Texila International Journal of Public Health
ISSN: 2520-3134
DOI: 10.21522/TIJPH.2013.08.03.Art041

Predictors of HIV Related Stigma among Healthcare Providers in Lusaka, Zambia

Cecilia Chitambala[1]*, Peter Chipimo[2], Brian Chanda Chiluba[3]
[1]*Department of Public health, Texila American University*
[2]*Surveillance and Disease Intelligence Cluster, Zambia National Public Health Institute*
[3]*School of Health Sciences, University of Zambia*
**Corresponding Author: cecilia_chitambala@yahoo.com*

Abstract

Background: Infection with the human immunodeficiency virus (HIV) and AIDS remain a major public health crisis in Zambia [[13]]. One of the barriers to effective HIV response is the HIV-related stigma and discrimination among Healthcare providers towards patients receiving diagnostic procedure or treatment.

It's suggested that most studies concentrate on perceptions of discrimination, with occasional studies involving explicit discriminatory behaviors [[6]]. The purpose of this study was to identify factors contributing to HIV stigma and discrimination among healthcare workers in order to recommend evidence-based interventions that would help reduce HIV-related stigma in order to enhance quality of HIV prevention, care and treatment.

Methodology: Using an analytic cross-sectional research design, 370 health providers' attitudes and behaviors towards HIV-patients were analyzed and the driving factors of discriminatory behavior were explored, which provided countermeasures and sources for appropriate departments to eradicate prejudice in the medical field, protect the medical interests of PLHIV, support and monitor HIV prevention.

Results: Levels of stigma were reported by all groups included in the study; willingness to prohibit women living with HIV from having children (43%), wearing double gloves (64.5%), and using special infection control measures (50%) and avoided physical contact (36.5%) when caring for HIV infected clients.

Conclusion: The study revealed that the HIV stigma and discrimination by healthcare providers in urban Lusaka was not uncommon. Potential care and support for HIV patients should therefore concentrate on strengthening the cognitions and behaviors of Healthcare providers toward PLHIV to ensure that they receive prompt and effective treatment and assistance.

Keywords: *Stigma; Discrimination; Healthcare provider; People living with HIV, HIV.*

Introduction

That the 2009 Zambia Sexual Behavior Survey, reported that the levels of HIV-related stigma and discrimination have in general been declining since 2005. Modest positive changes have been observed in proxy indicators to measure the level of stigma and discrimination [[21]]. HIV-related stigma and discrimination towards PLHIV by Health workers, is still found in many health facilities. Zambia faces the issue of HIV related stigma both in the general population and among healthcare professionals [[2]]. HIV stigma is among the strongest barriers to effectively responding to HIV epidemic [[6]]. There are reported instances of healthcare providers being judgmental toward people living with HIV and refusing them [[15]]. In some instances, there has been involuntary sterilization of women who are HIV positive [[1]]. Researchers have shown that fear of contracting infection through contact and making judgment based on morality contributes to stigma and discrimination among healthcare providers toward their clients living with HIV [[15]]. Various researchers from Nigeria, Ethiopia and Tanzania have shown that the high levels of getting infected with HIV among healthcare providers resulted from the lack of knowledge about the transmission of HIV and lack of training in the use of universal

protective equipment and safety precautions. However, this high prevalence of HIV among Health workers has contributed to HIV-related stigmatization [[19]].

