female) had their first knowledge of HIV in the US. PPN2, a married (female), expressed learning about HIV as far back as 30 years ago, while PPN4 married (female) revealed learning about HIV in 1998. Most of the participants expressed learning about HIV in the classroom, on television, through billboards and public announcements in Nigeria. PPN10 single male, brought a lot of emotion into expressing when he first learned about HIV through a popular musician in Nigeria at the time:

> "I think I first know, learned about HIV, I think, when I was probably seven or eight years old? The first time I learned about it was through a popular Nigeria musician that died of HIV and I think . . . his death was what really made HIV

popular in Nigeria . . . I know there was a lot of TV commercial about what to do and what not to do."

SQ1 (Theme 4): Having multiple sex partners

Another observation that I made was that only three of the participants, PPN2, PPN06, and PPN12 related HIV infection to multiple sex partners. PPN06 reported response affirmed that it was possible to get infected with HIV when the individual engages in multiple sexual relationships:

". . . from what I've heard if you have multiple sexual partners you could have it." However, participants' expression of the relationship between having multiple sexual partners and HIV infection appeared to be the lowest as portrayed in Table 4.

SQ1 (Theme 5): HIV is a killer disease

Six participants' (PPN01, PPN02, PPN05, PPN07, PPN11, PPN12) responses also indicated that HIV destroys the immune system and can eventually lead to death, as articulated by PP07:

". . . it's one of the killer viruses out there and as I understand, I don't think there's been any definitive treatment for it yet."

SQ1 (Theme 6): "HIV does not show for face"

More than half of N=13 (PPN02, PPN04, PPN05, PPN08, PPN09, PPN10, PPN12, PPN13) expressed the thought that it was not possible to know someone has HIV by merely looking at that person. PPN10 went as far as relating his knowledge of HIV to a big billboard about the death of a popular musician in Nigeria as,

"The son of that musician Femi Kuti, it's a big whole sign board in Ibadan where I grew up says "AIDS NA AIDS E NO DEY SHOW FOR FACE."

In the same light, PPN02 expressed the knowledge of the challenge involved in knowing someone has HIV:

> "I understand that you cannot physically know that somebody has contracted it except through testing . . ."

PPN05 also voiced the opinion that HIV status can only be known through blood test,

> "I have no idea unless you do a blood test."

Another theme that stood out was the fact that some of the participants related HIV infection to the symptoms of AIDS.

SQ1 (Theme 7): Symptoms of HIV

According to CDC (2017a), when an individual contracts HIV and is left untreated, the body immune system begins to be attacked. When HIV is untreated, HIV reduces the number of the CD4 cells, that is, the T-Cells in the individual body. During the 1st two stages of HIV, the person may not have any symptoms or may have flu-like symptoms. When in stage three, HIV has progressed to AIDS. The common symptoms of AIDS included chills, fever, weakness, weight loss, and others (CDC, 2017). These symptoms were the symptoms described by PPN01, PPN05, PPN06, PPN07, PPN09, PPN11, and PPN12 as signs of knowing that someone has HIV in response to IQ3 when asked how will one know someone has HIV. For example, PPN12 stated:

> "So they might usually easily contract like flu, and the cough, and the cold, and things of the sort and eventually if the disease progress they can experience organ failure something of that sort."

In addition, in what may be described as symptoms of AIDS, PP06 described the signs that someone may be having HIV infection as:

> "When you see people that get, that looks very skinny, there is a strong perception that this person is contracted with HIV. Once the person looks very skinny and gets skinny and gets skinny dry and dry, you know they believe the person has HIV."

Some of the participants' response to IQ3 raise some concerns that some of the participants may not know the difference between HIV infection and AIDS. The participants that clearly stated that HIV does show on the face may be more in line with the description of CDC (2017) on the different stages of HIV that could later progress to AIDS when it reaches stage three.

SQ1 (Theme 8): Sharing Needles, drugs, contaminated sharp objects

Another common theme that came out of SQ1 while exploring the knowledge of HIV by the participants was the different ways that individuals can contract HIV. According to PPN02, PPN04, PPN05, PPN06, PPN07, PPN08, PPN09, PPN10, and PPN11, sharing needles, exposure to unsterilized sharp objects like the clipper, knife, and blade that had been used by an HIV-infected individual can increase the risk of contracting HIV. Most of the participants' expression of ways that HIV can be contracted was also voiced by PPN8:

> ". . . then secondly sharing of sharp object with someone that is infected. Most of the time, some people don't know especially when they go for barbing or their hair dressing saloon to make . . . People don't know the person they just did, has HIV. They just use those materials on some other people."

SQ1 (Theme 9): Other factors associated with HIV Infection

Other less prominent thoughts that were expressed was contracting HIV through homosexual activities by PPN05, a physical appearance of a genital that appears 'dirty,' and travel. There was one discordant case, PPN03 that stated:

> "I don't know for sure but I think it has something to do with being a "dirty" person . . . I'm not aware…unless they have like scars and stuff or maybe you can probably tell by looking at their genitals because it will be all… they have boils and stuff and it wouldn't look clean."

In other to gain a deep insight into how culture of polygamy may influence the attitude and behavior of NAIs toward multiple partners, I developed eight IQs that was approved by IRB to answer SQ2. Here is the SQ and IQs that were asked participants during the face-to-face interview:

SQ2: *What meaning do NAIs ascribe to the experience of multiple partnership with regard to contracting HIV?*

IQ5: Most African culture accepts a man having more than one sexual partner at a time. Would you describe yourself as someone that has come from a culture that accepts men having multiple sexual partners in a relationship?

IQ6: If you have come from a culture that accepts that it is o.k. for a man to have more than one sexual partner, what are your beliefs about having more than one sexual partner?

IQ7: Can you describe to me what you understand by the practice of polygamy?

IQ8: Can you describe how having knowledge of polygamy helps to shape your views about your sexual relationships?

IQ9: Sometimes, individual may leave Nigeria to settle as a resident in the US or travel to Nigeria on visit or business. During this period, couples may be separated from each other. Describe to me if you have ever found your-self in such situation?

IQ10: How did you cope with or without sex when you were separated from your sexual partner?

IQ11: Can you describe to me the ethnicity or racial identity of your sex partners in the last five years? For example: AA, White, Someone from the Virgin Island, Hispanic descent, Nigerian, or others from any African country?

IQ12: Since living in the US, have you had more than one sex partner at a time?

The responses of the participants generated the seven themes found in Table 5 giving a deeper understanding into the meaning the participants ascribed to the experience of polygamy and how they felt it has influenced their attitude in their present relationships.

Table 5

Experience with Culture of Polygamy and Multiple Sex Partners

Themes	No. of Participants' Response	% of Participants
Contribution of Religion to the practice of multiple sex partners	5	8%
Double standard on issue of multiple sexual partners	5	6%
I'm from Africa and African men believe in multiple relationships	18	17%
I abstain from sex when not with my sex partner	13	10%
. Multiple sex partners as risk factor for STDs	9	12%
Polygamy or multiple relationship does more damage than good	30	34%
Positive feelings toward engagement in one sex partner relationship	13	13%

Note: Participants (N=13) could provide more than one answer

SQ2 (Theme 1): Contribution of Religion to the practice of multiple sex partners

The two dominant religions practiced by Nigerians are Christianity and Islam. I endeavored to make sure that some of the participants would represent both faiths. This is one of the reasons why I chose to use the Multiple Variation techniques of recruiting participants. Even though I did not indicate religion as one of the criteria for recruitment of participants, I allowed the issue of religion to take its natural course by not specifying religion as a criterion for recruitment. However, I indicated in my proposal that I would post flyers in a Christian and Islamic faith houses. My assumption was that this would

generate potential participants from both religions. During interview, some of the participants naturally volunteered information about their religious beliefs regarding issue of polygamy. Five participants stated how their faith had helped to shape their outlook toward polygamy and multiple sexual partners. PPN10, a male, claimed that as a Christian it was not right for him to have multiple partners. PPN06 and PPN08, both female, admitted that some Muslims do practice polygamy because it was one of the core beliefs of Islamic religion, however, the participants separated themselves from such practice. According to PPN08:

> " I don't think it's good really because though Islam teaches we can have more than a wife but it is stated clearly you have to be, I don't know, your affection for your wives should be equal which is not possible. We are only human. That condition is there so that people will not go into it because nobody can do that, but people just don't look at that part. They only look at the part that you can take more than one wife."

SQ2 (Theme 2): Double standard on issue of multiple sexual partners

The participants also responded to inequality of treatment of women in the culture of polygamy as they pointed out that the society tends to be more receptive to a man having multiple sexual partners. PPN02, female, stated:

> "My understanding that a man is allowed to have more than one wife. He can have multiple wives and African culture encourages men sleeping around virtually."

PPN04, female, equally expressed the double standard of the treatment of male versus female in the society on issue of multiple relationships:

> "Most especially in our African culture, man, the culture will say you can have more than one wife. So I don't see the… so if it is good a man should have more than one wife, a woman should have more than one husband."

PPN08, a female, just simply put it out like this:

> "They are just being, aahh, aahh, it's just a way of, I don't know, practicing adultery. They are just trying to make it a kind of formal meanwhile to me it's not formal."

SQ2 (Theme 3): I'm from Africa and African men believe in multiple relationships

All of the participants except PPN01 and PPN03 admitted coming from a culture of polygamy or where a close family member practices multiple sexual relationships. PPN01, PPN03, and PPN05 were the only CNAI born in the US and spent most of their lives in the US. All other CNAI were either born in the US or Nigeria, but they had spent most of their lives in Nigeria. For example, PPN04 stated,

> "I for one, I don't like it because my father had only my mother and they gave birth to nine children, though he came from a polygamous home because we are from a royal family."

PPN12, a female, affirmed the belief that men seemed to receive preferential treatment when it comes to the issue of multiple sex partners:

> "I do believe that my culture specifically. . ., does actually, you know, men having multiple partners, they see that as the subtle norm."

PPN09 further buttressed the point that even though none of the participants believe or practice polygamy, they have mostly come from a culture of polygamy:

> "I guess coming from Nigeria, my grandfather, my uncles and the rest, they had more than one wife. So I grew up in it seeing men having more than one wife."

SQ2 (Theme 4): I abstain from sex when not with my sex partner

To gain insight into attitude and behavior of the study participants toward having multiple sexual partners when separated from their sex partners, I asked them IQ10. Participants were asked how they coped with sex when separated from their sex partners. Some of the participants stated that the question does not apply to them because they were not sexually active (PPN05, PPN13) or they have never been separated from their sex partners. The participants that admitted being sexually active responded that they kept on talking on the phone with their partners, some participants stated they used physical exercise as an outlet. PPN01, PPN02, PPN04, PPN07 voiced keeping themselves busy or just doing other things that took their minds away from sex. Altogether, the participants mainly chose abstinence from sex when their significant others were not available. Only PPN6 reported that due to the long period of separation between her and her sex partner, she would find an alternative person to substitute as a sex partner.

SQ2 (Theme 5): Multiple sex partners as risk factor for STDs

In this segment, participants expressed their minds on the risks involved in engaging in multiple sexual partners in the context of HIV infection. According to PPN06, PPN07, PP09, and PPN13, all participants agreed that there were too many risks with being involved in polygamy or multiple sexual relationships. PPN06 stated that,

> "My belief, like I said earlier, if you have more than one sexual partners you have a high risk of contracting HIV because there is a tendency that one of those

> partners is HIV positive. Unless you are lucky which might be a rare case . . . polygamy, yes, stands a higher risk of contracting HIV than monogamy . . . because some of the partners, they might not be, may be the man cannot satisfy the whole wives you know. There are some of the women that will still go out to look for satisfaction outside."

Some of the participants stressed the importance of self-preservation whereby the individual must find ways to protect themselves as PPN12 articulated,

> "You just have to protect yourself because you don't know who you've been with. You just have to be careful about it."

PPN12 expressed the feeling that engagement in multiple sexual relationships could be accompanied by unwanted consequences:

> "I just feel there's just too much risk involved. Whether be it sexually transmitted diseases or, you know, unforeseen pregnancies. Just you know, complications in general."

