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# A Qualitative Analysis of HIV Risk Perception among African-Immigrants in the United States.

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#### **Abstract**

Nigerian-born immigrants, a sub-group of Non-Refugee African Immigrants (NRAIs), may be contributing to the high prevalence of Human Immunodeficiency Viruses (HIV) and Acquired Immunodeficiency Syndrome (AIDS) infection in the AA population as they travel from a high prevalence HIV country (Nigeria) to the United States (US), a low prevalence. When immigrants with communicable diseases such as HIV engage in sexual mixing with different racial/ethnic individuals inside and outside their sexual networks, there is the possibility of cross-transmission of the disease to unsuspecting individuals. Despite this knowledge, there are limited studies regarding Nigerian African Immigrants (NAIs) about their sexual practices in the context of HIV/AIDS. A qualitative study with NAIs residing in Houston, Texas, on sexual behaviors that exposes the host country residents to the contraction of HIV infection, was conducted with 13 individuals age 18-49 using a phenomenology approach. The participants were purposefully selected in a face-to-face interview using semistructured open-ended interview questions. A maximum variation technique was used in the selection of participants, A descriptive analysis of the collected data was achieved using NViVo 11. The HBM theoretical lens used in designing the interview questions to explore the views of the participants in the contraction of HIV infection and to predict their behavior. The findings of the research confirmed that 61% of the study participants engaged in sexual mixing with other race/ethnic groups outside their sexual network. The researcher's 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 campaigns 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.

**Keywords**: *HIV*, transmission, characteristics, cross-border and qualitative research

# 1.0. Introduction

Several researchers have found evidence of Cross-border Transmission (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 different characteristics, including age, sexual orientation, ethnicity, or geographical locations, form sexual relationships in what is known as sexual-mixing (Mariscano, Ludie, & Bajos, 2013; Mole, Parutis, Gerry, & Burns, 2014).

The research study of Mariscano et al. (2013), which was conducted with 1874 African Immigrants (AI) participants residing in Paris found the existence of sexual activities beyond the national origins and overwhelming evidence of sexual mixing between migrants from countries with high levels of prevalence of HIV and AIDS. It is noteworthy that the studies of Ford, Sohn, and Lepkowski (2002) found adolescents ages 13-17 engaging in sexual mixing with multiple partners and with older age groups significantly increased the incidence of HIV infection. As individuals with different characteristics or from different geographical locations engage in unprotected sexual relationships, there is a tendency for individuals to become a conduit through which infectious diseases are transmitted.

When immigrants with communicable diseases such as HIV engage in sexual mixing with different racial/ethnic individuals inside and outside their sexual networks, there is the possibility of cross-transmission of the disease to unsuspecting individuals. Despite this knowledge, there are limited studies regarding Nigerian African Immigrants (NAIs) about their sexual practices in the context of HIV/AIDS. A qualitative study with NAIs residing in Houston, Texas, on sexual behaviors that exposes the host country residents to the contraction of HIV infection, was conducted with 13 individuals age 18-49 using a phenomenology approach. The participants were purposefully selected in a face-to-face interview using semi-structured open-ended interview questions. A maximum variation technique was used in the selection of participants. A descriptive analysis of the collected data was conducted using NViVo 11. The HBM theoretical lens used in designing the interview questions to explore the views of the participants in the contraction of HIV infection and to predict their behavior. The findings of the research confirmed that 61% of the study participants engaged in sexual mixing with other race/ethnic groups outside their sexual network. The researcher's 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 campaigns about HIV/AIDS in the US. This information is useful for the promotion of preventative measures in the AIs communities across the US before HIV infection becomes an epidemic among the sub-group.

#### 2.0. Literature Review

An extensive review of the relevant literature revealed that African-born immigrants continue to emerge as a hidden population in the discussion of HIV/AIDS studies. According to Dias, Marques, Gama, and Martins (2014), current 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, C., Ryan, C. E., Sekawi, Z., Hearps, A. C., Aleksic, E., Chibo, D., . . ., & Crowe, S. M. (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, Brunton, & Dickson (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 socialeconomic 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.

