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The relationship between HIV-related stigma and quality of life among HIV infected outpatients: A cross-sectional study in Vietnam

Van Thi Hai Hoang[1], Hai-Thanh Pham[1,2], Linh Thi Phuong Nguyen[1], Ngoc-Anh Tran[1] and Va Quynh-Trang Le-Thi[3]

Abstract

Background: The impact of stigma on individuals with HIV remains a significant challenge, causing feelings of worthlessness, shame, and emotional distress. This study aimed to examine the relationship between HIV-related stigma and quality of life (QOL) among HIV-infected outpatients initiating antiretroviral therapy (ART) in Vietnam.

Design and methods: This was a cross-sectional study which conducted at Vinh General Hospital, Nghe An Province, involved 323 HIV-infected outpatients. Participants were surveyed between October 2020 and October 2021. The study collected data through structured interviews, assessing socio-demographic factors, HIV stigma, and QOL.

Results: The result showed that HIV-infected outpatients experiencing higher stigma showed poorer QOL across various domains. The negative impact of stigma was particularly evident in domains related to physical health, psychological well-being, and spirituality. Participants who were married, had children, consumed alcohol, had comorbidities (particularly hepatitis B/C), and lacked a history of drug use reported varying levels of correlation with QOL domains and stigma.

Conclusions: By identifying the intricate connections between stigma and QOL, the study provides valuable insights for designing comprehensive interventions that prioritize the well-being of HIV infected outpatients.

Keywords

HIV, HIV-related stigma, quality of life, HIV infected outpatients, Vietnam

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Introduction

Stigma is "a socialized conception of what is disgraceful, unacceptable or abnormal."[1] It causes feelings of worthlessness, shame, and emotional distress in the affected individuals. Stigma is one of the key challenges affecting individuals with HIV today.[1] Stigma can lead to stress and depression in people living with HIV (PLWH),[2] prevent them from exercising their basic rights to health care services and social security, impede HIV prevention efforts,[3] and cause PLWH to postpone or even refuse HIV care and treatment[2]

Highly stigmatized PLWH advance more swiftly from HIV to AIDS, worsening the morbidity and mortality associated with HIV.[4] A high level of HIV-related stigma is associated with social exclusion and an increased risk of suicide and psychological suffering.[5,6] There is some evidence to show a link between HIV related stigma and their quality of life, but more research is needed.[7,8]

Despite more than three decades of HIV/AIDS prevention and treatment, the disease remains one of Vietnam's most serious public health challenges, with 250.000 cases

[1]School of Preventive Medicine and Public Health, Hanoi Medical University, Ha Noi, Vietnam
[2]Institute of Environmental Health and Sustainable Development (IEHSD), Ha Noi, Vietnam
[3]Nghe An Center for Disease Control, Nghe An, Vietnam

Corresponding author:
Hai-Thanh Pham, Hanoi Medical University, No. 1 Ton That Tung Street, Kim Lien Ward, Dong Da District, Ha Noi 100000, Vietnam.
Email: thanh.ph.hmu@gmail.com

and 180.000 on ARV.[9] In Vietnam, the majority of PLWH experience stigmatization as a results of shame (36.9%), blame/judgment (21.6%), and discrimination (23.4%).[10] There are few studies in Vietnam that focused on stigma and quality of life (QOL) among PLWH, but few studies looked at HIV-infected outpatients. The aim of our study was to assess HIV-related stigma and QOL, as well as their correlations, in a group of HIV-infected patients starting ART in an outpatient environment in Vietnam.

Materials and methods

We conducted a cross-sectional study among PLWH who were outpatients presenting for care at the Vinh General Hospital, Nghe An Province. Nghe An province is the center of Vietnam with a population of 3.4 million, of those 6017 people living with HIV, the sixth position across the country.[11]

Participants

A convenience sample of HIV-infected outpatients was recruited from the Department of Tropical Diseases, Vinh General Hospital, from October 2020 to October 2021. Eligible patients were: (1) diagnosed with HIV; (2) outpatients enrolled in HIV care; (3) ≥18 years of age; (4) willing to participate in this study; (5) able to give informed consent.