SQ2 (Theme 6): Polygamy or multiple relationships does more damage than good

One takeaway in this discussion about the experience of polygamy, and multiple sexual relationships is the way all the participants agreed that being involved in polygamy or multiple sexual relations only brings chaos to the life of those involved in relation to psychological effect, love in the family, peace, and sexual risk. Quoting from PPN07:

> "I think it increases the risk of contracting HIV or any other kind of virus so I don't think it's the ideal thing to do to protect one, I mean, one has to protect the family or protect themselves."

On the effect of polygamy or multiple sexual relations on the family, PPN09 expressed negative feelings about the practice of multiple sexual relationships or polygamy by stating:

> ". . . well like I said, I had close contact with people that have more than one wife, more than one sexual partner and I'm, I think it's not something I want to do seeing the way the family end up being and everything in the future and the way the kids turn up and the way the family turn up."

I found a deeper expression of feeling on the effect of engagement in multiple sexual relationships as expressed by PPN10. The participant allowed me to gain an insight into the feelings about the impact of multiple sexual relationships on the life of those around him who had shared their experiences with the participant:

> "I think it's dangerous. I'm . . . have come at it from . . . someone that is very literate and if you think about it . . . from what I've done in the past so far. I don't think it's a good idea to have multiple partners. There's waaaaaaayyyy too many factors that is completely against it. I mean you can get HIV, you can get any form of STDs and also psychologically it's not even right personally. And then also then, I 'm a Christian, so spiritually for me it's not even right to have multiple partners so ... I think about polygamy, that, from a moral and emotional, and psychological standpoint because . . . I mean, I've never seen, I've had friends, a lot of them who have heard stories that say look men, polygamy never ends up in a good way. It never, there is nothing, I mean like my mom came from a polygamy family. My dad does, they both tell the story about how it is nothing good that comes out of it. So again, it is not good. Putting HIV aside, from

> which then psychologically, it's really not even good for your mindset after a while. It's just good for the, for the, I think for the sexual part. But from a mental and emotional standpoint, no . . ."

All the participants expressed negative feeling toward polygamy and issue of multiple sexual relationships.

PPN12 stated:

> "Personally, I don't support that because I just feel there's just too much risk involved. Like I said earlier . . ., to me that's just too much and over the top and I don't believe a man or woman should have more than one partner or more than one wife or husband."

SQ2 (Theme 7): Positive feelings toward engagement in one sex partner relationship

In reaction to the question of how polygamy had helped to shape views about their present or future relationships, the participants shared their feelings on the type of relationships they would like to see themselves. Most of the participants asserted that being involved in polygamy or multiple sexual relationships was not what they would want for themselves due to what they had learned from close friends and their family members about the effect of polygamy. Most of the participants tended to make a promise to themselves that they would not put themselves in a position of engaging in the relationship that has more than one sexual partner at a time. PPN01 emphatically stated,

> "Me personally, I don't believe in such a thing. That keeps me grounded and makes me have a better understanding that me personally, I don't think it's right so I'm just gonna have one partner."

In support of desire for a better life for themselves than the life that polygamy or multiple sexual relationships offers, PPN05 stated,

> "It's just that I just know that it's not something that I want for myself."

In addition, PPN08 reaffirmed her resolution on issue of engagement in multiple relationship by saying:

> "I don't know how much that is, but that alone made me made a promise to myself that I don't want to have more than a man in my life."

One of the reasons given by some of the participants for their resolution to engage in one sexual partner relationship was probably based on the statement of PPN11:

> "I think having one sexual partner is sort of … better, you know, there is not a lot of issues and there is no need to worry about diseases and such things like that. So, I guess being around that sort of made me a firm believer in one, in having one sexual partner or one wife."

With SQ2, I decided to explore the concept of sexual mixing. In order to achieve this, IQ11 was used to ask for the racial/ethnicity of the sex partners of the participants. Participants were given names of racial/ethnicities from which to choose as reflected in Figure 4. I also included one other question using IQ12, that could give further insight into possible engagement in multiple relationships. Figures 4 and 5 gives a visual analysis of the participants' responses to IQ11 and IQ12 repectively.

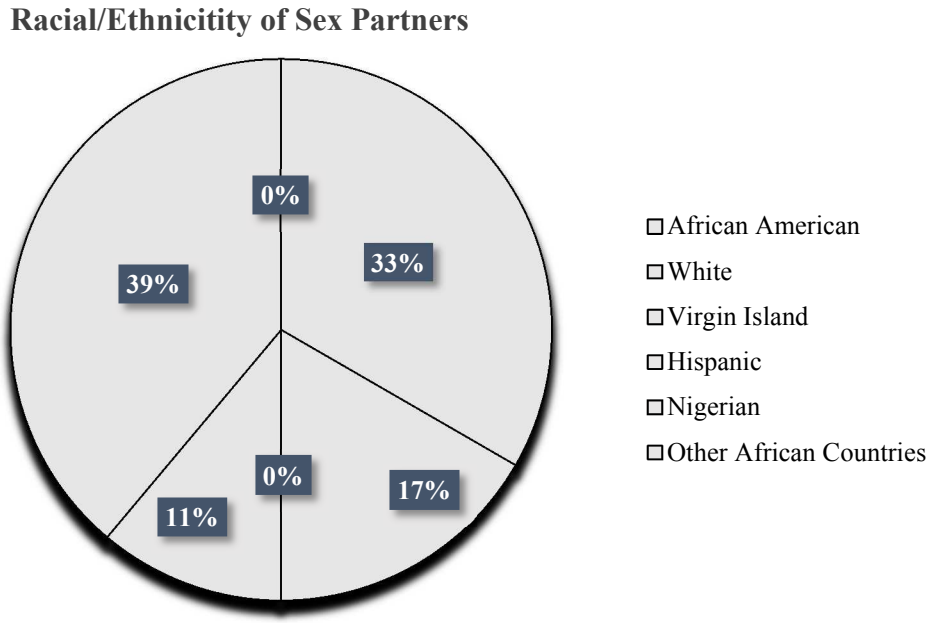


Figure 4: Racial/ethnicities of sex partners by participants.

Figure 4 indicated that 39% of the participants admitted sleeping with Nigerians only, 33% had sexual relationship with AAs, 17% with Whites, and 11% slept with individuals from Hispanic ethnicity. There was no admission of having any sexual contact with persons from the Virgin Islands or other African countries. PPN03 admitted having had sexual relationships with White and AA while PPN07 admitted to a sexual relationships with Nigerians, AAs, and Hispanics. PPN10 expressed having sexual relationships with AAs, Hispanic descent, and White. Some of the participants only admitted having sexual experience with Nigerians.

To explore the possible engagement with multiple sexual relationship by the participants, they were asked if they had ever had more than one sexual partner at the same time using IQ12. Figure 5 showed participants responses using NVivo 11 to create the visual analysis:

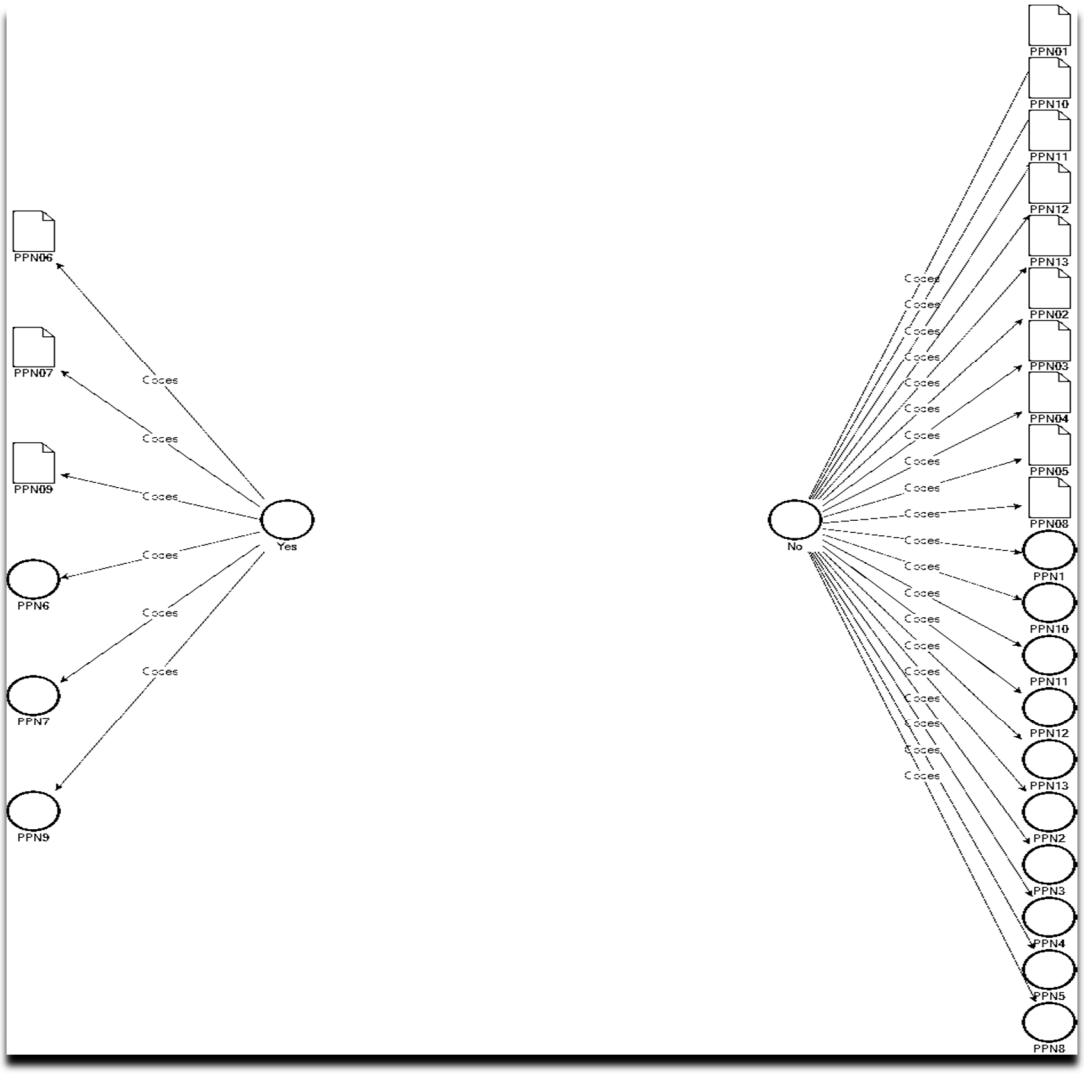


Figure 5: No. of participants that responded to Yes or No to having more than one sexual partner

Seventy-three per-cent (73%) of the sexually active participants responded "no" to having multiple sexual relationships while 27% responded "yes" to having multiple sexual relationships. PPN11 answered in the negative to having more than one sex partner with a statement like this:

> "At a time, No. I just have not had sex with multiple women at the same time."

PPN9 stated,

"Yes, there was a time when I was in school. I had some othergirls at the same time."

PPN5 and PPN 12 stated having abstained from sex altogether and have never had any sexual experience. These were the discordant cases in the exploration of participant's behavior in relation to multiple sexual relationships.

After having discussed the participants' feelings toward the issue of polygamy or multiple sexual relationships, I noticed unease in the body language of the participants. At this juncture, I offered the participants a break and also read out their rights to withdraw from the interview or the research at any time. All of the participants affirmed the intention to continue with the interview. It was necessary to do this to reassure the participants of their safety and respect for their wish. A break at this time was meant to ease any tension that any participant may be having from discussing such a touchy topic that had either affected their lives personally or the lives of those around them.

Sub-question three had five IQs. It was the last segment of the interview to explore the participants' views, feelings, and attitude toward the use of condoms after discussing their feelings about multiple relationships.

SQ3: *What are the perceptions of safe sex such as the use of condoms in the prevention of HIV according to NAIs?*

IQ13: What are your views about use of condoms during sexual intercourse?

IQ14: How do you view use of condoms for protection against sexually transmitted diseases like the HIV infection?

IQ15: In the last five years, think of a time when you may have had sex without protection and describe the circumstances that led to the incidence?

IQ16: How will you react if your sex partner introduces a condom to you and demand that you use condom before sex?

IQ17: Have you ever thought about HIVs?