HIV-related discrimination has been conducted predominantly among people living with HIV (PLHIV) and the general population in medical institutions research, and fewer studies have explored the phenomenon from the viewpoint of healthcare workers [[6]]. HIV related stigma has resulted in people living with HIV not getting the required and quality treatment from healthcare providers [[2]]. By continuing to encourage frequent testing and safe sex practices, HIV can be eradicated. However, stigma can be detrimental to those efforts. HIV-related stigma is associated with individuals not wanting to get to know their HIV status for fear of being stigmatized. Fear of negative social consequences of a positive HIV test can discourage people from getting tested and knowing their status. For people living with HIV who experience stigma because of their status, they are more likely to miss HIV check-ups and lapse in adherence to their medications. That can lead to an increase in their viral load and subsequently increase the risk of onward transmission. AIDS related stigmas are another factor that probably influence seeking VCT in Zambia. Stigmatizing beliefs about AIDS and their associated fears of discrimination can influence decisions to seek HIV testing and HIV treatment services. A study conducted in the United States, two out of three men who have sex with men who were unaware of their HIV status indicated that HIV related stigmas were an important factor in their testing decisions [[20]]. More recently, a study found that 38% of a US national sample of adults stated that they would be very concerned about stigma if they tested HIV positive, and 44% of people who expressed this concern indicated that stigma influences their testing decisions [[8]].

This study was conducted to explore the occurrence of factors related to stigma and discrimination against people living with HIV/AIDS amongst healthcare providers in Lusaka, Zambia. The study is driven by the need to recommend a theory-based approach to address the issue of HIV stigma among healthcare providers.

Healthcare facilities are places where people living with HIV expect to find no discrimination and the best of healthcare, making it very important that these health facilities‟ staff do not discriminate against people living with HIV. However, health facilities are also actually places where people living with HIV tend to face discrimination and stigma [[6]]. This study is designed to determine the predictors of stigmatizing behavior among healthcare providers, which is the dependent variable used in the study. The independent variable that were assessed in the study was the being personal attributes which depicted the opinions of people living with HIV, fear or worry of getting infected with HIV and willingness to provide services to key populations. The study aimed to determine the relationship the independent variables and dependent variable based on the constructs of the social cognitive theory.

Methods

The study was conducted from November 2019 to January 2020 with the purpose of identifying factors contributing to HIV stigma and discrimination among Healthcare providers in Lusaka urban district in order to recommend evidence-based interventions. Lusaka is the largest and capital city of Zambia. This study was a cross-sectional study based on the social cognitive theory paradigm, which uses the construct of reciprocal determinism to evaluate predictors of HIV-related stigma among Healthcare providers. Constructs of Social Cognitive Theory (SCT) was used to determine the predictors of enacted stigma.

This study used an analytic cross-sectional research design to investigate predictors of stigmatizing and discriminatory behavior among Healthcare providers in Lusaka urban, Zambia. Questionnaire data was collected and analyzed using SPSS and described using regression analysis to estimate the relationship between HIV related stigmatizing behavior, discriminatory acts, and personal attributes, job, environmental and demographic factors.

In this study, 370 healthcare workers were identified as primary participants. Comprehensive Questionnaire data was analyzed using SPSS and described using Pearson's correlation coefficient to estimate the relationship between the dependent variable, HIV related stigmatizing behavior and discriminatory acts, and independent variables, demographic factors, personal attributes, and job related factors and work environmental factors.

In order to examine the association between variables, inferential statistics was used. Univariate and Multivariable logistic regression analysis was conducted to examine factors associated with stigma. The results from univariate analysis with P-value < =0.05 was selected and used in the final model for the Multivariable logistic regression analysis. Unadjusted odds ratios (OR), and their 95% confidence intervals (CI) are reported.

Data sources

The data collected on questionnaire responses was organized with consistent file naming by coding the responses and respondents. This was then entered and stored into the SPSS. Upon data verification, cleaning and analysis, the data was shared as part of the study report. After the study is completed the data was deposited and preserved in a repository for long-term archiving and access.

