

Assessment of HIV-related stigma and determinants among people living with HIV/AIDS in Abeokuta, Nigeria: A cross-sectional study

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Abstract

Introduction: HIV/AIDS-related stigma remains an essential barrier to the formulated care delivery and improved quality of life of people living with HIV/AIDS in sub-Saharan Africa. Only a few studies have evaluated stigma and its determinants as concerns people living with HIV/AIDS in Nigeria.

Methods: A cross-sectional design study recruited 386 people living with HIV/AIDS attending the government clinic, Federal Medical Centre, Abeokuta, Nigeria, for the assessment of stigma using Berger's HIV stigma scale and United States Agency International Development-recommended indicators and questions on HIV-related stigma among people living with HIV/AIDS. Data were analyzed using SPSS 21.

Results: Of the 386 people living with HIV/AIDS, 322 (83.4%) were females and 64 (16.6%) were males, and 96.9% had disclosed their HIV status. Overall, mean perceived stigma score was moderately high at 95.74 (standard deviation = ± 16.04). Majority (77.2%) of the participants experienced moderately perceived stigma. Among the subscales, disclosure concerns contributed the most to stigma score at 68.9%. Enacted stigma in the last 12 months was documented in 35.8% (138). There was no association observed between age, gender, marital status and HIV-related stigma. However, low education was associated with higher negative self-image perception (31.83 ± 5.81 vs 29.76 ± 5.74 , $p < 0.001$). Furthermore, higher perceived stigma score was associated with abandonment by spouses ($p < 0.001$), isolation from household members ($p < 0.001$) and social exclusion ($p < 0.001$). We demonstrated a correlation between the domains of enacted stigma and Berger HIV stigma scales except for the loss of resources.

Conclusion: Perceived HIV-related stigma is moderately high among people living with HIV/AIDS. Low education, disclosure concerns, spousal or household abandonment and social exclusion are the significant contributors. HIV-related stigma preventive interventions at different levels of care are advocated.

Keywords

HIV-related stigma, people living with HIV/AIDS, Berger stigma scale, disclosure, Abeokuta

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Introduction

Globally, HIV infection is of public health importance with an unusually high burden in Sub-Saharan Africa.¹ Over 69% of the global 34 million people living with HIV/AIDS (PLWHA) are residents of sub-Saharan Africa alone.¹ Nigeria is believed to have the second highest number of PLWHA worldwide with an estimate of about 10% of the global burden of HIV/AIDS. Approximately 3.4 million PLWHA are currently living in Nigeria.² In a recent survey,

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HIV/AIDS was the fourth leading cause of death in Nigeria, which accounted for about 217,148 HIV/AIDS-related deaths in 2012.^{2,3}

Although there is presently no known cure for HIV/AIDS, the use of antiretroviral therapy (ART) has been linked to increasing life expectancy, lesser opportunistic infections and improved quality of life of PLWHA.⁴ However, stigmatization, discrimination and many other prejudices experienced by PLWHA have raised concern about their psychosocial health.⁵

Stigma can be defined as “an influential, yet disgraceful social label that completely changes the way people perceive themselves and how they are seen as individuals by the society.”⁶ Although one of the government policies is on reducing the stigmatization of PLWHA, still, not much has been achieved in that regard.⁷ There has been a continuous improvement in the prevention and medical management of HIV; however, stigmatization and discrimination against PLWHA have significantly limited the success and negatively impact progress and efforts as it predisposes to poor adherence to medications, unwillingness to access care and ultimately reduced the quality of life.^{8,9}

Numerous studies have been carried out on HIV-related stigma particularly in developed countries, which help guide HIV-related stigma reduction intervention strategies;^{10,11} nevertheless, HIV-related stigma in developing countries (i.e. countries with low living standard, less industrial base and low human development index relative to other countries)¹² including Nigeria remain a high burden to PLWHA.^{8,9,13} Previous studies carried out in Nigeria and Sub-Saharan Africa on HIV-related stigma documented a high level of HIV stigma in the population although a number of these studies have been secondary extraction and only a few focused on the perception of stigma and its effects on PLWHA.^{8,13} To the best of our knowledge, there is no documented study carried out before on HIV-related stigma among PLWHA in Abeokuta, the present area of study.