#### 2.1. Characteristics

\According to Birukila et al. (2013), Nigerians African Immigrants (NAI) are one of the main groups of HIV transmitters in the USA. NAIs are members of the AIs having a high presence in the US, with about 376,000 populations (MPI, 2015). The NAIs represents 14% of all African-born blacks in the US (MPI, 2015; US Census, 2014). 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 a high population number, the ability to speak fluent English, acquisition of high educational standard, and having a higher median income (MPI, 2015) that makes acculturation easier than other members of the African Immigrants (AIs). Having the attributes that may make it possible to mix with the US-born blacks does 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 massive presence in these regions, hence the need to engage NAIs in the study of HIV/AIDS. It was assumed that this study, with the NAIs, would provide some understanding about the NRAIs sexual lifestyles.

# 2.2. Concurrent Relationships

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, Marques, Gama, & Martins, 2014; PHE, 2015). Mah and Maugha-Brown (2013) reviewed several HIV/AIDS research study literature and concluded that concurrent partnership does increase the size of HIV epidemic. Birukila, et al. (2013), in a study of African refugees and AIs from 13 countries also found sexual concurrency among others as to cause 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 systems 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 most significant source of STIs in heterosexual relationships as a result of the culture of polygamy that allows men to have multiple sex partners (Osuafor & 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.

The beliefs surrounding the practice of polygamy are often disseminated 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 essential to explore the sexual practices of the NAIs in the context of HIV infection for the shared experience of polygamy culture that encourages and normalizes 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). Similar findings in the HIV research study literature supported the need for the exploration of AI communities' perception of 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 the transmission of HIV infection.

## 2.3. Cross border Transmission of HIV Infection

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 the 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, Wasie, and Gonzalez (2015), immigrants having sexual conduct 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. Migration of individuals or groups from one geographical location to the other sometimes result in the importation of infectious diseases.

Furthermore, <u>Faria</u>, Rambaut, Suchard, Baele, Bedford, Ward, and Lemey (2014) presented the argument that even though HIV infection was first reported to have its origin in sub-Sahara Africa, Hymes et al. (1981) however posited 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 the sexual network (Frye, Williams, Bond, Henny, Cupid, Weiss, & Koblin, 2013; Goparaju, & Warren-Jeanpiere, 2012).

## 2.4. Sexual Mixing

The term, sexual-mixing, is used to describe sexual networks of certain populations beyond their 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, Ruan, Yin, Vermund, Shepherd, Shao, & Qian 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, Sönmez, & Massengale, 2013). Lastly, sexual mixing is possible between individuals traveling from one geographical location to another (Mole et al., 2014).

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 researchers expressed concern for the 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.

Moreover, the study of Mariscano et al. (2013) found evidence of sexual networks beyond national origin among the 1874 sub-Saharan African immigrants involved in research in Paris. In a systematic review of the post-migration acquisition of HIV with migrants from a high prevalence HIV countries 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, research communities needed to 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 African Americans.

Apostolopous, et al. (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. 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, Moody, Mendelsohn, & Gauthier, 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.

# 2.5. 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, Wang, Martin, Nehl, Smith, & Wong, 2011). In several studies, pieces of evidence of an infected person transmitting STI or HIV infection to a different set of the population was observed in the studies of Tao et al. (2013) in bisexual men. The studies of Merli, Moody, Mendelsohn, and Gauthier (2015) conducted in Shanghai, China, supported an increased risk of HIV and STI transmission in bridge populations.

The Down Low (DL) behavior of some AA men who outwardly pretend to be heterosexuals but secretly engage in sex with other male partners (Bond, Wheeler, Darrell, Millett, LaPollo, Carson, & Liau, 2009; Goparaju & Warren-Jeanpierce, 2012) also showed these men as possible bridge population through whom some AA women acquire HIV infection.