Our study applied the total sampling method. At the time of the study (May 2021), the number of patients receiving outpatient treatment at the facility was 343 people. Based on the list of HIV patients undergoing outpatient ARV treatment at the Department of Tropical Diseases - Vinh City General Hospital, the study screened and selected all patients who met the criteria to invite participants. In fact, 323 people participated in the interview. There were nine patients who did not agree to participate and 11 patients had family members come to pick up medicine so they did not participate.

Measures and instruments

Data were collected by qualified and trained investigators using a structured interview questionnaire. There were three parts in the interview questionnaire. The first one was the socio-demographic contained variables such as age, sex, education, marital status, education, employment status, income, living status (alone or with others), having children, disclosing HIV status, drug use, alcohol history, tobacco history, history of being exposed to HIV, history of forget using ARV in last 2 weeks. Clinical data (HIV stage, CD4+ T-cell count, presence of comorbidities) were collected from participant medical records. The second part of the questionnaire consisted of the 13-item HIV/AIDS stigma scale originally developed by Sowell et al.[12] The third part was the WHOQOL-HIV BREF questionnaire, which uses 31 items to assess the QOL of PLWH.[13]

HIV stigma. The HIV/AIDS stigma scale created by Sowell et al. was used to assess HIV-related stigma. The original form of this questionnaire was validated and utilized for older and female HIV patients.[12] The 13-item measure assesses a person's negative self-stigma, stigma-related sentiments, and fear of stigma. On a 4-point scale ranging from 1 to 4, higher scores indicated greater stigma. This measure is frequently used as an indicator of HIV-related stigma and is regarded to be valid and trustworthy. Because each subscale indicates a different element of stigma, such as self-stigma, feeling stigma, and fear of stigma, we used them independently in this study.

Quality of life. The World Health Organization Quality of Life- HIV Brief Instrument in Vietnamese was used to assess the quality of life of HIV patients. The WHOQOL-HIV BREF Vietnamese version has been used elsewhere.[13] The WHO QOLHIV- BREF was a 31-question scale that asked respondents to score their health-related quality of life (HRQOL) in six domains (physical, psychological, level of independence, social interactions, environment and spirituality, religion, and personal beliefs). The WHOQOL-HIV-BREF standards were used to generate the calculation score for each domain and the overall HRQOL score.[13] The domain scores varied from 4 to 20, and were computed by multiplying the domain's average score by 4. Higher ratings indicate improved overall or domain quality of life.

Study analysis

For the descriptive statistical analysis of the sample, the mean and standard deviation (SD) values were used to compute the quantitative variables, while the number and the percentage were used to calculate the qualitative variables. To examine the consistency of the different scales in this sample, Cronbach's alpha was determined. Pearson linear correlation coefficient (r) was then used to assess correlations across variables. Additionally, the t-student test and an analysis of variance (ANOVA) were utilized for means comparisons involving more than two groups.

The assumptions of normality and variance uniformity required for means comparisons were investigated using the Kolmogorov-Smirnov and Levene tests. A multivariate linear regression model was created to evaluate the possible impacts of demographic factors, HIV-related stigma, and QOL. The statistical analysis was completed with the use of R program package. $p < 0.05$ served as the threshold for statistical significance.

Ethical statement

The research was approved by the Scientific Committee Board School of Preventive Medicine and Public Health,

Hanoi Medical University (No 866/QĐ-ĐHYHN, April 29, 2021). The Vinh General Hospital gave its approval for the collection of the data. All participants provided written informed consent after being given a thorough explanation of the objectives of the study. Respondents had the right to decline the interview at any point. Patient information was coded to ensure confidentiality, and both paper surveys and computerized datasets were prepared for secured storage.

Results

Participants' characteristics

A total of 323 PLWH completed the survey with mean age of 40.9 (SD = 10.2) years and 64.1% were men. There were over half study participants married and 33.4% having education level at college and above. The percentage of people employed in our results was 93.5%, had income was 76.7%, lived with others was 85.8%, had children was 65.3%, and disclosed their HIV status was 72.4%. And results showed that only 3.7% people in our study used drugs, while 33.6% consumed alcohol and 39.0% used tobacco. Almost 39.3% of participants reported comorbidities, with hepatitis B/C being the most common (34.4%), while tuberculosis was only 2.2%, and others 6.2%. In terms of ARV adherence, 82.4% of patients reported not forgetting to use ARV in the last 2 weeks, while 30.3% had low CD4 cell counts ($\leq$500 cells/mm^3) (Table 1).