The following Table 6 shows the analysis of the main themes that came out of IQ13-17 formulated to answer the SQ3. The IQs were designed to explore the feelings and attitude of the research participants toward the use of condoms. None of the IQs 13-17 asked direct question about the use of condom from the participants in their relationships. However, the questions were carefully crafted to explore the participants' feelings toward the use of condoms. The participants themselves were able to identify the risks involved in engaging in multiple relationships and the risk of contracting HIV when engaged in unprotected sex. Therefore, these set of open-end IQs were aimed at giving the participants the opportunity to express their attitude toward the use of condom especially when offered by their sex partners.

Table 6

Participants' attitude toward Use of Condom

Responses and Themes	No. of Participants' Response	% of Participants
Experiences of protected and unprotected sex	20	15%
Sub-Theme		
Had sex with condoms	3	1%
Had sex without Condoms	7	6%
No Sex in 5 Years	3	1%
Feelings about Use of Condoms	7	12%
Sub-Theme		
Condom use is not comfortable	3	5%
Men don't like to use condom	4	7%
To use or not to use condoms - issue of trust	12	12%
Use condoms for birth control	12	8%
Use condoms for protection against STDs	33	33%

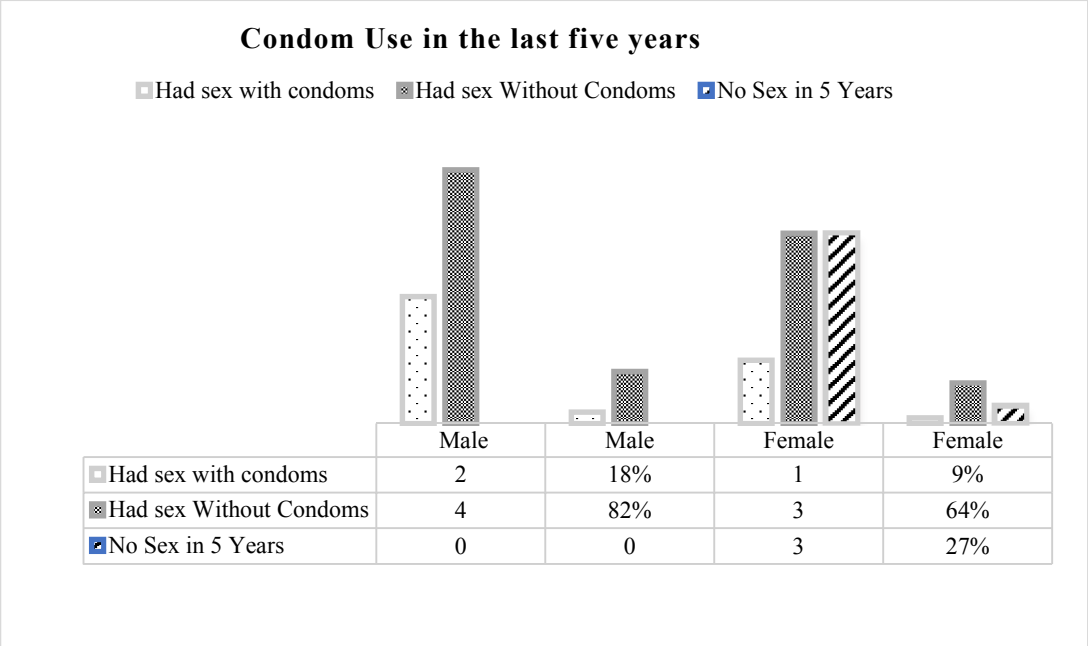
Note: Participants (N=13) could provide more than one answer

After getting insight into the level of knowledge of the participants about HIV infection and what constitute the risk factors, it was time for me to explore the feelings and attitude of the participants toward the use of condoms. In SQ1, most of the participants had identified unprotected sex as one of the primary sources of contracting HIV. With the use of IQs 13-17, five major themes emerged.

SQ3 (Theme 1): Experiences of protected and unprotected sex

I explored the participants' behavior on condom use in the last five years with IQ15. Some of the participants admitted to using condoms with their sexual partners and some related non-use of condoms at some point in their lives (Figure 6). Among the 13 participants, three females admitted that they had not had sex in five years representing 27% of the participants. Eighteen percent male and 9% female have had sex with

protection. Those that have had unprotected sex in the last five years were represented by 82% male and 64% female.



	Male	Male	Female	Female
Had sex with condoms	2	18%	1	9%
Had sex Without Condoms	4	82%	3	64%
No Sex in 5 Years	0	0	3	27%

Figure 6: Responses to use of condoms in the last five years

Figure 6 gives a visual image of how the participants responded when asked to recall the occasions that they might have had sex without condoms in the last five years. Vehemently, PPN01 (Male-Single), PPN08 (Female-Single), and PPN11 (Male-Single) stated never having sex without protection.

"I haven't had sex without protection. I don't have sex without protection." However, at one point or the other PPN02 (Female-Married), PPN03 (Male-Single), PPN04 (Female-Married), PPN06 (Female-Married), PPN07 (Male-Married), PPN09 (Male-Single), and PPN10 (Male-Single) all reported having had unprotected sex with their sex partners in the last five years. Seven Participants (four male and three female) admitted having sex without condoms (Figure 6). Four of the participants were married,

and one was single. Among the married participants, one married female participant (PPN6) admitted having unprotected sex with another partner other than the spouse. Other married male and female participants (PPN02, PPN04, PPN07) admitted having unprotected sex with their spouses alone. PPN4 stated the reason why she engaged in unprotected sex:

> "I have a son. He will soon be five by May. I just have eight months old baby. So I had sex for reproduction. With my husband, yes, I only protect to space our kids."

PPN03, PPN09, and PPN10 are single. They expressed having unprotected sex in the last five years. PPN10 admitted:

> "Yes, it has happened couple of years I guess. And I, I guess I didn't have condoms with me."

From the above description, there are equal numbers of married and single participants that admitted having unprotected sex. The only discordant case among the married participants was PPN6 that had another sexual partner. Three participants expressed use of condoms, two male, and one female. PPN01 (Male-Single) stated:

> "That's never occurred in my life, I never had sex without protection.."

Participant PPN11 (Male-Single), also expressed never having sex without protectetion. PPN8 (Female-Single) said:

> "Aaah, I've not had sex without protection."

PPN05(female-Single), PPN12(Female-Single), and PPN13(female-signle) all stated they have not had sex in the last five years. Overall, seven participants had unprotected sex,

three had protected sex, and three had abstained from sex in the last five years. Looking at Figure 7 more male reported having unprotected sex than female.

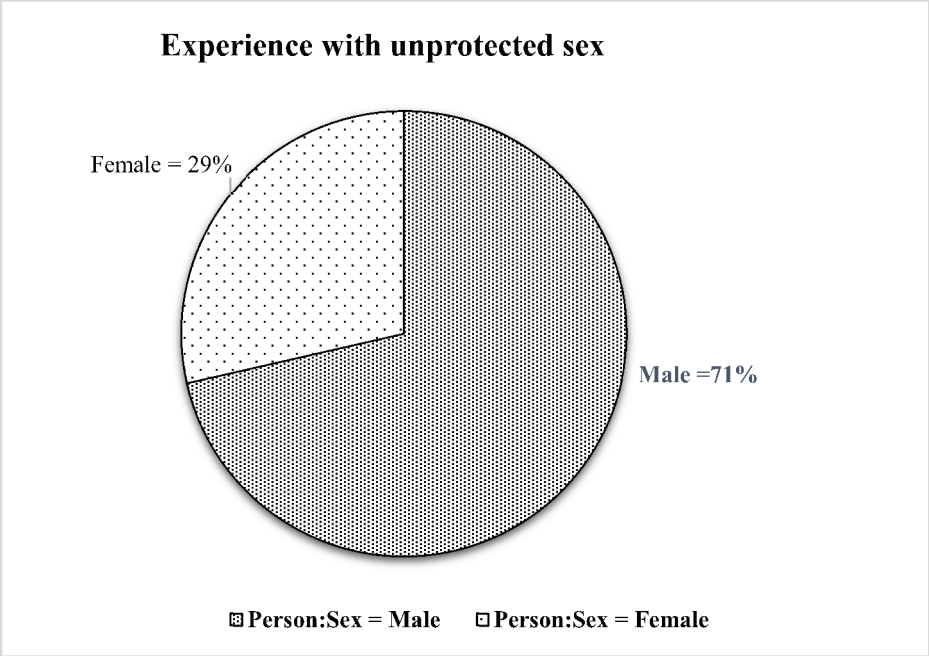


Figure 7: Experience of unprotected sex by gender

SQ3 (Theme 2): Feelings about Use of Condoms

To understand some of the challenges that may be associated with the use of condoms, IQ13, 14, and 16 was used to explore the views of the participants. Other themes that emerged from the use of IQ13, IQ14, and IQ16 was uncomfortable feeling when using condoms and the dislike of use of condoms by men. Some of the participants believed that condom does not guarantee absolute protection against sexually transmitted diseases like the HIV or protect against pregnancy, but it was better than not having any form of protection. Almost all the four married participants believed that they only need

to use condoms to prevent pregnancy. Somehow, some of the participants reported ambivalence in using condoms with their sexual partners.

According to PPN04 (female-married), use of condom depreive the user of total enjoyment during sexual intercourse as she stated,

> "Well, let me state this, there is this saying ... that when you lick the sweet with the wrapper it's not going to be sweet, you have to lose the wrapper to get to the sweet, ... So many people are against condom because of that feeling, they want the skin to skin stuff ..,contact, ... At times, men too complain that they want that feeling."

PPN04 also experessed the veiw that the condoms may make the user feel uncomfortable,

> "At times the condom may not be very tender. If the woman is dry and all that, so the bruises and other thing that will make the woman not to feel like."

PPN06(female-married) also corroborated the thought that condoms may not be used because of lack of enjoyment during sex as she stated,

> "all the men I've met, they liked to do it direct. They don't like to use condom."

PPN06 stated,"

> "you know like some men, most men like it real, you know, ... they don't like to use condom. So they will tell you they've used it but when the, when you are in the middle of the intercourse, when the thing is hot, before you know, they've removed it and you don't know. You too, you are busy moaning and this that. Later you now see the thing has been thrown away."

SQ3 (Theme 3): To Use or not to use condoms – issue of trust

Another theme that emerged from use of condom was the issue of trust between sexual partners. Some of the participants reported that if their partners were the first to introduce condoms to them, they may feel suspicious but would use the condom according to PPN02, PPN06, PPN10.

However, PPN07 differed slightly in opinion saying,

> " It depends on the situation or occasion. So if it's not the first time we're having sex and she is already my sexual partner, I don't think I'll take it."

In the same manner, PPN13 said,

> "If it hadn't been a problem before and all of a sudden he decided that was what he wanted, I would be, I would pause and be suspicious as to why all of a sudden."

Despite the expression of the feeling of not being comfortable with the use of condoms and the expression of the ambivalence in using condoms due to the issue of trust, most of the participants believed that condoms are necessary to prevent STDs.

SQ3 (Theme 4): Use condoms for birth control and Use condoms for protection against STDs

Some of the participants believed condoms should be used for prevention of pregnancy. It is also notable that some participants believed that the use of condoms by them is for pregnancy prevention. The data revealed that about 15% of the participants would only use condoms for birth control (Figure 8). About 85% believed that condom use is good for not only pregnancy prevention but is also suitable for the prevention of STDs such as HIV infection (Figure 8).