Additionally, individuals engaging in sexual mixing are found in the studies of Mariscano et al. (2013), to be a link for the transmission of STI from one ethnic group to the other. The study of Prudden, Beattie, Bobrova, N., Panovska-Griffiths, Mukandavire, Gorgens, and Watts (2015), which was conducted in West Africa found evidence of younger female HIV prevalence with older men. Moreover, In Prudden, et al. (2015) also found that men who were engaging in the purchase of sex from younger women also had 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.

# 3.0. Methodology

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 maximum variation sampling (heterogeneity) strategy helped to obtain participants with diverse characteristics and in diverse settings (Patton, 2015). Direct individuals who are NAIs and their first-generation children who were born in Nigeria or had lived in Nigeria with five-to-ten years before the study were deemed eligible to participate in the study.

The settings for the selection of participants were in different locations in Houston, Texas, where large numbers of NAIs can be found using flyers. Using this Maximum Variation technique allowed for the dependability of the collected data. Fourteen participants initially met the criteria for participation, but saturation was reached with 13 participants. Participants' identity was protected using name masking and acronyms during data analysis. The use of phenomenology approach in this study helped provide in-depth collections of data by applying the following central question as a guide in formulating the interview protocol questions:

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

 Table 1: Participants' Demographic

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

The study explored the knowledge, attitude, and feelings of the participants about multiple sex relationships due to the shared experience of the culture of polygamy in Nigeria. This was accomplished by testing the following research question: What meaning do NAIs ascribe to the experience of multiple partnerships regarding contracting HIV? In order to gain a deep insight into how the culture of polygamy may influence the attitude and behavior of NAIs toward multiple partners, eight Interview Questions (IQs) were developed:

IQ1: 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?

IQ2: 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?

IQ3: Can you describe to me what you understand by the practice of polygamy?

IQ4: Can you describe how having knowledge of polygamy helps to shape your views about your sexual relationships?

IQ5: 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?

IQ6: How did you cope with or without sex when you were separated from your sexual partner?

IQ7: 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?

IQ8: Since living in the US, have you had more than one sex partner at a time?

#### 4.0. Results

The responses of the participants generated the seven themes found in Table 2 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 2: Experience with Culture of Polygamy and Multiple Sex Partners

	No. of	
	Participants'	% of
Themes	Response	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

With RQ, I decided to explore the concept of sexual mixing. In order to achieve this, IQ7 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 1. I also included one other question using IQ8, that could give further insight into possible engagement in multiple relationships. Figures 1 and 2 gives a visual analysis of the participants' responses to IQ11 and IQ8 repectively.

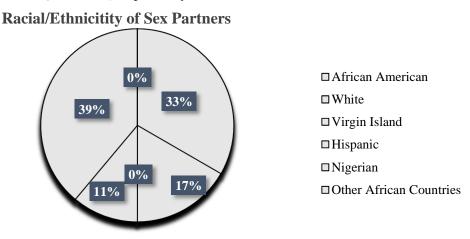


Figure 1: Racial/ethnicities of sex partners by participants.

Figure 1 indicated that 39% of the participants admitted sleeping with Nigerians only, 33% had a 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 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 a sexual experience with Nigerians.

To explore the possible engagement with multiple sexual relationships by the participants, they were asked if they had ever had more than one sexual partner at the same time using IQ8. Figure 2 showed participants responses using NVivo 11 to create a visual analysis:

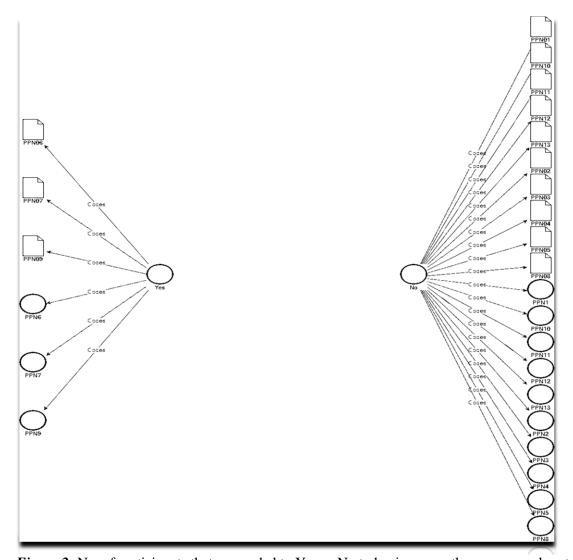


Figure 2: No. of participants that responded to Yes or No to having more than one sexual partner