Individuals who scored higher in the psychological domain were more likely to report married than those who did not. Survey respondents who had higher mean scores in the psychological and spiritual domains had a higher prevalence of history of alcohol consumption (Table 1). Furthermore, individuals who high score in spiritual domains were more likely to report experiencing with a medical history of diseases.

Correlation between stigma and quality of life

The results of the connection between three stigma domains and QOL domains are shown in Table 2. Overall, the three HIV-related stigma, including self-stigma, feeling stigma, and fear stigma, demonstrated consistent and substantial negative correlations with several dimensions of QOL. Self-stigma and feeling stigma were significant negatively correlated with physical health, psychological, level of independence, social relationship, environmental, spiritual and overall QOL. In addition, fear stigma showed only negative correlations with physical health, psychological, spiritual and overall QOL.

Associated factors

According to the multivariable linear logistics model, all of the QOL scale's domains had a statistically significant negative connection between them and the feeling stigma domain (Table 3). Particularly, individuals who had lower scores on the physical health domain and the overall QOL score were correlated with higher scores in the feeling stigma category than those who did not. Additionally, participants who did not drink alcohol, were not married and had higher scores on the self-stigma and feeling stigma domains and lower scores on the psychological domain when contrasted with those who did not. Additionally, HIV-positive outpatients had lower scores on the level of independence, social interactions, environment, and spiritual domains despite having higher scores on the feeling stigma and fear stigma domains that other. Last but not least, people without a history of hepatitis B or C had higher scores on the spiritual domain as compared to their counterparts.

Discussion

In our investigation, it is imperative to acknowledge that all subjects under scrutiny were under antiretroviral treatment (ART) regimens and receiving consistent medical care. This salient detail is pivotal in understanding the context of our findings, as it is conceivable that the relatively lower levels of HIV-related stigma observed in this study can be attributed to the positive impact of therapeutic interventions in managing the condition. Furthermore, our data clearly demonstrates that HIV-related stigma has a significant adverse impact on the QOL among HIV-infected outpatients. Specifically, self-stigma, fear stigma, and feeling stigma, along with factors such as marital status, having children, alcohol consumption, having hepatitis B/C, and comorbidity status, were associated with various QOL domains and total QOL scores in this patient group.

HIV-related stigma and QOL

Based on the mean scores of our research, the overall QOL of PLWH in Vietnam is relatively moderate, with the highest mean score in the level of independence domain and the lowest mean score in the social relationship domain. These findings contradict the results of a cross-sectional study conducted in Iran.[14] Among study participants, the level of independence domain had the lowest mean score, while the level of spirituality domain had the highest mean score. Additionally, the level of social relationships was the third-highest mean score. The difference could be explained by the differences between Vietnam and Iran in cultural norms and societal expectations. The emphasis on independence in Vietnam may derive from cultural ideals that foster self-reliance and individual achievement. In contrast, the centrality of faith-based convictions and customs in the lives of many Iranians may explain the greater emphasis on spirituality in Iran. These

Table 1. Demographic characteristics and quality of life of study population.