Study selection

There is a population of 2,698 healthcare providers in Lusaka urban district. The study adopted stratified sampling method to sample health providers. The study enrolled 370 Healthcare providers from 8 health facilities in Lusaka, Zambia. The population of study consisted of different cadres of Healthcare professionals that were currently serving in the health facilities in Lusaka, Zambia. The various professional groups consisted of 257 nurses, 30 doctors, 21 clinical officers, 19 pharmacy personnel, and 15 Environmental Health technicians (EHTs) and 28 laboratory technicians thus, making an overall a total of 370 Healthcare providers from different grades of health facilities in Lusaka. Considering the classified management system of medical organizations issued by the Ministry of Health of the government of Zambia, public hospitals are classified into three grades (tertiary hospitals are better than secondary hospitals, which are in turn better than primary hospitals). Looking at the types and numbers of health facilities in Lusaka urban district, 1 tertiary hospital, 4 secondary hospitals and 3 primary hospitals bringing the total number to 8 health facilities were conveniently selected.

The study `considered different cadres of Healthcare providers' stigmatizing behavior or comparing the behavior across categories.

Data extraction

Data was collected from the questionnaire and entered data into SPSS version 21. The data was analyzed to produce both descriptive and inferential statistics.

The descriptive analysis of the sample was done using measures of central tendency, measures of Dispersion and measures of variability for personal. These are presented as frequency tables and graphs.

Results

370 healthcare workers were included in the sample. There were 223 females, representing 60.3% of the sample. Of the total sample, 8.1% were doctors, 5.7% were clinical officers, 4.1% were environmental technicians, 5.1% were pharmacy personnel, 7.6% were laboratory personnel, while the nurses represented 69.5%. Levels of stigma were reported by all groups included in the study. This included willingness to prohibit women living with HIV from having children (43%). 50.3% of the respondents provided differential treatment to patients based on HIV status. Thus, 239 (64.5%) wore double gloves when caring for a patient living with HIV and 50% indicated that they used special infection control measures when caring for HIV infected clients. In addition, 36.5% of the health providers indicated that they avoid physical contact when caring for people living with HIV.

Most respondents performed some infection control practices, which were not appropriate thus showing discrimination toward people living with HIV. Wearing double cloves, using special infection control measures and avoiding physical contact with client living with HIV are acts of stigma and discrimination.

Provider attitude towards PLHIV

The participants' attitudes towards PLWHA are presented in Table 1. 25% of the respondents indicated that most PLHIV do not care if the infect others while 75% felt otherwise. 56.9% disagreed that Women living with HIV should be allowed to have babies if they wish. 17.6% indicated that People get infected with HIV because they engage in irresponsible behaviors.

The results in Table 2 show that approximately 30.1% of participants indicated that they were worried about work-related HIV transmission. When asked about the willingness to treat drug injectors, homosexuals and sex workers, 72.3%

of participants responded that they would provide general treatment, whereas 27.7% indicated unwillingness to provide services to these groups of patients.

Table 1. Attitudes toward PLHIV among Healthcare Providers in Lusaka, Zambia (n = 370)

Statement	**Level of agreement**			
	Strongly agree	**Agree**	**Disagree**	**Strongly disagree**
Most PLHIV do not care if they infect others	33(8.9)	60(16.1)	157(42.2)	122(32.8)
PLHIV should feel ashamed of themselves	20(5.4)	24(6.5)	181(48.9)	145(39.2)
Most PLHIV have had many sexual partners	36(9.7)	34(9.2)	269(45.6)	132(35.6)
People get infected with HIV because they engage in irresponsible behaviors.	14(3.8)	51(13.8)	161(43.5)	144(38.9)
HIV is punishment for bad behavior	16(4.3)	28(7.6)	150(40.4)	177(47.7)
Women living with HIV should not be allowed to have babies if they wish	80(22.2)	75(20.8)	102(28.3)	103(28.6)

Table 2. Frequency distribution of personnel's response to unwillingness to provide service to key population