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 subgroup that may be at risk of contracting HIV. There is proof of sexual mixing among the study participants (Figure 1). 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 1). The danger of sexual mixing was evident in a study with the AIs community in New Zealand, where the spread of HIV within and out of 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 the 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), and 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, Wasie, & Gonzalez, 2015) that transmit diseases outside their sexual network. Therefore, this study group may unknowingly become a bridge population if they have undiagnosed HIV status.

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 evidence of sexual mixing, as found in 61% of the study participants. In general, participants view the engagement in a multiple-sexual relationship as detrimental to those involved. 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.

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. 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. Nevertheless, the knowledge derived from this study may help to encourage further research in the future with this population. The strength of this study using a 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 is mainly conducted using quantitative research design. Therefore, the small numbers of the participants can impact the transferability of the study.

#### 5.0. 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 might 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 males expressed having engaged in unprotected sex than female participants. Furthermore, the study 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' attitudes 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 make 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 an increased number of HIV infection in the Nigerian population in the USA.

#### 6.0. Implications for Practice

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 would benefit from a culturally appropriate preventative message to promote condom use and HIV testing. This study gave the Nigerian community in the US, the opportunity to voice their opinion on a topic that can equally affect their health while new knowledge is added to the field of research with AIs and the AA group on HIV/AIDS discussion in the US.

When preventative efforts are applied to reduce the prevalence of HIV among the AA, the AIs are often lumped together with the AA group. A focused intervention with the AIs is necessary since most HIV/AIDS interventions have been designed to address the US-born Blacks/AAs only. A health promotion campaign that focuses on HIV infection prevention in the AIs communities in the US that is culturally sensitive will benefit this group in addressing the oversight of applying person-centered treatment with the AI communities in the US.

Moreover, the use of culturally appropriate language in communicating with NAIs or AIs in the US must be explored in the prevention of HIV infection and the 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. It is paramount for practitioners to be able to communicate across linguistic and cultural boundaries to adequately inform about preventative strategies like the use of condoms and HIV testing while promoting health care services in all communities.

#### References

- Apostolopoulos, Y., Sönmez, S., & Massengale, K. (2013). Sexual mixing, drug exchanges, and infection risk among long-haul truck drivers. *Journal of Community Health*, 38(2), 385-91. doi:10.1007/s10900-012-9628-y
- Birukila, G., Brunton, C., & Dickson, N. (2013). HIV-related risk factors among black African migrants and refugees in Christchurch, New Zealand: Results from the Mayisha-NZ survey. *New Zealand Medical Journal (Online)*, *126*(1376), 19-27. Retrieved from https://search-proquest-com.ezp.waldenulibrary.org/docview/1369131134?accountid=14872
- Bond, L, Wheeler, Darrell P, Millett, G. A., LaPollo, A. B., Carson, L. F., & Liau, A. (2009). Black men who have sex with men and the association of down-low identity with HIV risk behavior. *American Journal of Public Health*, 99, S92-5. doi:10.2105/AJPH.2007.127217
- Bom, R. M., van der Helm, J. J., Bruisten, S. M., Grünberg, A. W., Sabajo, ... & de Vries, H. C. (2013). The role of Surinamese migrants in the transmission of Chlamydia trachomatis between Paramaribo, Suriname and Amsterdam, the Netherlands. PLoS One 8(11), 1-9. doi: 10.1371/journal.pone.0077977
- Dias, S., Marques, A., Gama, A., & Martins, M. O. (2014). HIV risky sexual behaviors and HIV infection among immigrants: A cross-sectional study in Lisbon, Portugal. *International Journal of Environmental Research and Public Health*, 11(8), 8552-66. doi:10.3390/ijerph110808552
- Fakoya, I., Álvarez-del Arco, D., Woode-Owusu, M., Monge, S., Rivero-Montesdeoca, Y., Delpech, V., ... & Burns, F. M. (2015). A systematic review of post-migration acquisition of HIV among migrants from countries with generalised HIV epidemics living in Europe: implications for effectively managing HIV prevention programmes and policy. *BMC Public Health*, *15*(1), 1-14. doi:10.1186/s12889-015-1852-9
- Faria, N. R., Rambaut, A., Suchard, M. A., Baele, G., Bedford, T. Ward, M. J., ... &, Lemey, P (2014). The early spread and epidemic ignition of HIV-1 in human populations. *Science*, 346(6205), 56-61. doi: 10.1126/science.1256739
- Ford, K., Sohn, W. M & Lepkowski, J. (2002). American adolescents: Sexual mixing patterns, bridge partners, and concurrency. *Sexually Transmitted Diseases*, 29(1), 13-19. Retrieved from <a href="http://journals.lww.com/stdjournal/Fulltext/2002/01000/American\_Adolescents\_Sexual\_Mixing\_Patterns,.3.aspx">http://journals.lww.com/stdjournal/Fulltext/2002/01000/American\_Adolescents\_Sexual\_Mixing\_Patterns,.3.aspx</a>