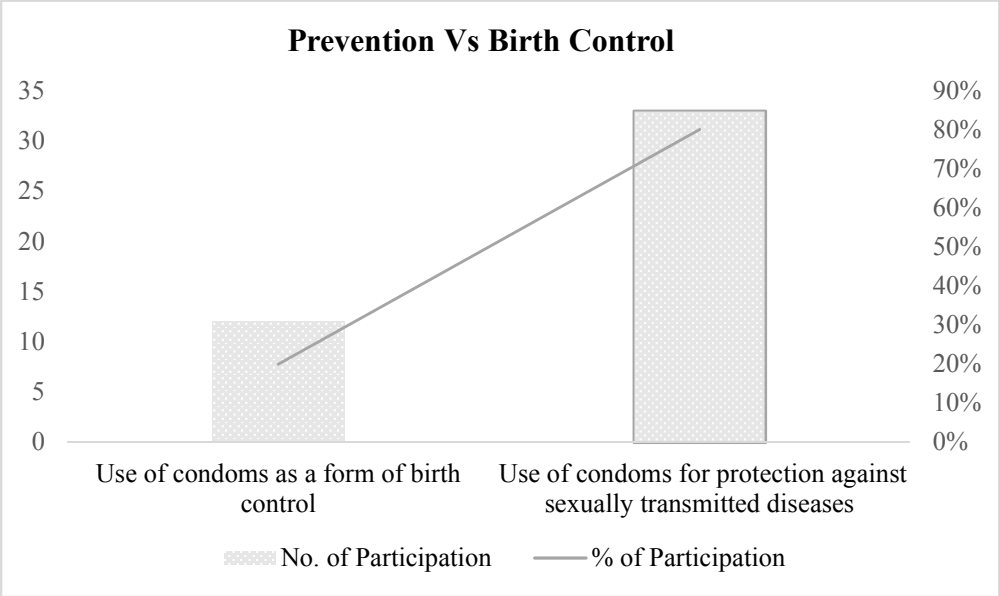


Figure 8: Beliefs about use of condoms

PPN01, PPN04, PPN05, PPN07, PPN09, PPN12, and PPN13 all stated that condoms are good for prevention of pregnancy. PPN04 married female participant viewed the use of condoms with her sex partner only as means of pregnancy prevention and did not see why condoms will be used for any other thing. PPN004 stated:

> "O well, that is the only family planning I have ever used in my life. The condom type I have never tried any so I don't think I will feel anyhow because that's the only thing we use for family planning."

On the other hand, PPN10 single male believes that when a woman introduces condom to him, he would readily use it, but did not state that he would be the first to introduce condom to his sex partner. PPN10 reported that:

> "I wouldn't mind. I really wouldn't mind. It has happened before. I'm like yes sure. And we both ended up not liking it . . .. Would I introduce it? It depends, it really depends. I think back then, I probably wouldn't. Because then, I got tested,

I always get tested. Because I get tested for HIV or any form of STD, so I do it unless she says no . . ."

Even though some of the participants had expressed the reason why they would most likely consider the use of condom as a way of preventing pregnancy, all the 13 participants concluded that the use of condoms was necessary for the prevention of STDs. PPN07 and PPN08 were more expressive on why condoms are needed for the prevention of HIV as PPN07 stated:

"I think it's really important to use condoms, just as a secondary measure to prevent unwanted virus ... , made sure we got tested before she visited United States. I mean for a young guy who ... don't want sexuallytransmitted diseases and everything, I guess you have to protect yourself from all that."

In affirmation tthat the use of condoms helps in the prevention of unwanted pregnancies, PPN08 also agreed that condoms can be used in the prevention of HIV infection:

"Number one, it protects, ... the parties from getting infected. It could be a sexually transmitted disease, it could be HIV, it could be unwanted pregnancies, not just infection. So it protects, it's for protection generally. So it should be used at all times if you are not married, if you don't know your status, if you don't know if you are infected or not ... , people don't really, can't really do without sex. Many people cannot really do

without it. So it's like the best way to prevent HIV to me. That's what I believe."

The foregoing gives a clear picture of the sexual behavior and practices among the participants.

Summary

I set out to analyze the data gathered from 13 participants on their lived experience and perception on HIV infection. The NAIs being a sub-group of the AA in the US may possess valuable information that could help in the effort to decrease the prevalence of HIV among the AA racial group. The narrative in this chapter provided an insight into the expressed views of the participants who are members of the NAIs in Houston, Texas, about their knowledge of HIV infection, the feelings and attitude about multiple relationships and use of condoms. The three sub-questions were designed to answer the C-RQ that guided the study. The generated data from the 13 participants' formed the basis for the analyses of data used in this study. Table 7 gives a snapshot of the six major themes that emerged from the three SQs in response to the research question.

Table 7

Themes found in Sub Questions and key findings

Responses and Themes	Key Findings
Sub-Question 1	
Early Knowledge of HIV infection	100% of the participants were exposed to HIV/AIDS information early in life.
Casual Sex and Unprotected sex	All participants agreed that having casual or unprotected sex can lead to HIV infection
Sub-Question 2	
Multiple relationship is harmful	90% of participants reported negative feelings toward having multiple sexual partners or engaging in polygamy
Participants' identification with polygamy	About 90% of the participants were exposed to the practice of polygamy/multiple sexual relationships in their lives through families or friends.
Sub- Question 3	
Condoms for protection against STDs	Even though condoms may be uncomfortable, all the participants agreed that condom is the best in the prevention of STD/HIV.
Experience with unprotected sex	Compared to female at 29%, about 70% of male had unprotected sex.

Note: Participants (N=13)

In answering the RQ, *What are the perceptions of the NAIs living in Houston/Harris County, Texas regarding contracting HIV infections*, Table 8 revealed the three top themes that emerged from the SQs that answered the RQ.

Table 8

Main Themes

Responses and Themes	No. of Participants' Response	% of Participants
Theme 1		
Casual Sex and Unprotected sex	21	11%
Theme 2		
Multiple relationship is harmful	30	34%
Theme 3		
Condoms for protection against STDs	33	33%

Note: Participants (N=13) could provide more than one answer

All the participants seemed to understand that engaging in casual sex especially without protection is a prerequisite for contracting HIV or other forms of STDs. This theme emerged from IQs that dug deep into bringing out the perceptions or the knowledge that the participants may have about the issue of HIV infection. As expressed, 11 of the participants directly witnessed the practice of polygamy back in Nigeria, and they all expressed disapproval of the practice or any form of multiple relationships. The IQs also illuminated the experiences and meanings ascribed to engaging in multiple relationships. Most of the participants expressed negative feelings on issue of multiple relationships. A major theme that emerged out of the IQs was that most of the participants reported that condom is the best protective measure against contracting HIV infection. In spite of the knowledge portrayed about the risks factors involved in contracting HIV, namely, having unprotected sex, engaging in multiple

sexual relationships, and use of condoms, some of the participants acknowledged not using condoms with their sex partners at one point or the other in the past five years. Of note is the fact that four of the participants are married and there was a deviant case with one of the married participants who admitted to having another sexual partner other than the spouse.

Chapter 5 brings forth a description of the overview of the findings in addressing the purpose of the study, the discussion of findings in the context of the RQ and the framework lens used in exploring the perception of the participants. The chapter presents the limitations of the study, the recommendations, and implication for social change.

Chapter 5: Discussions, Conclusions, and Recommendations

Introduction

The purpose of this study was to explore and gain an understanding of the role that NAIs may be playing toward the prevalence of HIV among AAs. I was inspired to conduct this study due to the persistent prevalence of late HIV infection diagnoses among AA populations in the US. The NAI is a subgroup of the AA in the US and are considered to have the largest numbers of immigrants from sub-Sahara Africa (MPI, 2009, 2014, 2015b; US Census, 2014a). Being a subgroup of the AAs, NAIs has not been specifically targeted for HIV/AIDS studies in the US. The persistence of HIV infections among the AA group and lack of available studies with NAIs influenced my desire to conduct this study.

While the prevalence of HIV infections had significantly decreased from about 130,000 in 1985 to about 50,000 in 2010 (CDC, 2016d) and infected individuals now live longer, about 14% of the US population are still undiagnosed (CDC, 2015a, 2015b). AAs carried the highest burden of HIV infection with about 45% of new HIV diagnoses when compared to Latinos at 24% (CDC, 2015a, 2015e). Some of the greatest causes of contracting HIV include having unprotected sex, multiple sexual relationships, and having a delayed HIV testing (Frye et al., 2013; Gaiter et al., 2013). US data ranked Texas as the third highest prevalence of HIV/AIDS in the country (CDC, 2015a). Texas is also one of the states with the largest presence of AIs, especially NAIs (US. Census, 2014a, 2014b). It is also one of the most racially diverse cities (Kinder Institute for Urban Research, 2015). Houston ranked 8th among cities with high prevalence of

HIV/AIDS (HHD, 2012, 2015) and is also home to over 150,000 AIs from sub-Sahara Africa, including Nigerians (Capps et al., 2012; Gambino et al., 2014).

Using a descriptive phenomenological approach, I obtained in-depth data on the perspectives of NIAs ages 18-49 living in the Houston-Sugarland-Baytown areas of Texas regarding their knowledge of HIV infection, attitudes, and behavior toward the use of condoms. I used the maximum variation technique to select participants with preset criteria that produced a diverse representation of participants regarding age, gender, evidence of having lived or visited Nigeria, marital status, and educational level. This study informs a gap in the literature and provides the opportunity to understand the perspectives of NAIs on the topic of HIV infection. The research design made it possible to gain deep insight into the perspectives of 13 NAIs living in Houston, TX by exploring their views on HIV infection. The findings from this study may lead to preventative health services that are culturally related to AI populations in Houston and especially non-refugee AIs living in the US.

Face-to-face interviews were conducted with 13 participants using 17 semi-structured IQs (Appendix B) that were designed to produce an in-depth understanding of the phenomenon in the context of HIV infection. The participants' responses to the 17 IQs answered the C-RQ. The result of the findings, in comparison to existing studies in the literature review of Chapter 2, aided in establishing whether the study added to knowledge regarding the discussion of HIV/AIDS among AA groups in the US. The findings of this study were analyzed and interpreted using the HBM theoretical lens. This chapter includes an interpretation of the findings from the phenomenology study,

discussion of the limitations of the study, recommendations and suggestions for future researchers, and a discussion of implications for social change.

Interpretation of the Findings

The findings that I presented in this chapter were beyond what I had assumed. I designed SQ1 interview questions to explore the knowledge base of the participants regarding HIV infection. SQ2 interview questions were designed to explore the association between polygamy and sexual behavior of the participants in the context of HIV infection. The IQs contained in SQ3 explored knowledge of condom use and attitudes toward use of condoms. The probing IQs revealed that the participants have high HIV infection knowledge, that experience of polygamy had served to prevent from engaging in multiple sexual relationships with some of the study group, and that many of the participants identified condoms as the best tool in the prevention of HIV. Overall, 20 themes and two subthemes emerged from the administration of the 17 protocol IQs (Appendix B) that answered the C-RQ. Of the 20 themes, six themes appeared to carry more weight than the others while two sub-themes also emerged to be important to the study. I designed the SQs using the HBM framework of perceived susceptibility and severity, perceived threat, and perceived benefits versus perceived barriers of engaging in a changed behavior as shown in Figure 9. What may appear as grammatical errors in some of the phrases or languages used in Chapter 5 are some of the words/phrases borrowed from the participants as directly stated in the transcripts.

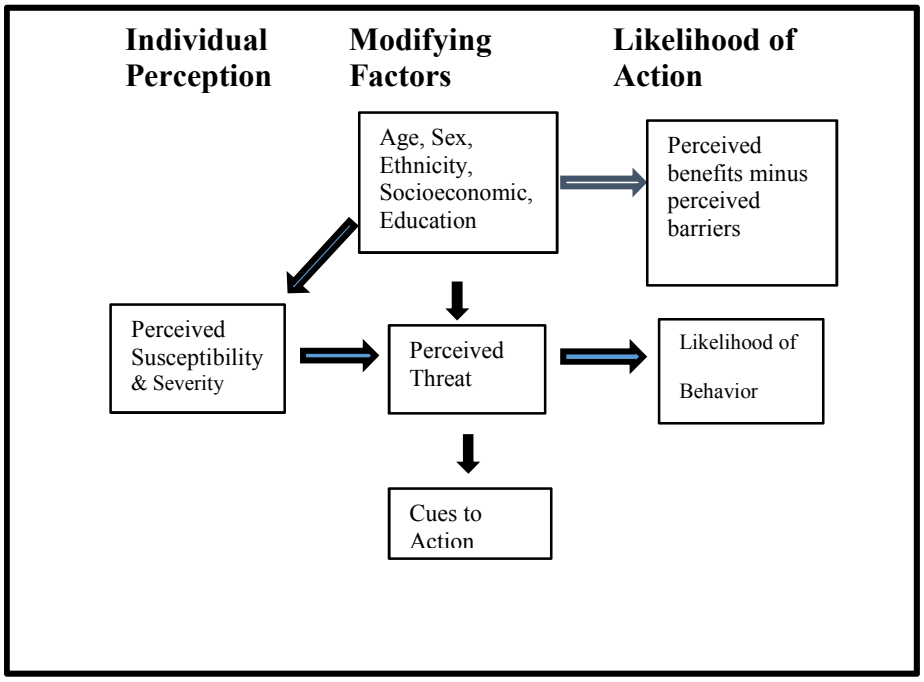


Figure 9: Expression of HBM flowchart by Glantz, et al (2002).