Demographic characteristics *n* (%)		Physical health mean (SD)	Psychological mean (SD)	Level of independence mean (SD)	Social relationship mean (SD)	Environmental mean (SD)	Spiritual mean (SD)	QOL total scores mean (SD)
Sex								
Male	207 (64.1)	15.5 (2.56)	13.8 (2.02)	15.5 (2.38)	13.5 (2.06)	14.4 (2.14)	14.5 (2.60)	87.2 (10.7)
Female	116 (35.9)	15.4 (2.59)	13.7 (2.05)	15.2 (2.46)	13.3 (2.24)	14.3 (2.13)	14.8 (2.86)	86.6 (11.2)
p-Value		0.78	0.49	0.28	0.58	0.71	0.42	0.68
Age (years)								
Mean (SD)	40.9 (10.2)							
30 and below	45 (13.9)	14.8 (2.48)	13.5 (2.07)	15.2 (2.53)	13.4 (2.54)	14.0 (2.37)	13.8 (3.14)	84.7 (12.1)
31 and above	278 (86.1)	15.5 (2.57)	13.8 (2.02)	15.4 (2.39)	13.4 (2.06)	14.4 (2.09)	14.7 (2.60)	87.3 (10.6)
p-Value		0.07	0.29	0.56	0.94	0.28	0.08	0.17
Married								
Yes	190 (58.8)	15.6 (2.50)	14.0 (2.04)	15.5 (2.41)	13.6 (2.16)	14.5 (2.11)	14.7 (2.65)	87.9 (10.7)
No	133 (41.2)	15.3 (2.67)	13.4 (1.97)	15.2 (2.40)	13.2 (2.07)	14.2 (2.15)	14.4 (2.74)	85.7 (11.0)
p-Value		0.31	**0.010**	0.26	0.20	0.18	0.27	0.08
Education level								
College and above	108 (33.4)	15.4 (2.59)	13.5 (2.06)	15.4 (2.40)	13.2 (2.12)	14.3 (2.26)	14.2 (2.84)	86.0 (11.6)
Highschool and under	215 (66.6)	15.4 (2.56)	13.9 (2.01)	15.4 (2.41)	13.5 (2.13)	14.4 (2.07)	14.8 (2.60)	87.5 (10.5)
p-Value		0.96	0.09	0.87	0.18	0.73	0.10	0.29
Employed status								
Unemployed	21 (6.5)	15.2 (2.68)	13.3 (1.98)	15.2 (2.43)	13.4 (2.09)	14.3 (2.34)	14.0 (2.73)	85.5 (11.6)
Employed	302 (93.5)	15.5 (2.57)	13.8 (2.03)	15.4 (2.41)	13.4 (2.13)	14.4 (2.12)	14.6 (2.69)	87.1 (10.8)
p-Value		0.67	0.30	0.78	0.99	0.92	0.28	0.54
Income								
Salary	248 (76.8)	15.5 (2.42)	13.8 (1.99)	15.4 (2.33)	13.4 (2.12)	14.4 (2.08)	14.7 (2.59)	87.2 (10.4)
Support	75 (23.2)	15.2 (3.02)	13.6 (2.17)	15.3 (2.66)	13.5 (2.16)	14.1 (2.30)	14.4 (3.00)	86.2 (12.2)
p-Value		0.51	0.40	0.81	0.72	0.32	0.49	0.51
Living status								
Alone	46 (14.2)	15.0 (2.91)	13.4 (1.86)	15.0 (2.58)	13.2 (1.99)	14.2 (2.14)	14.7 (2.59)	84.8 (11.4)
With other	277 (85.8)	15.5 (2.51)	13.8 (2.06)	15.4 (2.38)	13.5 (2.15)	14.4 (2.13)	14.4 (3.00)	87.3 (10.8)
p-Value		0.27	0.20	0.33	0.36	0.50	0.49	0.16
Having children								
Yes	211 (65.3)	15.6 (2.47)	13.9 (2.01)	15.5 (2.38)	13.5 (2.13)	14.5 (2.12)	14.8 (2.61)	87.7 (10.5)
No	112 (34.7)	15.1 (2.73)	13.6 (2.05)	15.2 (2.45)	13.3 (2.11)	14.1 (2.15)	14.3 (2.82)	85.6 (11.4)
p-Value		0.15	0.14	0.34	0.48	0.14	0.15	0.11
Disclose the HIV status								
Yes	234 (72.4)	15.3 (2.66)	13.8 (2.12)	15.4 (2.50)	13.5 (2.18)	14.4 (2.21)	14.5 (2.74)	86.9 (11.2)
No	89 (27.6)	15.7 (2.32)	13.8 (1.78)	15.3 (2.17)	13.3 (1.98)	14.3 (1.92)	14.7 (2.57)	87.2 (10.0)
p-Value		0.27	0.80	0.69	0.62	0.73	0.59	0.85
Drug								
Yes	12 (3.7)	16.3 (1.97)	14.4 (1.41)	16.5 (2.20)	12.8 (1.34)	14.6 (2.64)	15.4 (1.98)	90.1 (8.51)
No	311 (96.3)	15.4 (2.59)	13.8 (2.05)	15.3 (2.41)	13.5 (2.15)	14.4 (2.11)	14.6 (2.71)	86.9 (10.9)

(Continued)

Table 1. (Continued)