- Frye, V., Williams, K., Bond, K. T., Henny, K., Cupid, M., Weiss, L., ... & Koblin, B. A. (2013). Condom use and concurrent partnering among heterosexually active, African American men: A qualitative report. Journal of Urban Health, 90(5), 953-69. doi:http://dx.doi.org/10.1007/s11524-012-9747-x
- Glanz, K., Rimer, B. K., & Viswanath, K. (Eds.). (2008). Health behavior and health Education: Theory, Research, and Practice (4th ed.). San Francisco, CA: John Wiley & Sons
- Goparaju, L., & Warren-Jeanpiere, L. (2012). African American women's perspectives on 'down low/DL' men: Implications for HIV prevention. Culture, Health & Sexuality, 14(8), 879-893. doi:10.1080/13691058.2012.703328
- Hochbaum, G.M. (1958). Public participation in medical screening programs: a socio-psychological study. Public Health Service Publication, 572. Washington, DC: Government Printing Office.
- Huang, Z. J., Wang, W., Martin, M. C., Nehl, E. J., Smith, B. D., & Wong, F. Y. (2011). 'Bridge population': sex workers or their clients? - STI prevalence and risk behaviors of clients of female sex workers in China. AIDS Care, 2345-53 9p doi:10.1080/09540121.2010.507759
- Hymes, K. B., Cheung, T., Greene, J. B., Prose, N. S. Marcus, A., Ballard, H., ... &, Laubenstein, L. J. (1981). Kaposi's Sacoma in homosexual men: A report of eight cases. The Lancet, 318(8247), 598-600. doi.org/10.1016/S0140-6736(81)92740-9
- Lemoh, C., Ryan, C. E., Sekawi, Z., Hearps, A. C., Aleksic, E., Chibo, D., ..., & Crowe, S. M. (2013). Acquisition of HIV by African-born residents of Victoria, Australia: Insights from molecular epidemiology. PLoS One, 8(12), e84008. doi:http://dx.doi.org/10.1371/journal.pone.0084008
- Mah, T. L. & Maughan-Brown, B. (2013). Social and cultural contexts of concurrency in a township in Cape Town, South Africa. Culture, Health & Sexuality, 15(2), 135-147. doi.org/10.1080/13691058.2012.745951
- Mariscano, E., Ludie, N., & Bajos, N. (2013), 'Migrants from there' or 'racial minority here'? Sexual networks and prevention practices among sub-Saharan African migrants in France, Culture, Health, & Sexuality, 15(7), 819-835. doi.org/10.1080/13691058.2013.785024
- Merli, M. G., Moody, J., Mendelsohn, J. & Gauthier, R. (2015). Sexual mixing in Shanghai: Are heterosexual contact patterns compatible with an HIV/AIDS epidemic? Demography, 52, 919-942. doi 10.1007/s13524-015-0383-4
- Migration Policy Institute (MPI) (2015). The Nigerian diaspora in the United States. file:///C:/Users/Esther/Downloads/RAD-Nigeria.pdf
- Mole, R. C., Parutis, V., Gerry, C. J., & Burns, F. M. (2014). The impact of migration on the sexual health, behaviours and attitudes of Central and East European gay/bisexual men in London. Ethnicity & Health, 19(1), 86-99. doi:10.1080/13557858.2013.789829
- National Agency for the Control of AIDS (NACA) (2015). Federal Republic of Nigeria: Global AIDS Response - Country Progress Report. Nigeria GARPR 2015. Retrieved from http://www.unaids.org/sites/default/files/country/documents/NGA\_narrative\_report\_2015.pdf
- Patton, M. Q. (2015). Qualitative Research and Evaluation Methods: Integrating Theory and Practice (4th ed). Thousand Oaks, CA: Sage.
- Prudden, H. J., Beattie, T. S., Bobrova, N., Panovska-Griffiths, J., Mukandavire, Z., Gorgens, M., . . . & Watts, C. H. (2015). Factors associated with variations in population HIV prevalence across West Africa: Findings from an ecological analysis. *PLoS One*, 10(12). doi:http://dx.doi.org/10.1371/journal.pone.0142601
- Public Health England (PHE) (2015). HIV in the UK Situation Report 2015 Incidence, prevalence and prevention. Retrieved https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/477702/HIV\_in\_the\_UK 2015 report.pdf
- Rai, T., Lambert, H. S., Borquez, A. B., Saggurti, N., Mahapatra, B., & Ward, H. (2014). Circular labor migration and HIV in India: Exploring heterogeneity in bridge populations connecting areas of high and low HIV infection prevalence. Journal of Infectious Diseases, 210(suppl\_2), S556-S561. doi: 10.1093/infdis/jiu432
- Schmidt, E., Olomo, F., & Corcoran, N. (2012). Sex education targeting African communities in the United Kingdom: Is it fit for purpose? Sex Education, 12(1), 65-78. doi:http://dx.doi.org/10.1080/14681811.2011.601164