Group	**Service provision unwillingness**	**Percent**	**Reason of unwillingness to provide health services**	**Agreement n (%)**
Drug injectors	Strongly agree	41(11.4)	They put me at higher risk for contracting HIV.	19(18.1)
	Agree	18(5.0)	This group engages in immoral behavior	45(42.5)
	Disagree	158(43.8)	I have not received training to work with this group	37(66.7)
	Strongly disagree	144(39.9)		
Homosexuals	Strongly agree	34(9.6)	They put me at higher risk for contracting HIV.	20(28.6)
	Agree	25(7.1)	This group engages in immoral behavior	31(38.8)
	Disagree	159(44.9)	I have not received training to work with this group	46(43.9)
	Strongly disagree	136(38.4)		
Sex workers	Strongly agree	30(8.6)	They put me at higher risk for contracting HIV.	30(43.5)
	Agree	23(6.6)	This group engages in immoral behavior	39(45.1)
	Disagree	159(45.6)	I have not received training to work with this group	40(57.1)
	Strongly disagree	137(39.3)		

83.7% were willing to provide services to drug injectors while 16.4% of the personnel were not willing to provide services to clients that are drug injectors because this group of clients engages in immoral behavior and that they put them at higher risk for contracting HIV. 18.1% of the respondents mentioned that their unwillingness to provide services was due to exposure to the disease, followed by the patients' engagement in unethical behavior (42.5%). 15.2% and 16.7% of the respondents preferred not to provide services to the prostitutes and homosexual patients,

respectively, because they put at risk of contracting HIV (72.1%). Majority of the subjects added that prostitutes and homosexuals are involved in immoral behavior (38.8% and 45.1%, respectively). 83.3% showed willingness to provide services to homosexuals despite not having been trained (43%.9) to work with this group; 84.9% were willing to provide services to sex workers despites indicating that they had not been trained (57.1%) in working with this group.

Multivariable logistic analysis of stigma of healthcare providers

The multivariable logistic regression results are displayed in Table 3. Final model included variables that were significant in their univariate analysis.

Table 3. Multivariable logistic analysis of discrimination towards PLHIV

Discrimination	**Variables**	**Univariate Analysis**		**Multivariable Analysis**	
		OR (95% CI)	P-Value	AOR (95% CI)	P-Value
Avoid physical contact when caring for PLHIV	Women Living with HIV should not get pregnant				
	Strongly Agree	Ref.			
	Agree	0.09(0.04,0.19)	0.00	0.04(0,0.39)	0.01
	Disagree	0.08(0.03,0.17)	0.00	0.36(0.04,2.89)	0.33
	Strongly Disagree	0.45(0.26,0.8)	0.01	0.56(0.11,2.8)	0.48
	would prefer not to provide services to IDUs because they engage in immoral behavior				
	Agree	Ref.			
	Disagree	0.3(0.12,0.79)	0.02	0.19(0.05,0.74)	0.02
	would prefer not to provide services to MSM				
	Strongly Agree	Ref.			
	Agree	1(0.44,2.3)	0.99	15.92(1.05,241.74)	0.05
	Disagree	2.22(0.93,5.3)	0.07	64.44(3.23,1286.23)	0.01
	Strongly Disagree	1.7(1.04,2.78)	0.03	9.49(0.71,126.14)	0.09
Wears double gloves when caring PLHIV	Women Living with HIV should not get pregnant				
	Strongly Agree	Ref.			
	Agree	2.79(1.48,5.28)	0.00	1.75(0.83,3.7)	0.14
	Disagree	2.92(1.53,5.57)	0.00	1.99(0.98,4.04)	0.06
	Strongly Disagree	1.22(0.65,2.29)	0.55	1(0.51,1.99)	0.99
Uses special infection control measures only when caring for PLHIV	would prefer not to provide services to CSWs because they put me at risk of contracting HIV				
	Agree	Ref.			
	Disagree	0.15(0.03,0.76)	0.02	0.15(0.03,0.76)	0.02

In the multivariable model of "avoid physical contact", Women Living with HIV should not get pregnant, preferring not to provide services to Injectable drug user (IDUs) because they engage in immoral behavior , and prefer not to provide services to men having sex with men (MSM) remained significant influential determinant of health provider stigma and discrimination. The

model of “wear double gloves” showed that in addition to number of years a healthcare provider worked in healthcare, women living with HIV should not get pregnant continued to influence stigma and discriminatory behavior by healthcare providers. However, preferring not to provide services to IDUs because they engage in immoral behavior, and prefer not to provide services to MSM did not influence stigma of healthcare providers in this model. On the third model of “Use special Infection control measures”, preferring not to provide services to commercial sex worker (CSWs) because they put healthcare providers at risk of contracting HIV remained significant catalyst for health provider’s stigma.