Three SQs informed the study findings. The summary presented here also formed the basis for answering the C-RQ.

Summary of Findings

SQ1: What knowledge do NAIs have about contracting HIV?

Most of the participants revealed that they experienced childhood in Nigeria and that they had been directly exposed to knowledge of HIV infections when they were young through public announcements, classroom education, and physically observing someone who has AIDS. According to the participants, HIV can be contracted through having unprotected sex, having multiple sexual partners, the blood of an infected person, sharp objects and sharing a needle, mother to child, travel, and same sex practices. All the participants, male and female, expressed that having casual sex, especially if unprotected, can expose individuals to HIV infection. The participants confirmed that

HIV that unless an individual is HIV tested, it may not be visibly recognizable. Surprisingly, few of the participants, that is, three out of thirteen, believed that having multiple sexual partners contributes to contracting HIV. Some believed that contracting HIV is a death sentence. Some of the participants seemed to confuse symptoms of stage-3 AIDS with early stage of HIV. According to some of the participants, appearing thin, having organ failure, and having flu-like symptoms reveal that a person has contracted HIV. Nevertheless, the findings suggest that participants have basic knowledge of the risk factors for HIV infection.

SQ2: What meaning do NAIs ascribe to the experience of multiple partnerships with regard to contracting HIV?

Eleven of the participants reported having knowledge or experience of polygamy either in their families or through their friends. About 80% of the participants readily admitted coming from Africa where African men believe in having multiple sexual partners. All the participants expressed negative feelings toward having more than one sexual partner. Participants described negative outcomes for couples and children involved in polygamy and risk of HIV infection when individuals engage in multiple sexual relationships. Some of the women expressed feelings of double standard treatment of women on issues of multiple sexual relationships.

According to most of the female participants, Nigerian society accepts the practice of men having more than one sexual partner or marrying more than one wife, but women are restricted and stigmatized when found to be involved in multiple sexual relationships. Some of the participants attributed the practice of polygamy to religion. Even though some of the participants admitted that their faith allows men to have more

than one wife, the participants were against such practice. Some of the participants also revealed that practice of multiple sexual relationships could expose persons to HIV or STDs. Due to their experience and exposure to the adverse outcome of the practice of polygamy, all the participants revealed that their experience had taught them to engage only in monogamy relationship. Subsequently, the response rate of 73% of the participants to one of the IQs revealed that they were not involved in multiple sexual relationships while 27% affirmed engaging in multiple sexual relationships at a point in their lives during the last five years. Some of the participants also admitted having sex partners from diverse racial/ethnicity other than with Nigerians. Having sex outside the NAIs' immediate sexual network proves to be an evidence of sexual mixing as found in 67% of the study participants. In general, participants' view the engagement in multiple-sexual relationship as detrimental to those involved.

SQ3*: What are the perceptions of safe sex such as the use of condoms in the prevention of HIV according to NAIs*?

Most of the participants voiced having unpleasant experiences when attempting to use condoms with their partners ranging from deprivation of pleasure, condoms bursting, sex partner's uncooperative attitude, and the issue of trust. Some of the married and single participants expressed that they have had sex without condoms with their sex partners in the last five years. Some participants who are single, however, expressed using condoms during sexual intercourse. Some of the participants expressed strong feelings against the use of condoms. They attributed their reluctance in using condoms to uncomfortable feeling and that condoms may not always be reliable as it may burst during sexual intercourse. Female participants reported that the use of condoms is a

major problem with their men as they do not like to use condoms. Some of the participants expressed that trust may be a reason why they would or would not use a condom.

According to the study group, some participants stated that they would question the motive behind their sex partners offering them condoms during sexual engagement before they agree to use the condom. Some of the participants stated that they may ignore the offer to use condom by their sex partners especially if married or had been in a long-term relationship with the sex partners. Most of the married participants' perceived use of condoms as a form of birth control rather than for prevention of HIV/STDs. Most of the participants' acclaimed condom is good for protection against STDs and HIV especially if the person is involved in multiple sexual relationships. The findings on the use of condoms makes me to conclude that there are evidences of inconsistent use of condoms in about 64% of the participants.

C-RQ: *What are the perceptions of the NAIs living in Houston/Harris County, Texas regarding contracting HIV infections?*

The responses garnered from the participants with the use of the three SQs revealed some critical themes on the attitudes and behaviors of the participants toward contracting HIV. The main themes that came out of the three SQs showed that all the participants have adequate knowledge of HIV infection and the risk factors. Most of the participants, having voiced being exposed to the practice of polygamy culture, also expressed the awareness that engaging in multiple sexual relationships does more harm than good in terms of the effect on the family. The analysis of the data, however, revealed that some of the participants were engaged in multiple sexual relationships. The study

group expressed the understanding that having unprotected sex can make a person vulnerable toward contracting HIV. Even though most of the participants expressed the thought that condom is the best tool for protection against HIV, the behavior toward condom use appears to contradict the belief voiced by some of the study group as more male and female participants engaged in unprotected sex.

Interpretation of Findings

Based on the C-RQ, I now interpret the findings from emerged SQs themes.

SQ1: *What knowledge do the NAIs have about contracting HIV?*

The SQ1 sought to verify knowledge of HIV from the participants and ascertain if they have adequate knowledge about HIV infection risk factors. The responses gathered from the 13- member study group clearly illustrated that the participants have adequate knowledge of HIV and the risk factors. The only discordant response to SQ1 was that of the youngest member of the group, an 18-year-old male who expressed different ideas on factors that contribute to getting HIV. The participant PPN03 perception was that kissing for too long and the appearance of genitals are some of the channels that one can contract HIV. PPN03 stated, "I don't know for sure, but I think it has something to do with being a "dirty" person." When asked to describe how one can know if a person is infected by HIV, PPN03 stated, "I'm not aware…unless they have like scars and stuff or maybe you can probably tell by looking at their genitals because it will be all ..., they have boils and stuff, and it wouldn't look clean." Despite the seeming misconception about causes of HIV infection expressed by PPN03, the participant asserted that HIV could be contracted through infected blood and intercourse. This basic knowledge was enough to categorize PPN03 among the rest of the participants with adequate knowledge of HIV infection.

More than 90% of the participants expressed the views that HIV is a killer disease transmitted through sex, unprotected sex, sharp objects, blood, sharing of needles, unknown HIV status, etc. Some of the challenges of reducing HIV infection according to CDC (2014), WHO (2013; 2015a) are the numbers of unknown HIV status and unprotected sex with multiple sexual partners. Participants showed low response rate of knowledge of multiple sexual relationships as a factor in contracting HIV (Table 5). Engaging in multiple sexual relationships as a risk factor received very low response from the participants at 12% compared to the response rate of 33% that polygamy/multiple relationships are harmful to those who engage in it (Table 5). The response rate to engagement in multiple sexual relationships as a risk factor for contracting HIV versus multiple sexual relationships being detrimental to the family structure indicated that the participants place more importance on the effect of multiple sexual relationships on family structure than the risk of HIV infection. About three out of thirteen participants also identified having multiple sexual partners (Figure 5). Overall, the participants' expression of the sources through which HIV is contracted appears to have aligned with the description of the basic facts of HIV by CDC (2017a).

Another major theme that came out of this section rested on the admittance of all the participants of being exposed to information about HIV early in life. This finding is congruent to the report of Fennie and Lassl (2014), Santos-Hovener (2015) where high knowledge of HIV was found among African-born Blacks. Knowing the risk factors of HIV infection laid the foundation for having adequate knowledge of HIV infection. Having an explicit knowledge of HIV infection and the risk factors play a significant role in the reduction of prevalence rate because when HIV/AIDS first came to the attention of

the medical professionals in 1981, according to Hymes et al. (1981), not much was known about the disease. As a result, the numbers of those infected with HIV quickly rose alongside with the mortality rate. Since middle 1980s, much knowledge has been gathered about HIV/AIDS aiding in the promotion of preventative measures, diagnosis, and treatment (CDC, 2014; 2015a; 2015i). With the blend of these innovations, the prevalence of new HIV infection has drastically reduced so also has the number of deaths associated with HIV infection (CDC, 2016b). The gains were noticed in 42% reduction in the numbers of HIV/AIDS-related deaths (WHO, 2015a) and a 35% reduction in the numbers of new HIV infection (UNIAIDS, 2015b). Despite these gains, the study with 24 HBCU students by Murray et al. (2014) raised a concern that having knowledge of HIV does not prevent individuals from having unprotected sex.

With the findings in this study, having knowledge of HIV infection and the risk factors may not be enough to reduce the prevalence of HIV infection in this group. Nevertheless, the findings indicated that the study group has high knowledge of HIV infection and the risk factors.

SQ2: *What meaning do NAIs ascribe to the experience of multiple partnership with regard to contracting HIV?*

The IQs used for SQ2 aimed at understanding the perspectives of the participants toward multiple sexual partners generated deep insight into the attitude and sexual behavior of the participants. About 90% of the participants identified themselves with the knowledge of polygamy and having been exposed to the culture of polygamy while in Nigeria. Also, about 90% of the participants expressed disapproval toward the practice of polygamy. The negative feelings expressed toward the practice of polygamy may have

been responsible for the 73% response rate by the participant that they only have one sex partner at a time while about 27% of the study group who were sexually active engaged in multiple sexual relationships (Figure 5). Involvement in multiple sexual relationships by only 27% of this study group is almost similar to the findings of Dias et al. (2014 in which 38% of the immigrant study participants reported having more than two sexual partners. Birukila et al (2013) in a study with AIs also found about 22% of the male participants reporting having more than one sexual partners.

About 90% of the participants identified with coming from Nigeria where the practice of multiple sexual relationships is acceptable. According to the statement of one of the participants, PPN02: "Yes, I'm from Africa and Africans believe in polygamy.' Another participant (PPN04) stated, "I guess coming from Nigeria, my grandfather, my uncles and the rest, they had more than one wife. So, I grew up in it seeing men having more than one wife." Having more than one wife can be regarded as having multiple sexual relationships.

The study participants' admission that polygamy is common in Nigeria culture is supported by the study of Doosuur and Arome (2013) with participants in Benue state, Nigeria that expressed the existence of polygamy practice. The findings of this study also aligned with research conducted by Fox (2014) in which the risk of contracting HIV was higher for a region that practice informal and marital concurrency when compared to a region that practice monogamy relationships. Likewise, Mah and Maugha-Brown (2013) also highlighted sexual concurrency as a common social norm that was resistant to change among study participants in Cape Town, South Africa. Reniers and Tfaily (2012) in their study of the relationship between polygamy and HIV infection found evidence

that the junior wives in a polygamy marriage were more likely to be HIV positive than couples in monogamous relationship. The response of some of the participants in this study on the culture of polygamy unveiled the knowledge that engaging in a concurrent sexual relationship is a risk factor for contracting HIV.

Despite the knowledge of the disadvantages surrounding multiple sexual relationships as expressed by the participants, there was low response rate from the study group on whether multiple sexual relationships constitute a high-risk factor in contracting HIV (Table 5). Only 12% of the study participants responded that multiple sexual relationship was a risk factor for HIV infection. Interestingly, 34% response rate was attributed to feelings that polygamy has negative effects on family structure, e.g., emotional stability, unity, and success in life. Such expression of negative emotion was identified in the response of PPN04 stating, "Polygamy, aside from the sexual disadvantage, it doesn't help family support." The meaning ascribed to negative effect of polygamy relationship on family structure appeared to have more weight than the effect of polygamy on HIV infection by the participants.

If there is any positive thing that came out of the experience of being exposed to multiple sexual relationships culture, it was the assertion of 69% of the participants that they would prefer to practice monogamy relationship even though only 12% affirmed that engaging in multiple sexual relationships is a risk factor for contracting HIV. The participants' response rate of 12% to the perception of multiple sexual relationships as a risk factor to HIV infection is not in alignment with the studies of Mah and Halperin (2010), Mah and Maughan-Brown, (2013) that having multiple sexual partners that overlap increases the chances of HIV transmission. Yet, the study by Nunn, et al. (2014),

attributed high rates of HIV infection in the AA communities to multiple sexual relationships.