Demographic characteristics *n* (%)		Physical health mean (SD)	Psychological mean (SD)	Level of independence mean (SD)	Social relationship mean (SD)	Environmental mean (SD)	Spiritual mean (SD)	QOL total scores mean (SD)
p-Value		0.14	0.15	0.10	0.15	0.77	0.17	0.23
Alcohol								
Yes	108 (33.4)	15.7 (2.49)	14.2 (1.90)	15.6 (2.33)	13.4 (2.17)	14.5 (2.09)	15.1 (2.23)	88.5 (10.3)
No	215 (66.6)	15.3 (2.61)	13.6 (2.06)	15.3 (2.44)	13.4 (2.11)	14.3 (2.15)	14.3 (2.87)	86.2 (11.1)
p-Value		0.22	**0.004**	0.17	0.86	0.42	**0.008**	0.06
Tobacco								
Yes	126 (39.0)	15.3 (2.48)	13.8 (2.01)	15.3 (2.42)	13.5 (2.01)	14.5 (2.10)	14.5 (2.66)	86.9 (10.4)
No	197 (61.0)	15.5 (2.63)	13.8 (2.05)	15.4 (2.40)	13.4 (2.20)	14.3 (2.15)	14.7 (2.72)	87.1 (11.2)
p-Value		0.63	0.95	0.56	0.62	0.47	0.57	0.87
Transmission route								
Sexual behavior	57 (17.6)	15.4 (2.63)	13.3 (2.36)	15.5 (2.34)	13.2 (1.66)	14.2 (2.24)	14.3 (2.59)	85.9 (11.0)
Drug abuse	266 (82.4)	15.4 (2.56)	13.9 (1.94)	15.4 (2.42)	13.5 (2.21)	14.4 (2.11)	14.7 (2.72)	87.2 (10.8)
p-Value		0.92	0.09	0.62	0.21	0.51	0.38	0.41
Forgetting using ARV								
Yes	57 (17.6)	15.4 (2.63)	13.3 (2.36)	15.5 (2.34)	13.2 (1.66)	14.2 (2.24)	14.3 (2.59)	85.9 (11.0)
No	266 (82.4)	15.4 (2.56)	13.9 (1.94)	15.4 (2.42)	13.5 (2.21)	14.4 (2.11)	14.7 (2.72)	87.2 (10.8)
p-Value		0.92	0.09	0.62	0.21	0.51	0.38	0.41
Tuberculosis								
Yes	127 (39.3)	15.4 (2.44)	14.6 (1.83)	15.9 (2.41)	13.9 (2.48)	14.5 (3.12)	14.0 (1.91)	88.3 (12.2)
No	196 (60.7)	15.4 (2.58)	13.8 (2.03)	15.4 (2.41)	13.4 (2.12)	14.4 (2.11)	14.6 (2.71)	86.9 (10.9)
p-Value		0.99	0.26	0.62	0.66	0.91	0.44	0.79
Hepatitis B/C								
Yes	111 (34.4)	15.7 (2.44)	13.7 (1.97)	15.5 (2.35)	13.4 (1.88)	14.3 (2.25)	14.4 (2.50)	87.0 (10.3)
No	212 (65.6)	15.3 (2.63)	13.8 (2.06)	15.3 (2.44)	13.4 (2.25)	14.4 (2.07)	14.7 (2.79)	87.0 (11.2)
p-Value		0.11	0.42	0.58	0.98	0.67	0.27	0.99
Other diseases								
Yes	20 (6.2)	15.9 (2.85)	14.4 (1.73)	15.9 (2.39)	14.0 (2.10)	14.9 (2.12)	15.7 (2.18)	90.7 (10.3)
No	303 (93.8)	15.4 (2.55)	13.7 (2.04)	15.4 (2.41)	13.4 (2.13)	14.3 (2.13)	14.5 (2.71)	86.7 (10.9)
p-Value		0.46	0.10	0.38	0.22	0.30	**0.038**	0.11
Comorbidities								
Yes	196 (60.7)	15.3 (2.61)	13.8 (2.08)	15.3 (2.45)	13.4 (2.25)	14.3 (2.06)	14.6 (2.82)	86.7 (11.2)
No	127 (39.3)	15.7 (2.49)	13.8 (1.96)	15.5 (2.34)	13.4 (1.93)	14.4 (2.24)	14.6 (2.50)	87.4 (10.4)
p-Value		0.13	0.90	0.41	0.88	0.89	0.86	0.59
CD4 test (cells/mm^3)								
≤500	127 (39.3)	15.5 (2.58)	13.8 (2.03)	15.5 (2.40)	13.4 (2.23)	14.4 (2.28)	14.8 (2.57)	87.4 (10.9)
>500	196 (60.7)	15.4 (2.57)	13.7 (2.04)	15.3 (2.41)	13.5 (2.06)	14.3 (2.04)	14.5 (2.77)	86.7 (10.9)
p-Value		0.69	0.68	0.36	0.66	0.71	0.35	0.55