Discussion

In the multivariable model of “avoid physical contact”, health facility having Protocols and Procedures to protect healthcare providers from getting infected with HIV, Women Living with HIV should not get pregnant, preferring not to provide services to IDUs because they engage in immoral behavior, and preferring not to provide services to MSM remained significant influential determinant of health provider stigma and discrimination. The model of “wear double gloves” showed that in addition to number of years a healthcare provider worked in healthcare, health facility having Protocols and Procedures to protect healthcare providers from getting infected with HIV, women living with HIV should not get pregnant continued to influence stigma and discriminatory behavior by healthcare providers. However, preferring not to provide services to IDUs because they engage in immoral behavior, and prefer not to provide services to MSM did not influence stigma of healthcare providers. On the fourth model of “Use special Infection control measures”, only preferring not to provide services to CSWs because they put healthcare providers at risk of contracting HIV remained a significant catalyst for health provider’s stigma.

Key findings on personal attributes

This study reported that the effect of the various personal attributes surrounding HIV infection and pregnancy has sadly proven significant. Thus, women Living with HIV should not be pregnant; preferring not to provide services to IDUs because they are engaged in immoral behavior; preferring not to provide services to MSM; and preferring not to provide services to CSWs because they put healthcare providers at risk of contracting HIV, remained influential determinant of health provider stigma and discrimination. Unwillingness to provide service to these groups of patients were mainly due to these groups of clients engaging in immoral behavior. In line with our findings, a study conducted by Lin et al. (2007), in Yunnan, China, on workplace HIV exposure to healthcare providers, revealed that healthcare providers were greatly concerned about the fear of HIV infection among them. Previous studies have also established that HIV related stigma acts as a barrier to service provision and that stigmatized conduct leads to a reduction in targeted treatments by healthcare providers.

Respondents that agreed that women living with HIV should not get pregnant had 96% reduced odds of avoiding physical contact when caring for PLHIV compared to those that strongly agreed. [AOR=0.03, 95% CI (0.00, 0.39), P-value =0.01]. In addition, respondents that disagreed that women living with HIV should not get pregnant had 2 times odds of wearing double gloves when caring for PLHIV compared to those that strongly agreed. [AOR=1.99, 95% CI (0.98, 4.04), P-value =0.056]. Though not statistically significant, this finding has some level of significance. The findings of this study are in consistent with the findings of a study conducted by Rochon (2005) investigating the ability of healthcare providers to discuss the possibility of HIV infection and pregnancy, and to view the benefits and risks of perinatal transmission and antiretroviral therapy during pregnancy objectively. The study showed that even among healthcare providers, HIV continued to carry enormous social stigma, since they still questioned the appropriateness of childbearing by women living with HIV. The study also showed that women were warned against pregnancy from the early days of the AIDS epidemic to the present mood of moral rectitude, women living with HIV tend to be facing continued resistance from the same healthcare system that is intended to sustain them through their childbearing years.

Respondents that disagreed to preferring not to provide services to IDUs because they engage in immoral behavior had 80% reduced odds of avoiding physical contact when caring for PLHIV compared to those that strongly agreed.[AOR=0.19, 95% CI (0.05,0.74), P-value = 0.02]. In addition, respondents that agreed to

preferring not to provide services to MSM had 16 times odds of avoiding physical contact when caring for PLHIV compared to those that strongly agreed.[AOR=15.92, 95% CI (1.05, 241.74.74), P-value = 0.05]. Furthermore, respondents that disagreed to preferring not to provide services to MSM had 64 times odds of avoiding physical contact when caring for PLHIV compared to those that strongly agreed.[AOR=64.4, 95% CI (3.23,1286.22, P-value = 0.01].