As much as the participants' exposure to the culture of polygamy may have helped to shape the perspectives of some of the participants in choosing monogamy relationship, the findings that 27% of the sexually active participants were engaged in multiple sexual relationships in the last five years thus increase the risk of HIV infection. The findings that one-third of the sexually active study group engaged in multiple sexual relationships during the last five years may have been due to the low perception that multiple sexual relationship is a risk factor to contracting HIV by the participants. Therefore, the sexual behavior of the 27% of the participants concurred with the assertions of Frye et al. (2013), Mah and Halperin (2010), Mah and Maughan-Brown, (2013) that sexual behavior does increase the chances of HIV infection.

SQ3*: What are the perceptions of safe sex such as the use of condoms in the prevention of HIV according to NAIs?*

Further finding in this study revealed that all the participants believe that condoms are an effective method of preventing STDs like the HIV. Despite the belief that condom is the best tool for use in HIV prevention, 82% of the male study participants reported having had sex without a condom as compared to 64% female in the last five years (Figure 6). Two male participants, 18%, compared to one female (9%) reported having protected sex while three women (27%) abstained from sex. Only one of the male participants that admitted to engaging in unprotected sex is married and stated that being married automatically means he does not need to use condoms in his relationship.

Overall, this study found that 71% of male reported the experience of unprotected sex within the last five years when compared to 29% female (Figure 7).

The participants gave several reasons for non-use of condom or inconsistent use of the condom. Thirty percent of the participants that were sexually active reported that condoms do not provide absolute pleasure. The participants' statement validated the finding in a study conducted by Ugarte et al. (2013) in which more than half of the study participants disliked condom use even though the participants were engaged in multiple sexual relationships. About 40% of the sexually active female participants reported that it was the men that do not like to use the condom (Table 6). According to the findings in the study of Ncama et al. (2013), in a patriarchy relationship, the man decides on how sex will take shape with a woman, and if a woman were found with condoms, the woman would be regarded as being 'loose' or promiscuous. Therefore, in order not to be perceived as such, the female would wait on the male to make a move to introduce condoms rather than being assertive in decision making on the use of a condom. The feelings of the female participants in this study about who makes a choice on the use of condoms appeared to have been corroborated the Ncama et al. (2013) study when 71% of the sexually active male participants admitted having sex without condoms versus 29% female that used condoms during the last five years (Figure 7). Among all the 13 participants, three (27%) female participants admitted that they were not sexually active (Figure 6).

A finding like this also supports the findings of Dias et al. (2014) whereby 33% of the study participants reported the inconsistent use of condom and 64% with no condom use. In contrast to the findings of Dias et al. (2014) whereby unprotected sex was more

likely with female than male, in this study with NAIs, more males were having unprotected sex than females. Further findings in this study revealed that some of the participants would engage in sex without protection if the partner was trusted, while most of the married participants claimed they were more like to use condoms for birth control rather than for HIV protection.

The inconsistent use of condoms among the participants aligned with the finding of Kogan et al. (2015) in which about 93% of the AA men having concurrent sexual partners reported inconsistent use of condoms with their primary partners while about 42% used condoms inconsistently with their concurrent partners. Hock-Long et al. (2013) and Noar et al. (2012) in study with AAs gave several reasons such as distrust, lack of pleasure, and type of relationship were given for inconsistent use of condoms. In another study conducted with AIs by Akinsulure-Smith (2014), inconsistent use of condoms was found with immigrants from the West African countries. Likewise, in a study conducted in Nigeria by Amoran and Ladi-Akinyemi (2012), alarming low rate use of condom was found.

The findings of displeasure in using condom by the male participants in this study corresponded with the research findings of Frye et al. (2013) with AA heterosexual men whereby the study participants reported diminished pleasure when using condoms. Even though all the participants admitted that use of condom provided protection against STDs/HIV, the behavior and attitude toward the use of condom was not in union with the admission. The expressed behavior of the study group in this study then makes more than half of the study group to be at higher risk of HIV Infection.

C-RQ: *What are the perceptions of the NAIs living in Houston/Harris County, Texas regarding contracting HIV infections?*

I presented the key findings of this study that answered the RQ derived from the perceptions of the study group in response to IQs designed to provide deep insight into the world of the participants on the issue of HIV infection. The 13 individuals selected from the NAI group in Houston, Texas, demonstrated good knowledge of HIV infection by being able to describe some of the symptoms of HIV. Not only were 100% the participants able to identify casual sex or unprotected sex as the primary risk factor in contracting HIV, but they were also able to determine other risk factors such as contact with sharp objects, multiple relationships, and blood (Table 4). 90% of the participants identified having experience of the practice of polygamy through their families or friends and perceived that having multiple sexual relationships was damaging and harmful to the family (Table 7). The low response rate to engaging in multiple sexual relationships as a risk factor in contracting HIV raised concern in this study. This concern was confirmed when three out of ten sexually active participants admitted engaging in multiple relationships (Figure 5). My finding that some of the participants in this study were engaged in multiple relationships is consistent with the finding of Bellan et al. (2013) whereby that affirmed that engaging in multiple sexual relationships was common in African communities.

All the participants also recognized that having sex without a condom exposes the individual to contracting HIV (Table 7). Despite this knowledge, about 64% of the participants engaged in unprotected sex, especially the male participants (Table 7). This finding is consistent with the findings of Frye et al. (2013) on condom use where AA

heterosexual men appeared to be more at risk of spreading HIV due to selective use of condom and normalization of having concurrent sexual partners. The findings in this study is also consistent with the report of Merrigan et al. (2015) in their research conducted with sub-Saharan AI communities whereby majority of the participants engaged in unprotected sex and multiple sexual relationships. The participants' attitude and behavior toward the use of condoms in the prevention of HIV were inconsistent with the belief expressed on the two primary factors (unprotected sex and multiple sexual relationships) identified as main risk factors in contracting HIV.

Therefore, despite having good knowledge of some of the major risk factors for HIV infection, the findings of this study illustrate that more than half of the participants had not been consistent with condom use in the last five years and one-third of the sexually active participants are engaged in multiple sexual relationships. This finding is also consistent with the findings of Akinsulure-Smith (2013) in which high incidence of unprotected heterosexual activities was reported among West African Immigrants in New York.

In addressing the problem statement about the role that the NAIs may be playing in HIV infection among the AA population, the findings in this study established enough information to support the idea that NAIs are a sub-group that may be at risk of contracting HIV. The findings of this study established that one-third, (3 out of 10) of the total population of the sexually active participants engage in multiple sexual relationships (Table, 6). This study presented facts from participants' responses that supported inconsistent use of condom due to one reason or the other (Table 6), (Figure 6, 9). There is evidence that more than half of the sexually active individuals were engaged in

unprotected sex (Table 6). Also, there is proof of sexual mixing among the study participants (Figure 4). Only about 39% admitted sleeping with only Nigerians while 61% of the sexually active participants have sex with White, AA, and Hispanic racial/ethnicity groups (Figure 4). The danger of sexual mixing was evident in a study with the AIs community in New Zealand where spread of HIV within and out the AI communities was linked to sexual mixing (Birukila et al., 2013). The finding on sexual mixing in this study is also similar to the results of a study conducted with immigrant communities in Netherlands where 41% of the study population were involved in sexual mixing (van Veen et al., 2009).

Ten of the participants in this study have lived in Nigeria, a high HIV/AIDS prevalent country (NACA, 2015), before migrating to live permanently in the US. A study by Mole et al. (2014), Mariscano et al. (2013) reported possible cross-border transmission (CBT) of HIV when there is sexual mixing between immigrants and the people in the host country. The individuals involved may unknowingly become a bridge population (Tiruneh et al., 2015) that transmit diseases outside their sexual network. Therefore, this study group may unknowingly become a bridge population if they have undiagnosed HIV status.

Theoretical Lens

The HBM concepts explains the cognitive process of individuals on diseases or behavior change. The HBM framework was development by Hochbaun, Rosenstock and Kegels in the 1950s to explore health behavior and promotion of behavior change (Hochbaum, 1958). The HBM constructs, according to Glanz et al. (2008) can be used to predict or explain behavior (Figure 9). I designed IQs for this study using the HBM lens

to explore the perspective of the NAIs on their attitude and behaviors toward contracting HIV. The HBM was used to explore how the participants perceive HIV infection, their perception of susceptibility and severity of HIV infection, how they perceive the threat of HIV infection, and barriers that impede their ability to engage in behavior that may reduce their risk level or how they perceive the benefit of engaging in behavior change. Using the HBM lens, I explored the probability of cues for action that will change behavior to reduce risk. Figure 9 gives the general constructs found in HBM. The use of HBM as a lens in analyzing the responses of the study participants revealed the NAIs beliefs, attitude, and behavior toward contracting HIV. For this study, I designed the IQs to elicit information that will address the C-RQ of exploring and describing the knowledge, attitude, and behavior of the study population about HIV infection using the HBM lens. Figure 10 define participants' responses in alliance with HBM concepts.

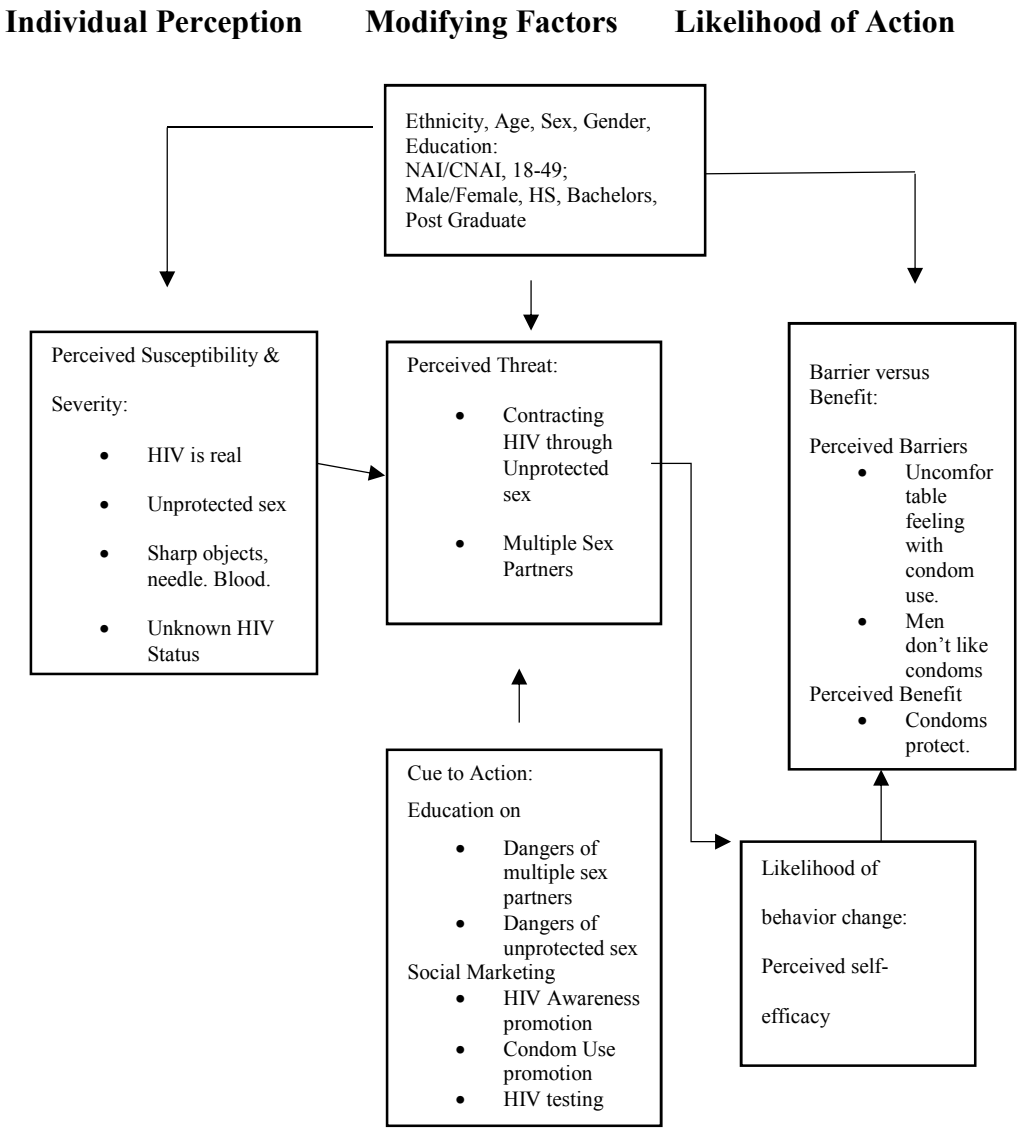


Figure 10: Flowchart of HBM applied to study findings.