Forms of the HIV-related stigma that have been described include enacted, perceived, internalized and layered stigma,¹⁴ while some researchers classified it as mainly internal or external stigma.⁶ HIV-related stigma has been identified as one of the hallmarks of the HIV/AIDS pandemic and needs to be addressed to reduce the burden of HIV/AIDS worldwide.¹³ The aim of this study was to assess HIV-related stigma among PLWHA in Abeokuta, South-West Nigeria using standardized instruments and evaluate the impacts of demographic characteristics on stigma.

Methods

This cross-sectional study was conducted at the dedicated ART outpatient clinic of the Federal Medical Centre, Abeokuta, Ogun State, South-West Nigeria between August and November 2016. A total of 386 PLWHA who fulfilled the inclusion criteria were recruited into the study through systematic random sampling. The inclusion criteria included PLWHA attending the ART clinic for a period of not less

than 6 months, who were aged 18 years or above and gave oral and written informed consents to take part in the study. Exclusion criteria were PLWHA aged below 18 years, those with acute illness that required medical or surgical treatment or admission, pregnancy, gross cognitive dysfunction and those who did not give informed consent to be part of the study.

All consenting participants who satisfied the inclusion criteria completed a written semi-structured questionnaire that included demographic data, Berger HIV stigma scale and questions such as their feelings of abandonment by spouses, other household members, exclusion from social activities and career progress at the workplace culled from the United States Agency for International Development (USAID)-recommended indicators and questions on stigma for PLWHA.^{15–17} In addition, the PLWHA were asked if they had disclosed their status, whom they disclosed to and whether their consent was sought before such disclosure.

HIV-related stigma assessment instrument

The survey instruments used were Berger’s HIV-stigma scale and USAID-recommended indicators and questions on stigma in PLWHA. Berger’s HIV-stigma scale is well validated both within and outside Nigeria,^{16–18} its internal reliability was 0.90, while the USAID-recommended indicators and questions on stigma for PLWHA were pilot-tested on 40 clients who were not part of the participants before its usage, and its internal reliability was 0.79.¹⁵ The HIV stigma scale comprises 40 items that form subscales with a 4-point Likert-type response that includes strongly disagree, disagree, agree and strongly agree.¹⁶ The scores are scaled in the positive direction implying that the higher the score, the higher the level of stigma. The possible overall stigma score ranges from 40 to 160, low-level stigma is between 25th percentile and 50th percentile (40–80), middle-level stigma is between 50th percentile and 75th percentile (81–120), while high-level stigma is for values greater than 75th percentile (121–160).^{17,19}

The HIV stigma scale assesses perceived stigma and people’s reaction to them, after the disclosure of status.¹⁶ The subscales of the HIV stigma scale included personalized stigma, disclosure concerns, negative self-image and concerns with public attitudes. Personalized stigma subscale assesses experiences with or fear of rejection they might have consequent upon people knowing their HIV status: disclosure concern subscale assesses issues concerning divulging their HIV status, while negative self-image subscale assesses sense of inferiority or low self-esteem due to their HIV status, and finally, concerns with public attitude subscale assesses perceptions of majority of people about PLWHA.¹⁹

The USAID-recommended indicators and questions for PLWHA assess enacted stigma and disclosure concerns.¹⁵ The domains under enacted stigma were verbal stigma,

isolation, loss of identity and the loss of income.¹⁵ These were Yes or No questions.

The procedure to produce a proper translation of Berger's HIV-stigma scale and the USAID questions was followed. Following forward translations into Yoruba by two independent bilingual native Yoruba translators, the two translators agreed on unified Yoruba translation. The unified Yoruba version was then backtranslated into English by third and fourth independent bilingual translators. A brief validation of Yoruba version of Berger's HIV-related stigma scale and the USAID questions was done with a subsample of 39 (10% of sample size) before commencement of the study. All inherent areas of contention in the translated copy were resolved during brief validation. All patients who were not literate or who were not comfortable with the English Language completed the Yoruba version of the survey instruments.