Respondents that disagreed to preferring not to provide services to CSWs because they put healthcare providers at risk had 85% reduced odds of using special infection control measure only when caring for PLHIV compared to those that strongly agreed.[AOR=0.15, 95% CI (0.03,0.76), P-value = 0.02]. This study revealed the stigmatized mind-set of the respondents. The reasons given for unwillingness to provide services to the said groups (key populations) of clients are consistent with the findings of a study conducted by Zarei et al. (2015) that revealed that a majority of the respondents preferred not to provide health services to key populations due to their participation in unethical behavior, including fear of illness, and fear of being linked to that group. The Behravan et al. (2011) study further highlights this finding that the AIDS sticky tag is associated with high-risk activities such as sexual and moral promiscuity, homosexuality and drug abuse. Contrary to our findings, a study conducted in Italy by Marranzano et al. (2013) showed that although HIV was the primary concern of nurses when it came to handling occupational infections (54%), the vast majority (98%) never denied HIV/AIDS treatment and that were willing to provide service to any groups of patients including sex workers, drug injectors and homosexuals. In addition, the results of the Abler et al. (2014) study are not consistent with the findings of our study indicating that high-risk behaviors of patients are associated with a higher stigmatized attitude.

Limitations

The study was conducted in urban Lusaka, Zambia, where HIV infection has a high prevalence; findings in one urban setting of Zambia may not be generalizable to Healthcare providers. The data were collected from just one city; therefore, caution should be exercised when generalizing these findings to another population or other geographical locations. However, every effort was made to recruit Healthcare providers from different levels of healthcare. Therefore, the results provide effective support to the need for HIV-related stigma-reduction measures in the healthcare setting in Zambia.

This study used a convenience sampling method to pick enrolled health facilities. As a result, useful results were obtained, but the results are vulnerable to significant bias, as those who are chosen to participate would have varied from those who are not selected, and the sample may not be representative of other characteristics, such as geographical areas. The demographic does not include Healthcare providers and services from the country's other areas. There may have been some factors peculiar to these regions that may have affected the stigma associated with HIV.

The data collection tool used (questionnaire) is designed to collect data on HIV-related stigma among Healthcare providers but not on the concept of social cognitive theory, and thus may be a limitation for this study. However, the social cognitive theory constructs are all captured in the questionnaire.

Conclusion

The study revealed that personal attributes have an influence on stigmatizing behavior of healthcare providers. Overview, the study has shown that there is scarcity of relevant research on stigma and discrimination related to the HIV-AIDS epidemic among healthcare providers in Zambia, even though there is much empirical evidence demonstrating the role of stigma in people and communities ' involvement in health-related activities. Furthermore, the study revealed that levels of stigma and discrimination still exist among healthcare providers. It is important to note that stigma remains an obstacle to all the essential components of a good program of HIV prevention, care and treatment, and so, much detailed research on stigma reduction is needed to improve the components of a good program of prevention, care and treatment.

References

[1]. ACON. (2020). Ending HIV stigma African Gender and Media Initiative (GEM). (2012). 3rd Ngong Avenue, Upper Hill Garden Apt # E-06.

[2]. Avert. (2018). HIV Stigma and Discrimination. Global information and education on HIV and AIDS.

[3]. Chishinga, N. Kinyanda, E. Weiss, H.E. Patel, V. Ayles, H. & Seedat, S. (2011). Validation of brief screening tools for depressive and alcohol use disorders among TB and HIV patients in primary care in Zambia.

[4]. Dawson-Amoah, CG. (2015). Determinants of HIV Stigma among Healthcare workers in Ghana. Ghana: Walden University scholar works.