- Tao, J., Ruan, Y., Yin, L., Vermund, S. H., Shepherd, B. E., Shao, Y., & Qian, H. Z. (2013). Sex with women among men who have sex with men in China: prevalence and sexual practices. AIDS Patient Care and STDs, 27(9), 524-528. doi:10.1089/apc.2013.0161
- Tiruneh, K., Wasie, B., & Gonzalez, H. (2015). Sexual behavior and vulnerability to HIV infection among seasonal migrant laborers in Metema district, Northwest Ethiopia: a cross-sectional study. BMC Public Health, 15(1), 1-10. doi:10.1186/s12889-015-1468-0
- U.S. Census Bureau (2014). The Foreign-Born Population from Africa 2008-2012. Retrieved from http://www.census.gov/content/dam/Census/library/publications/2014/acs/acsbr12-16.pdf
- Waldrop-Valverde, D. G., Davis, T. L., Sales, J. M., Rose, E. S., Wingood, G. M., & DiClemente, R. J. (2013). Sexual concurrency among young African American women. Psychology, Health & Medicine, 18(6), 676-686. doi:10.1080/13548506.2013.764462
- Wang, B., Liang, Y., Feng, Y., Li, Y., Wang, Y., Zhang, A., & ... Xia, X. (2015). Prevalence of human immunodeficiency virus 1 infection in the last decade among entry travelers in Yunnan Province, China. BMC Public Health, 15362. doi:10.1186/s12889-015-1683-8
- van Veen, M. G., Kramer, M. A., Op de Coul, E. L. M., Van Leeuwen, A. P., De Zwart, O., van de Laar, M. J. W., ... & Prins, M. (2009). Disassortative sexual mixing among migrant populations in the Netherlands: A potential for HIV/STI