Ethical clearance for this study was obtained from the research ethics committee of the Federal Medical Centre, Abeokuta, Ogun State, Nigeria before the commencement of the study.

Data analysis

The analysis of data was done using the Statistical Package for Social Sciences (SPSS) software, version 21 (SPSS, Chicago, IL, USA). Univariate analysis was used to describe the study population using frequencies and proportions. The continuous variables were analyzed using Student's t-test, and the non-parametric Mann-Whitney test was utilized for skewed data. The effect size was calculated using the formula $r = Z/N$, where r is the effect size, Z is the Z score generated from SPSS and N is the number of participants. The effect size was interpreted using Cohen's effect size estimate.²⁰ The level of significance was set at $p \leq 0.05$.

Results

The study population consisted of 386 PLWHA out of which 322 (83.4%) were females and 64 (16.6%) were males. The overall mean age \pm standard deviation of all the participants was 41.20 (± 9.12) years. A total of 138 of the participants (35.8%) had experienced enacted stigma in the last 12 months (Table 1).

The Berger HIV-stigma scale assessed perceived stigma with an overall (total) stigma score ranging from 40 to 160. The overall mean perceived stigma score was moderately high at 95.74 (± 16.04). Our results also showed that moderately perceived stigma was prevalent in 77.2% ($n=298$) of the participants, followed by mild stigma in 16.1% ($n=62$) of the participants and finally severe stigma perception in 6.7% of the participants ($n=26$). Among the subscales of the HIV perceived stigma scale, disclosure concerns contributed the most with the highest percentage score of 68.9%, while personalized stigma had the least contribution with a score of 54.3% (Table 2).

Table 1. Sociodemographic characteristics of the participants.

Variables	Total (%) N= 386
Age (years)	
≤ 30	43 (11.1)
30–40	157 (40.7)
41–50	118 (30.6)
≥ 50	68 (17.6)
Mean age \pm SD (years)	41.20 \pm 9.12
Nationality	
Nigerian	386 (100)
Sex	
Male	64 (16.6)
Female	322 (83.4)
Marital status	
Single	36 (9.3)
Married	253 (65.5)
Divorced	45 (11.7)
Widowed	52 (13.5)
Religion	
Christianity	281 (72.8)
Islam	103 (26.7)
Traditional	2 (0.5)
Education	
None	21 (5.4)
Primary	65 (16.8)
Secondary	158 (41.0)
Tertiary	116 (30.1)
Postgraduate	26 (6.7)
HIV status disclosure	
Disclosed	374 (96.9)
Undisclosed	12 (3.1)
Relationship of individuals disclosed to	
Spouse	212 (56.7)
Siblings	51 (13.6)
Parent	47 (12.6)
Children	44 (11.8)
Others	20 (5.3)
HIV status disclosure without consent	
Yes	32 (8.3)
No	354 (91.7)
Experienced enacted stigma	
Yes	138 (35.8)
No	248 (64.2)

SD: standard deviation.

The association between the demographic data, some USAID indicators and questions on enacted stigma and Berger's Perceived HIV-Stigma scale is presented in Table 3. In this study, age, gender and marital status were not associated with the overall stigma and the subscales of Berger's HIV-Stigma scale. Participants who felt abandoned by their spouses and felt isolated from other household members had significantly higher stigma scores ($p < 0.001$) in overall stigma and all the subscales except disclosure concerns. The

Table 2. Perceived stigma scores among PLWHA in Abeokuta.