This study finding identified the knowledge level of the participants about HIV infection, level of perceived risk and threat, and some challenges faced in engaging in behavior that can reduce the risk of contracting HIV, Figure 10.

Modifying factors

The modifying factors that influenced the participants' perception of HIV infection, attitude and behavior toward the disease as established in the findings are participants' ethnicity, age, sex, educational level, and marital status.

Perceived susceptibility and severity

The application of IQs1-4 elicited information that aligned with HBM on the perception of susceptibility and severity. All the participants identified the risk factors involved in contracting HIV. In a study by Akinsulure-Smith (2014) with 52 forced West AIs, i.e. RAIs, there was evidence of substantial knowledge of HIV among the participants. This study finding on the level of awareness is also consistent with the study of Mitha et al. (2009) using HBM theoretical framework where new Ethiopian migrants had high awareness of susceptibility to HIV Infection. Because of lack of studies mainly conducted with NRAIs on the issue of HIV/AIDS, the study of Akinsulure-Smith (2014) with RAIs is used to support the consistency of the findings on knowledge of HIV infection in this study that most AIs have high knowledge of HIV infection.

More than 90% of the participants in this study had early exposure to information on HIV through the media and in the classroom in Nigeria which might have influenced the level of knowledge about their perception of severity and susceptibility to HIV infection. In a cross-sectional study by Asare et al. (2013) with AIs in the US, perceived susceptibility was significant among the study population of 412. Some of the risk factors identified by these study participants included engaging in unprotected sex, engaging in multiple sexual relationships, transmission of HIV through infected blood

and bodily fluid of an infected person, exposure to infected sharp objects, sharing of needles, and unknown HIV status of their sex partners. All the participants believed that HIV could be infectious.

Perceived Threat

In further exploration of the study group's ascribed experience to the issue of polygamy/multiple sexual relationships in the context of HIV infection, I asked the participants IQs 5-12. The findings revealed that the participants have a low-level perception about the threat of contracting HIV when they are involved in multiple sexual relationships or have sex with someone with unknown HIV status. Participants' responses to the severity of having casual or unprotected sex as causes of contracting HIV was significantly strong at 100% in response to SQ1 (Table 4). However, replies to the practice of multiple sexual partnerships as a threat to contracting HIV was somehow weak (Table 5) in comparison to the study group's knowledge of being susceptible to HIV infection. This finding is consistent with the results of Mitha et al. (2009) study where the research group showed low level of perceived threat of contracting HIV.

According to Asare et al. (2013), HBM could be a reliable predictor of condom use and monogamous behavior. The application of HBM in this context identified low condom use by more than half of the participants, however, more than 70% of the participants claimed to be in monogamy relationship. Being in monogamy relationship may be responsible for low-level of condom usage by the participants.

Having had early exposure to the culture of polygamy (another form of multiple sexual relationships), the participants were able to identify that engaging in polygamous/multiple sexual relationships poses a threat to the family structure but

perception of threat of HIV infection was low at 12%. Most of the participants believed that the ability to stay with one faithful partner could mitigate the risk of contracting HIV rather than use condoms. Therefore, perceived susceptibility has poor relationship on condom use.

Perceived Benefits versus Barriers

This study group response to IQs 13-17 revealed the perceptions of the participants to one of the important aspects of HBM concept, i.e., perceived barrier versus benefit of change. Perceived barriers are beliefs about what it would cost to adopt a strategy or behavior (Asare & Sharma, 2014). The study participants in their responses identified the challenges faced in the use of condoms. The female participants pointed at the uncooperative attitudes of their men in using condoms. Some identified the barrier as the unreliability of the condom. Also, some participants expressed the preference for "skin-to-skin" contact during sexual intercourse. Participants' perceived barriers are probably related to the percentage of the individual's use of condom found in this study. The inconvenience of using condoms was cited by most of the participants in their relationships. These barriers serve as implication for condom use. On the other hand, perceived benefit construct of the HBM is the belief about the profit of engaging in behavior to reduce the impact of a condition (Asare & Sharma, 2014; Tarkang & Zotor, 2015). In this study, all the study group believed that condom use can help prevent HIV infection and other forms of STDs.

Cues to Action

The responses of the study participants served as cues for health care service providers and health promotion managers to use the participants expressed knowledge of

HIV symptoms to provide HIV education. The knowledge-based acquired by the study group on the risk factors of HIV can be used to provide education on risks of unprotected sex and practice of multiple relationships. Use of media publicity to market awareness is also possible with this population using sensitive cultural language, such as "AIDS IS AIDS E NO DE SHOW FOR FACE." as expressed by one of the participants. Media publicity can be used to promote condom use and HIV testing. Because HBM can be used to motivate people to take actions like use of condoms, educational and media programs will be beneficial with this population. In a research by Worth, Denholm, and Bannister (2003), a participatory research was meticulously conducted involving the community members of the AIs in New Zealand that resulted in HIV/AIDS educational program. The New Zealand program reported success story that AI communities can be engaged in health education programs that move beyond cultural beliefs and myths about HIV infection by involving community educators in facilitating community initiatives that supported culturally sensitive approaches like role-plays, folk stories, drama, and group discussions (Worth et al., 2003).

Self-Efficacy

Data from the current study indicates that participants believed that contracting HIV is possible through unprotected sex and engagement in multiple sexual relationships. This is a positive sign for the promotion of change in health behavior toward the use of condoms and HIV testing. When the self-efficacy of the NAIs are raised, the threat of the likelihood of HIV infection may prompt the group into increasing behavior that promote condoms use as a form of primary prevention. In addition, secondary prevention that

aims at making early detection possible can be achieved by developing programs that encourage HIV testing.

Limitations of the Study

Four main limitations were identified in this study: (1) number of participants, (2) lack of prior research with non-Refugee African immigrants, (3) some participants were not sexually active, and (4) being of the same ethnicity with the participants. Due to the small numbers of participants (N=13), the result of this study cannot be generalized to the entire population of NAIs living in Houston or the United States. This result can also not be generalized to AIs living in the US. However, rather than looking at quantity, the strength of qualitative research lies in the ability to procure deep insight into the expressed views of study participants thereby providing in-depth knowledge of the phenomenon (Creswell, 2009; Creswell, 2013).

An attempt to use large sample size in this qualitative study with the goal of reaching saturation could have resulted in the loss of focus due to data overload. Miles et al. (2014) warned of data overload, hence the numbers of study participants used in this study was appropriate in generating quality and rich data without losing focus. With the number of participants used, saturation was reached after the interview with the 12th member of the study group. The strength of this study using qualitative design is in the ability to fill the gap in understanding the perspective of a small group of non-refugee African immigrants in the US on the phenomenon of HIV infection. Most of the available literature had been focused on Refugee AIs and are mainly conducted using quantitative research design. Therefore, the small numbers of the participants can impact transferability of the study.

Because three participants admitted to not being sexually active, it was difficult to obtain their views about the ethnicity of their sex partners and their use of condoms during sexual activity. However, I was able to obtain enough data from 10 participants that were sexually active to be able to give the picture of the findings with the majority of the participants on many more issues. Lack of prior research with studies mainly focusing on non-Refugee AIs group in the US and other countries on the topic of HIV/AIDS during the literature review made the comparison challenging with some of the study findings. But the knowledge derived from this study may help to encourage further research in the future with this population. Another limitation was that even though all the participants provided evidence of high knowledge of HIV infection, three women later indicated that they were not sexually active, which might have impacted my ability to capture their sexual behavior.

Lastly, due to the fact that I am of the same ethnicity with the study participants, there was the possibility that the study group may have not been fully forthcoming in their disclosures of engaging in multiple sexual relationships. However, out of the married participants, one was open enough to admit being involved in a concurrent sexual relationship due to financial hardship. Overall, the willingness of the participants to sit down to an interview with me and talk on the sensitive issue of HIV/AIDS should be appreciated. The participants' gesture of agreeing to be members of this study group opens window of opportunity for future study among NAIs in the US on HIV/AIDS issues.

Recommendations

My experience in conducting this qualitative research revealed that the AIs, especially the Nigerian community in Houston area are new to research and I met some resistance among some of the community members in securing their cooperation for this study. Few studies that existed on HIV/AIDS focused on Refugee AIs but not with non-Refugee AIs. Other studies conducted on HIV/AIDS with AIs also tend to lump all AIs together, i.e., Refugee and non-Refugee African Immigrants. Even with the few studies available in the US on this topic with AIs, almost 95% of the studies were conducted in quantitative research design. Of more importance was the fact that there were very few qualitative studies with the AIs on healthcare issues. Researchers should be courageous to step out of their comfort zone of conducting research in quantitative design and embrace more of qualitative study with hard to reach population like the AIs even on a sensitive topic like the HIV/AIDS. With new data showing a continuous upsurge in the population of AIs in the US making up about 5% of total US population (Pew Research Center, 2017), it is only pertinent that researchers and health care providers start to pay attention to this new surge of immigrants in the US.

With the culture of silence in the African communities, the use of qualitative research may be able to break that barrier. Therefore, research studies using qualitative design may continue to encourage participation among this group on health care issues, especially on HIV/AIDS topic. Similar studies will be an expedient venture among this population in other parts of the US and the Europe where Nigerians are present in large numbers. According to the Pew Research Center (2017), AIs are residing in large numbers in Texas. The concentration of AIs in large numbers in a location is an

opportunity for researchers to approach this group for a similar study in the geographical areas like in Texas. I will recommend a follow-up research study on HIV/AIDS with this population to consider the group's perception on HIV testing and what they would consider as most effective ways to disseminate prevention messages in their communities.

In my conversation with the participants during the interview, most of the participants stated that their only exposure to HIV information had been in Nigeria and had never really come across public campaign about HIV/AIDS in the US. This information is useful for the promotion of preventative measure in the AIs communities across the US before HIV infection becomes an epidemic among the sub-group. I, therefore, recommend a health promotion campaign that focuses on HIV infection prevention in the AIs communities in the US. A culturally focused HIV prevention intervention with this group may also address the oversight of applying person-centered treatment with the AI communities in the US. In the preventative efforts to reduce the prevalence of HIV among the AA the AIs are lumped together with the AA group, a special population. A focused intervention with the AIs is necessary because most HIV/AIDS interventions have been designed to address the US-born Blacks/AAs only.

The PROMISE for HIP campaign engages the community in a community assessment process and recruit peer advocates within the group to educate the community with materials developed from some of the stories told by the community members during the assessment (CDC, 2017c). A good attempt will be to develop a poster with the title, “AIDS IS AIDS E NO DE SHOW FOR FACE” as stated by one of the participants to connect with the NAI members for preventative education together with the PROMISE

for HIP campaign strategy. Alternatively, with some modifications, other campaign tools used with similar populations may be useful in reaching the NAI communities for HIV prevention intervention because there has not been any specific campaign tool developed for use with the NAI or AI communities in the US. It may be possible to apply an HIV prevention campaign: *We Can Stop HIV One Conversation at a Time* (CDC, 2017b) used with the Hispanic groups to start HIV conversation within the family. Other form of strategy that has been known to work within the AA communities is engaging faith-based leaders in the education of their members on HIV prevention on the use of condoms and HIV testing (Nunn et al., 2013). Engaging the faith-based community leaders in the NAI communities may be able to achieve the same result.

Implications

Conducting this study gave the Nigerian community in Houston, the opportunity to voice their opinion on a topic that can equally affect their health. New knowledge is added to the field of research with AIs and the AA group on HIV/AIDS discussion in the US. With the proper dissemination of the findings of this study, the literature gap on HIV/AIDS topic with non-Refugee AIs will be fulfilled.