[5]. Doka, S. Danjin, M. Dongs, L. (2017). HIV/AIDS-related stigma and discrimination among healthcare providers in a tertiary health facility. Gombe Nigeria: Journal of medical sciences.

[6]. Dong, X. Yang, J. Peng, L. Pang, M. Zhang, J. Zhang, Z. Rao, J. Wang, H. Chen, X. (2018). HIV-related stigma and discrimination amongst healthcare providers in Guangzhou, China. BMC Public Health.

[7]. Ekstrand, ML, RamakrishnaJ, BS, Heylen E. Prevalence and drivers of HIV stigma among health providers in urban India: implications for interventions. J Int AIDS Soc. 2013; 16(3 Suppl2):1–12.

[8]. Herek, G. M., Capitanio, J. P., & Widaman, K. F. (2003). Stigma, social risk, and health policy: Public attitudes toward HIV surveillance policies and the social construction of illness. Health Psychology, 22(5), 533–540. https://doi.org/10.1037/0278-6133.22.5.533.

[9]. Mukasa, A. (2008) Stigma and Discrimination Faced by People Living with HIV/AIDS: A review of Literature Based on Attitudes, Beliefs and Practices, Prepared for Health Communication Partnerships.

[10]. NAM. (2019). No reduction in HIV stigma in San Francisco, 2011 to 2017.

[11]. Ndonyo. R.L (2005).Assessing Quality and Responsiveness of Health Services for Women in Crises Settings: Zambia Case Study Report. The University of Zambia, School of Medicine, Department of Community Medicine, Lusaka, Zambia.

[12]. Nelson, MK. (2012). How to tackle HIV stigma among healthcare workers. England: NAM Publications.

[13]. Network of Zambian People Living with HIV/AIDS. (2012). the people living with HIV stigma index.

[14]. Nieuwenhuijs, J. (2008). Exposure assessment. Centre for Research in Environmental Epidemiology (CREAL), Barcelona, Spain.

[15]. Nyblade, L. Stangl, A. Weiss, E and Ashburn, K. (2009).Combating HIV stigma in healthcare settings: what works? : Journal of the international AIDS society.

[16]. Nyblade,L. Srinivasan,K. Mazur, A. Raj, T. Patil, S.D. Devadass, D. Radhakrishna, L and Ekstrand, M.L. (2018). HIV Stigma Reduction for Health Facility Staff: Development of a Blended-Learning Intervention. Front Public Health.

[17]. Nyblade, L. Stockton, M.A. Giger, K. Bond, V. Ekstrand, M.L. Mc Lean, R. Mitchell, E.M.H. La Ron Nelson, E. Sapag, J.C Siraprapasiri, T. Turan, J. & Wouters. E. (2019). Stigma in health facilities: why it matters and how we can change it.

[18]. Oskouie, F. Kashefi, F. Rafii, F and Gouya, M.M. (2017). Qualitative study of HIV related stigma and discrimination: What women say in Iran. Electron Physician. 2017 Jul; 9(7): 4718–4724.

[19]. Reis, C. Heisler, M. Amowitz, L. Moreland, R.S. Mafeni, J. Anyamele, C. Iacopino, V. (2005). Discriminatory Attitudes and Practices by Health Workers toward Patients with HIV/AIDS in Nigeria.

[20]. Stall, Ron; Hoff, Colleen; Coates, Thomas J.; Paul, Jay; Phillips, Kathryn A.; Ekstrand, Maria; Kegeles, Susan; Catania, Joe; Daigle, Dennis; Diaz, Rafael . (1996). Decisions to Get HIV Tested and to Accept Antiretroviral Therapies among Gay/Bisexual Men: Implications for Secondary Prevention Efforts. Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology: February 1st, 1996 - Volume 11 - Issue 2 - p 151-160.

[21]. Zambia 2010 census of population and housing national analytical report (2010). Central Statistical Office.