Variables	Expected range of score	Mean \pm SD score	% highest possible ^a score
Overall stigma	40–160	95.74 \pm 16.04	60.0
Stigma subscales			
Personalized stigma	18–72	39.09 \pm 9.53	54.3
Disclosure concerns	10–40	27.55 \pm 4.08	68.9
Negative self-image	13–52	31.11 \pm 5.83	60.0
Concerns with public attitudes	20–80	47.52 \pm 9.02	59.4
Categories of overall stigma			
Little or mild	40–80	62	16.1
Moderate or middle	81–120	298	77.2
Severe	>120	26	6.7

PLWHA: people living with HIV/AIDS; SD: standard deviation.

^aPercentage highest possible score = mean score \div upper limit of expected score range \times 100. The higher the score, the higher the level of stigma.

Table 3. The association between the demographic data, some USAID indicators of enacted stigma and the scale/subscales of Berger's HIV Stigma.

Variables	Personalized stigma	Disclosure concerns	Negative self-image	Public attitudes	Overall stigma
Mean age \pm SD					
<40 years (166)	39.76 \pm 8.88	27.96 \pm 3.83	31.40 \pm 6.03	48.39 \pm 8.41	97.08 \pm 15.36
>40 years (220)	38.58 \pm 9.99	27.24 \pm 4.24	30.89 \pm 5.69	46.87 \pm 9.41	94.71 \pm 16.49
p-value	0.228	0.086	0.384	0.103	0.152
Gender					
Male (64)	37.11 \pm 9.79	27.38 \pm 4.68	30.30 \pm 6.37	45.66 \pm 9.80	92.25 \pm 17.73
Female (322)	39.47 \pm 9.45	27.58 \pm 3.95	31.27 \pm 5.72	47.89 \pm 8.82	96.43 \pm 15.63
p-value	0.069	0.713	0.222	0.070	0.057
Marital status					
Married (253)	38.72 \pm 9.58	27.46 \pm 4.10	30.94 \pm 5.81	47.43 \pm 9.17	95.35 \pm 16.10
Not married (133)	39.77 \pm 9.45	27.71 \pm 4.06	31.44 \pm 5.89	47.69 \pm 8.74	96.47 \pm 15.96
p-value	0.304	0.577	0.418	0.791	0.517
Highest Education					
<Secondary (244)	38.96 \pm 9.12	27.36 \pm 4.00	31.83 \pm 5.81	47.64 \pm 8.63	96.13 \pm 15.77
Tertiary (142)	39.30 \pm 10.22	27.86 \pm 4.21	29.87 \pm 5.70	47.32 \pm 9.68	95.06 \pm 16.53
p-value	0.741	0.241	0.001	0.732	0.526
Felt abandoned by spouse					
Yes (39)	47.15 \pm 10.29	28.62 \pm 4.40	34.21 \pm 5.81	53.10 \pm 8.58	106.61 \pm 15.99
No (347)	38.18 \pm 9.02	27.43 \pm 4.03	30.76 \pm 5.74	46.90 \pm 8.86	94.51 \pm 15.60
p-value	<0.001	0.085	<0.001	<0.001	<0.001
Felt isolated by other household members					
Yes (28)	47.36 \pm 11.20	28.64 \pm 4.46	34.89 \pm 6.18	53.92 \pm 10.15	107.54 \pm 17.94
No (358)	38.43 \pm 9.10	27.46 \pm 4.04	30.81 \pm 5.71	47.02 \pm 8.74	94.81 \pm 15.53
p-value	<0.001	0.140	<0.001	<0.001	<0.001
Felt excluded from social activities					
Yes (33)	45.30 \pm 10.66	27.88 \pm 3.37	33.42 \pm 5.73	52.39 \pm 9.37	104.48 \pm 15.61
No (353)	38.50 \pm 9.23	27.52 \pm 4.14	30.90 \pm 5.81	47.07 \pm 8.86	94.92 \pm 15.85
p-value	<0.001	0.626	0.017	0.001	0.001
Felt limited career progression					
Yes (15)	40.47 \pm 9.29	25.27 \pm 4.82	29.40 \pm 5.40	47.13 \pm 9.33	93.07 \pm 17.10
No (371)	39.03 \pm 9.55	27.64 \pm 4.03	31.18 \pm 5.85	47.54 \pm 9.02	95.84 \pm 16.01
p-value	0.568	0.027	0.247	0.865	0.512

USAID: United States Agency International Development; SD: standard deviation.