Positive Social Change

Culture of silence among Africans and AIs is one of the phenomenon that contribute to the high prevalence rate of HIV/AIDS. According to Poindexter et al. (2013), individuals with HIV/AIDS often use silence as a form of defense mechanism against stigmatization and discrimination. I believe that my ability to be able to enter the world of the study participants has opened the door for future discussion on the issue of HIV/AIDS among this sub-group of the AA population.

In the past, researchers have identified that there is a misconception about HIV infection as found in the study of Barrett and Mulugeta (2010) with two AIs groups in the UK, whereby HIV infection was attributed to human sin or perceived as any other disease. The response of the study participants established that such misconception does not exist among this study participant. The level of the knowledge of HIV/AIDS expressed by the participants helps to inform the health care service providers that AIs from Nigeria could improve on their knowledge of HIV to encourage actions.

The use of culturally relevant language in communicating with NAIs or AIs in the US must be explored in the prevention of HIV infection and treatment of AIDS. As a recommendation, health care service providers or health promotion managers can adopt the use of broken English language in communicating health promotion literature with this sub-group. An example of the broken English language that was used by one of the participants during the interview was, 'AIDS NA AIDS E NO DEY SHOW FOR FACE." We both broke into serious laughter when the participant used this phrase to stress the severity of HIV infection and AIDS in his response. The use of this broken English language instantly connected myself and the participant in a mutual understanding of the meaning of the statement having come from the same ethnicity and culture. The interpretation of the statement of the participant's statement was that HIV is not recognizable by merely looking at a person's face. In other words, an unknown HIV status is dangerous because one cannot assume that a person is HIV negative when deciding to use or not use condoms in the heat of the moment. The use of this broken English by one of the participants, a college student, is a mutual way Africans from English speaking countries communicate among each other, especially the Nigerian

communities. Incorporating some broken English phrases in communicating health services information or preventative strategies like use of condoms and HIV testing will go a long way in reaching the AI communities on HIV prevention strategies and in improving health care services in the AI communities.

Conclusion

The current study examined 13 non-refugee African Immigrants from the Nigerian community in Houston, TX and explored their knowledge, attitude, and behavior towards HIV infection revealed that the sub-group may be at risk of HIV infection. During the analysis of participants' responses, three main themes emerged that formed the main conclusions in this phenomenologically adopted research: (1) Casual and unprotected sex; (2) negative feelings toward multiple sexual relationships; and (3) condoms being the best protection against HIV/STDs. Another sub-theme from the expressed views of the participants is that more male expressed having engaged in unprotected sex than female participants. In this research, I also found a sub-theme of evidence of sexual mixing with some of the participants. Among the limitations of the study is the small size of the participants used for this study (N=13), which cannot be representative of the opinions of all NAIs or AIs living in the US.

The descriptive analysis of the study findings shows that the study participants have excellent knowledge of HIV risk factors. More than 90% of the participants identified with having experience of polygamy and that unprotected sex can result in HIV infection. Even though most of the participants admitted coming from a culture of polygamy, they were able to report negative feelings toward the practice of polygamy and the desire to maintain monogamy relationship. About 85% of the participants believed

that condoms are best for the prevention of HIV but expressed various concerns with the use of condoms.

The exploration of the participants' attitude and behavior toward HIV infection revealed a finding consistent with other studies conducted with AIs in the US and other Western/European countries. Despite having good knowledge of HIV infection and the risk factors that makes individuals vulnerable to the disease, and the expression of the detriments of engaging in polygamy (multiple sexual relationships), the study findings are not in congruence with the beliefs of the participants. The study results show that about 27% of the sexually active participants engage in multiple sexual relationships. Even though all the members of the study group expressed the belief that condoms are the best line of defense against HIV infection, about 64% had sex without condoms in the last five years because they believed that their sex partners are at minimal risk of having HIV infection. The high number of participants having unprotected sex may have been related to the participants' claim of being in monogamy relationships.

One other factor to be considered is that more than 78% of the participants lived in Nigeria (a high prevalent HIV country) before migrating to the US. Due to the absence of war in Nigerian, the participants do have the opportunity to visit Nigeria at will. With the admission of about 61% of the study group of being involved in sexual mixing, this group may unknowingly become a bridge population for the spread of HIV if they engage in unprotected sex while visiting Nigeria. If the group continue to believe that use of condoms is for birth control or for use with sex partners that they considered promiscuous, there is the possibility for increased number of HIV infection in the Nigerian population in Houston, Texas.

The findings of this study are consistent with the existing literature on HIV/AIDS in the US and added new knowledge about a growing population of new AIs in the US. This study has opened the door for further research with this population especially with the non-refugee African Immigrants in the US on the topic of HIV/AIDS. The findings of this study revealed that this group will benefit from culturally appropriate preventative message to promote condom use and HIV testing.

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Appendix A: Research Flyer to recruit participants

Study Flyer

Doctoral Study

Perspective of Nigerian African Immigrants on HIV Infection

My name is Esther Titilayo Ogunjimi, LCSW, and a PhD candidate in Health Services: Community Health
at the Walden University.
I am looking for volunteers to take part in an interview on HIV infection
If you are:

- Age 18 to 49 years
- Nigerian immigrant
- A child of Nigerian Immigrant
- Have lived in Nigeria for 5 years, or
- Have visited Nigeria in the last 5 years
- Speaks English fluently

And

Interested in Sexual Health

Please contact me, Esther

Ogunjimi, at

Tel: (XXX) XXX-XXXX

Email:

esther.ogunjimi@waldenu.edu

$5 gift certificate will be given for gas at the end of interview. An ethics review and approval has been received from the Walden University Institutional Review Board IRB Approval Code: 02-16-17-0239269

Appendix B: Protocol Interview Guide Questions

Introduction: My name is Esther Titilayo Ogunjimi, a Ph.D. candidate at the Walden University. The purpose of this study is to explore the views, feelings, and behavior of the Nigerian-African Immigrants on the issue of HIV infection. The IRB approval No.: 02-16-17-0239269 has been obtained to conduct this study.

Participant Demography:

Name: _____

Age: _____ **Gender:** Female/Male

Education: High School Associate Degree Bachelor's Degree Graduate degree

Marital Status: Single Separated Married

I will read the informed consent to you once again and will like to have you verbalize "I consent" or "I do not consent" after reading the inform consent.

The interview may take 30-60 minutes. At the end of 30 minutes, if you choose a break, 10 minutes may be observed for an ice breaker before we proceed again. Once again, you are free to terminate this interview at any time.

Central Research Question

What are the perceptions of the Nigerian African Immigrants living in Houston/Harris County, Texas on the attitudes and behaviors toward contracting HIV infections?

SQ1

What knowledge doo the Nigerian African-Immigrants living in Houston/Harris County, TX have about contracting of HIV infection?

1. Can you describe to me what you know about HIV and when you first know about it?
2. What factors are you aware of that contribute to contracting HIV?
3. When someone is infected with HIV, research has confirmed that the disease can go unnoticed for several years before the person starts to show symptoms of AIDS. How will you know that someone has HIV?
4. How can a person that contract HIV in Nigeria infect someone in the US?

SQ2:

What meaning do Nigerian-African immigrants ascribe to the experience of multiple partnership in contracting HIV infections?

5. Most African culture accepts a man having more than one sexual partner at a time. Would you describe yourself as someone that has come from a culture that accepts men having multiple sexual partners in a relationship?
6. If you have come from a culture that accepts that it is o.k. for a man to have more than one sexual partner, what are your current beliefs about having more than one sexual partner?
7. Can you describe to me what you understand by the practice of polygamy?
8. Can you describe how having knowledge of polygamy helps to shape your views about your sexual relationships?

BREAK.....

Will you like us to take a 5-10 minutes' ice break?

After the break, I will start the 2nd part of the interview with a statement like this:

To remind you once again, anything that we discuss here will be kept extremely confidential. When I am analyzing the information gathered from each participant for publication, participant's names will never be mentioned. I will only identify participants with acronyms like, PPN1, PPN3, PPN4 so that any third party reading the report will not be able to link your name to your response. Shall we continue?

9. Sometimes, an individual may leave Nigeria to settle as a resident in the US or travel to Nigeria for a visit or business. During this period, couples may be separated from each other. Describe to me if you have ever found your-self in such situation?
10. How did you cope with or without sex when you were separated from your sexual partner?
    a. When you stated that _____, can you tell me more about that.
11. Can you describe to me the ethnicity or racial identity of your sex partners in the last five years?
    - AA
    - White
    - Someone from the Virgin Island
    - Hispanic descent
    - Nigerian
    - or others from any African country?
12. Since living in the US, can you relate any experiencewith more than one sex partner?

BREAK.....

Would you like us to have another ice breaker before we conclude the last set of questions?

SQ 3:

What are the perceptions of safe sex such as the use of condoms in the prevention of HIV among the Nigerian-African Immigrants?

13. What are your views about use of condoms during sexual intercourse?
14. How do you view use of condoms for protection against sexually transmitted diseases like the HIV infection?
15. In the last five years, can you think of a time when you may have had sex without protection and describe the circumstances that led to the incidence?
16. How will you react if your sex partner introduces a condom to you and demands that you use it during sex?
17. Have you ever thought about HIVs?
    a. You mentioned_____, can you explain what you mean by_____.

Closing

We are now at the end of the interview, is there anything else you would like to add about how we can prevent HIV infection?

Conclusion: I thank you for giving me some of your precious time by sitting down with me to discuss the issues that will add to the body of knowledge of the research community. The data analysis of this study may also create a social change that will

benefit our community and the US as a whole by creating awareness for use of condoms and HIV testing. I hereby present you a $5 Walmart gift certificate as a token for gas used in meeting me for this interview.

Appendix C: Letter of Intent

Letter of Intent

Esther Ogunjimi, Ph.D. Candidate,
Health Services: Community Health
Walden University
Esther.ogunjimi@waldenu.edu

February 27, 2017

Dear Study Participant:

I am Esther Titilayo Ogunjimi and I am a doctoral candidate in Walden University at the Health Services department. I am conducting a research on how the Nigerian African immigrants living in Houston, Texas perceive risk of HIV infection. Studies on HIV/AIDS have been conducted with different sub-groups within the AA population in the United States among whom are the Refugees African Immigrants. However, we do not know the perspectives of the Nigerian immigrants or their first generation children on HIV infection. This study will ask you to talk to the researcher about your thoughts and feelings about HIV infection.

Your identity will be kept confidential and your name will not be mentioned in the analysis of the data gathered during interview. A $5 Walmart gift card will be provided to each participant at the end of the interview as a token of appreciation for your gas.

Please be informed that this study is voluntary and there will not be any consequence if you choose to withdraw from the study at any point or if you choose not to participate.

The face-to-face interview may take between 30-60 minutes at a location that you and I will agree upon. The interview will be recorded. I will then type out your response in a transcript for analysis using an identifier rather than your name. Care will be taken to ensure that the transcribed note matches the audio tape recording received from you. If you are interested in participating in this research, please read and complete the attached informed consent form. You can email me the signed consent to esther.ogunjimi@waldenu.edu. If you have any question, you may email me your question or call me at XXX-XXX-XXXX.

Please note that the research has been approved by the Walden University Institutional Review Board and an approval code No: 02-16-17-0239269 was issued for the study to be conducted.

I appreciate your time and your interest in participating in this study.

Sincerely,

Esther Ogunjimi

Appendix D: NIH Completion Certificate

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Esther Ogunjimi** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 09/28/2016.

Certification Number: 2193845.

Appendix E: Screening Form

NAME:	**AGE:**		
Email address:	**TEL**:		
	YES	**NO**	
Are you a resident of Houston, Texas			
Nigerian-African Immigrant			
Child of Nigerian African Immigrant			
Gender (Female)			
Gender (Male)			
Lived or visited Nigeria 5-10 years ago			
Actively Pregnant			
Employed			
Have you experienced any recent trauma or losses that makes you feel depressed			
Have you had any recent disaster			
Have you been diagnosed with any acute illness recently			
Have you ever had any social relationship with the researcher			
Have you ever had any professional relationship with the researcher			
English Language			
Are you a resident of a prison, NH, Group Home, Transitional home, or Rehabilitation Facility? (**please underline or circle if YES**)?			
Have you been diagnosed with mental illness?			
Education (Circle one)	High School	Associate Degree	BA/B.Sc.
			MA/M.Sc.
Marital Status	Married	Single	Separated
Income range			