Table 4. Relationship between the demographic data and mean ranks of the domains of USAID-recommended indicators and questions on enacted stigma.

Variables	Isolation	Verbal stigma	Loss of identity	Loss of resources	Enacted stigma
Mean rank age (years)					
<40 (166)	198.37	199.59	194.16	193.35	202.39
>40 (220)	189.83	188.90	193.00	193.62	186.79
p-value	0.324	0.203	0.864	0.963	0.056
Gender					
Male (64)	185.24	194.74	198.50	192.02	188.96
Female (322)	195.14	193.25	192.51	193.79	194.40
p-value	0.390	0.894	0.447	0.837	0.677
Marital status					
Married (253)	185.41	186.10	191.27	192.73	185.16
Not married (133)	208.89	207.57	197.74	194.97	209.36
p-value	0.009	0.014	0.294	0.738	0.018
Highest education					
<Secondary (244)	192.07	193.99	192.67	193.78	193.20
Tertiary (142)	195.46	192.83	194.64	193.12	193.91
p-value	0.695	0.890	0.739	0.920	0.942

USAID: United States Agency International Development.

feeling of limited career progression had no association with the HIV stigma subscale.

The mean rank scores of the participants in the domains of USAID-recommended indicators and questions on enacted stigma in relation to demographic data are compared in Table 4. There were no significant differences in the participants' scores according to age, gender and education distribution. However, those clients who were not married had significantly higher score in isolation ($U=1478$ ($Z=-2.60$), $p=0.009$, $r=-0.1$), verbal stigma ($U=14,953.5$ ($Z=-2.47$), $p=0.014$, $r=-0.1$) and enacted stigma ($U=14,715.0$ ($Z=-2.37$), $p=0.018$, $r=-0.1$).

Table 5 shows the results from the Pearson correlation of Berger's HIV-stigma scale and domains of USAID-recommended indicators and questions on enacted stigma. Overall, Berger's stigma score was associated with isolation ($r=0.3$, $p<0.001$), verbal stigma ($r=0.3$, $p<0.001$), loss of identity ($r=0.2$, $p=0.001$) and total enacted stigma ($r=0.3$, $p<0.001$). Isolation and verbal stigma correlated significantly with all Berger's HIV-stigma subscales, while loss of resources showed no significant correlation across all the subscales.

Discussion

It is well documented that HIV-related stigma occurs widely and, thus, limits the prevention of HIV transmission as it predisposes PLWHA to poor adherence to medications, disclosure refusal, self-blame, depression, feelings of rejection and isolation.^{6,11,15,21} In this study, the perceived HIV-related stigma is moderately high, while enacted stigma is relatively low. We found no association between age, gender and HIV-related stigma but low education was associated with higher

negative self-image perception. Perceived and enacted stigmas are higher among those abandoned by their spouses, household members, those excluded from socials and had a limitation in career progression. We demonstrated a correlation between the total enacted and perceived stigma scales and the variable association between their subscales.

The overall mean stigma score obtained using Berger's perceived HIV-stigma scale was 95.74 (± 16.04), and this is comparable to previous studies that reported the presence and high rate of HIV-related stigma among PLWHA.^{22,23} A survey conducted in Nigeria showed a similar overall stigma score of 95.¹⁸ However, other studies conducted outside Nigeria have reported higher average stigma scores than 100 using the same instrument.¹⁹ The moderate level of stigma observed in this study population may not be unrelated to the marital, household and workplace discrimination still being experienced by PLWHA in Nigeria. Although certain studies have shown that better awareness about HIV infection and its transmission had resulted in a gradual decline in HIV-related stigma among the populace,^{23,24} perception of stigma remains strong when felt in and around PLWHA at home and at work.

The disclosure of HIV serostatus is known to impact stigma. High serostatus disclosure in this study seems to have moderated the level of stigma, as only 6.7% of PLWHA had a severe HIV-related stigma. HIV status disclosure has often been considered a proxy measure of stigma since PLWHA are more likely to disclose their status in low-stigma environment, where they anticipate less negative consequences.²⁵ A previous study which reported a severe stigma when only 50% of the study population of PLWHA disclosed their HIV status suggested that the lower the disclosure rate, the higher the level of stigma.²⁶ Other studies have associated severe

Table 5. The Pearson correlation of the subscales of Berger's HIV-stigma scale and domains of USAID-recommended indicators and questions on enacted stigma.

Variables	Personalized stigma	Disclosure concerns	Negative self-image	Public attitudes	Overall stigma
Isolation					
r	0.347**	0.101*	0.219**	0.259**	0.282**
p	<0.001	0.047	<0.001	<0.001	<0.001
Verbal stigma					
r	0.331**	0.145**	0.161**	0.268**	0.265**
p	<0.001	0.004	0.002	<0.001	<0.001
Loss of identity					
r	0.250**	0.054	0.132**	0.156**	0.184
p	<0.001	0.293	0.009	0.002	<0.001
Loss of resources					
r	0.099	-0.082	0.029	0.054	0.043
p	0.051	0.106	0.574	0.287	0.395
Total enacted stigma					
r	0.333	0.076	0.181	0.244	0.255
p	<0.001	0.134	<0.001	<0.001	<0.001

USAID: United States Agency for International Development.

*Correlation is significant at the 0.01 (two-tailed).

**Correlation is significant at the 0.05 (two-tailed).

level of stigma with depression and poor adherence.^{24,27} In this study, among the subscales of the HIV stigma scale, disclosure concerns had the highest percentage of possible score at 68.9%, which is consistent with the findings from other studies.^{17,27,28} It has been well noted that HIV disclosure causes improvement in the physical and psychological well-being as well as in health behaviors of PLWHA.²⁹ Although the majority of the participants in this study had disclosed their HIV status to their relatives, they still continually live with other disclosure concerns such as fear of family disintegration and fears of their relative not being able to keep their HIV status as a secret.²⁹ We demonstrated an association between disclosure and limitation of career progression, verbal stigma and isolation, which may relate to poor public attitude being extended to PLWHA in Africa. In this study, about 8.3% of the PLWHA had their HIV status disclosed without their consent. Disclosure of HIV status is not always with the permission of those involved,³⁰ and studies have shown that HIV status had been disclosed without the consent of PLWHA by family, friends and even health workers.^{31,32} Disclosure of the status of PLWHA without their consent by health workers has been linked to the difficulty in balancing the medical confidentiality of PLWHA with the necessity to assist and protect people around them.³² Health workers may sometimes be trapped between these conflicting values, and they may feel the need to disclose their patients' status to their loved ones, either to rally support for them or because of their responsibility to protect those around PLWHA if the patients refuse to disclose their status themselves.³²

Personalized stigma was the least prevalent subscale of the HIV stigma scale in this study, which is consistent with a

previous study.¹⁸ Lesser prevalence of personalized stigma has been linked to increased HIV status disclosure,³³ suggesting that the high level of HIV status disclosure seen in this study contributed to the lesser prevalence of personalized stigma among them. In this study, participant who felt abandoned by their spouse, felt isolated by household members and those who felt excluded from social activities have more personalized stigma, negative self-image, concerns with public attitudes and overall HIV stigma, suggesting that the more the feeling of isolation, abandonment and societal exclusion by PLWHA, the more their risks of experiencing personalized stigma, negative self-image, concerns with public attitudes and overall HIV stigma.¹⁸ Other studies documented either negative self-image or concerns with public attitudes as the least prevalent in their studies.^{17,27} The association between the perceptions of PLWHA and the subscales of the HIV stigma scales underscores the fact that stigma has to be addressed holistically.

The enacted stigma, the experience of "biased and unfair treatment" toward the PLWHA by other people around them^{15,34} in the last 12 months before the study was 35.8%. A similar study by Swendeman et al³⁵ documented that 31% of young PLWHA experienced enacted stigma in the last 3 months prior to their study, while 64% of them experienced enacted stigma over a lifetime, thus suggesting that many of the PLWHA might experience enacted stigma at some point in their life. Factors associated with enacted stigma in this study included feelings of abandonment by their husbands, other household members, societal exclusion and limitation of career progression. A previous Nigerian study reported that only 70% of the literate people living around PLWHA

are willing to care for a relative with HIV/AIDS, which shows the level of sympathy showed by Nigerians toward PLWHA.⁸ The lack of genuine willingness to care for PLWHA seen among family members of PLWHA is a source of great concern and usually hinders HIV status disclosure of PLWHA even to their family members to avoid isolation, abandonment, hostility responses and discriminatory practices toward them.⁸ As found in this study, another study has established that family members also demonstrated stigma and prejudice attitudes toward related PLWHA.³⁶ Isolation and avoidance of PLWHA is a widespread practice that is fueled by fear of being infected by “a disease without a cure.” Family and community members also believe that taking care of PLWHA is a waste of time and resources since HIV was seen more like a death sentence.³⁷

In this study, there was no association between age, gender and marital status and the HIV-related stigma. Age, gender, educational level and wealth index have previously been associated with HIV stigma.⁸ However, participants with below or at the least secondary level of education are more likely to have negative self-image in comparison to those with tertiary education. This could be due to a lower level of awareness among the less educated persons on HIV infection and its transmission, the prognosis of PLWHA, availability, effectiveness of ART and availability and enforcement of HIV policies.

Furthermore, we observed that USAID-recommended indicators and questions on total enacted stigma and its domains of isolation, verbal stigma and loss of identity were all associated with Berger’s overall stigma scale and its subscales except for the loss of resource domain.

Our findings showed that the use of both the USAID-recommended indicators and questions for PLWHA and Berger’s HIV-stigma scale demonstrated stigmatization of PLWHA in our study population. The high level of disclosure among the participants might have moderated the level of overall stigma experienced, and thus, disclosure should be encouraged during contacts with the PLWHA at the clinics. The viability of HIV support groups where the PLWHA can relate well with each other might also reduce enacted stigma such as feelings of abandonment, isolation from family members and social exclusion as observed in this study.

There are some identified limitations of this study. First, this was a cross-sectional study and hence one cannot determine causality; a mixed-method approach to the study (qualitative and quantitative) would have made the study more robust as it will measure the level of stigma and also study human behavior as it relates to HIV-related stigma. However, these would have required more time and more resources to implement. Second, there were more female clients accessing antiretroviral care than males, thus making the number of willing male participants recruited small and might not truly reflect the level of HIV-related stigma among males. Third, the study was carried out at source of care (hospital) which limits generalization; however, obtaining stigma information

from PLWHA outside the care center is usually a difficult task in our environment because of fear of the subject studied. The employment of two extensively validated instruments for assessment ensures that all ranges of stigma feelings were documented and allowed for comparison of their subscales and overall performance in assessing HIV-related stigma.

Finally, pregnant women were not included in the study as they access care at a different clinic in the center for effective prevention of mother to child transmission (PMTCT) services.

Conclusion

The presence of HIV-related stigma affects the well-being of PLWHA. The moderate level of HIV-related stigma observed in this study might be attributed to high level of disclosure by the participants. Personalized stigma contributed the least to stigma subscales. The feelings of abandonment by husbands, other family members and social exclusion were significantly associated with stigma. Low level of education is significant for a higher level of HIV stigma, and correlations exist between the subscales of Berger’s HIV stigma scale, and the USAID-recommended indicators and questions for PLWHA domains except for the loss of resource. Legal framework against stigmatization of PLWHA, education, voluntary counseling and testing (VCT) and availability of ART should be intensified to reduce the stigma been experienced by PLWHA in Nigeria.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical approval

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Informed consent

Written informed consent was obtained from all subjects before the study.

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