Table 2. The correlation between HIV-related stigma and QoL.

	Physical health	Psychological	Level of independence	Social relationship	Environmental	Spiritual	QOL total scores	Self-stigma	Feeling stigma	Fear stigma
Physical health	1									
Psychological	0.59***	1								
Level of independence	0.71***	0.59***	1							
Social relationship	0.48***	0.51***	0.51***	1						
Environmental	0.59***	0.64***	0.67***	0.67***	1					
Spiritual	0.51***	0.46***	0.39***	0.34***	0.38***	1				
QoL total scores	0.84***	0.79***	0.84***	0.72***	0.82***	0.65***	1			
Self-stigma	−0.23***	−0.28***	−0.11*	−0.15*	−0.11*	−0.33***	−0.24***	1		
Feeling stigma	−0.27***	−0.26***	−0.13**	−0.15*	−0.08*	−0.39***	−0.25***	0.71***	1	
Fear stigma	−0.15**	−0.14**	0.02	−0.02	0.04	−0.36***	−0.12**	0.63***	0.69***	1
Mean	15.4	13.8	15.4	13.4	14.4	14.6	87	4.4	3.13	3.17
SD	2.57	2.03	2.41	2.13	2.13	2.69	10.9	2.94	3.09	2.91
Cronbach's alpha	0.64	0.59	0.68	0.65	0.79	0.57	0.9	0.72	0.77	0.75

*p-Value < 0.05. ** p-value < 0.01. *** p-value < 0.001.

Table 3. Linear regression analysis for quality-of-life outcomes.

Predictors	Physical health β (95% CI)	Psychological β (95% CI)	Level of independence β (95% CI)	Social relationship β (95% CI)	Environmental β (95% CI)	Spiritual β (95% CI)	QOL total scores β (95% CI)
Self-stigma	-	−0.13 (–0.23 to−0.02)*	-	−0.08 (–0.20 to 0.03)	−0.1 (–0.22 to 0.01)	-	−0.48 (−1.05 to 0.10)
Feeling stigma	−0.26 (−0.35 to −0.18)***	−0.16 (–0.27 to−0.05)**	−0.26 (–0.38 to−0.13)***	−0.16 (–0.28 to−0.03)*	−0.14 (–0.26 to−0.02)*	−0.17 (–0.30 to−0.05)**	−1.09 (−1.70 to−0.48)***
Fear stigma		0.10 (0.01–0.21)	0.19 (0.06–0.32)**	0.19 (0.06–0.31)**	0.18 (0.06–0.30)**	−0.23 (–0.37 to−0.10)**	0.52 (–0.07 to 1.11)
Married							
Yes	-	1.00	-	-	-	-	-
No		−0.49 (–0.91 to−0.06)*					
Alcohol							
Yes	-	1.00	-	-	-	1.00	1.00
No		−0.73 (−1.19 to−0.27)**				−0.50 (−1.08–0.08)	−2.10 (−4.55–0.36)
Hepatitis B/C							
Yes	-	1.00	-	-	-	1.00	-
No		0.32 (–0.13 to 0.77)				1.97 (0.57–3.36)**	
Comorbidities							
Yes	-	-	-	-	-	1.00	-
No						1.50 (0.11–2.89)*	

*p-Value < 0.05. **p-value < 0.01. ***p-value < 0.001.

aspects could considerably impact individuals' perspectives, leading to variations in their impact on QOL.

In terms of the correlation between stigma and QOL, our study found that self-stigma was negatively associated with all domains of QOL. These findings are consistent with a study conducted in Finland.[15] The Finnish study of 440 PLWH showed that 45.7% of participants reported moderate or severe self-stigma. It is indicated that higher levels of self-stigma were negatively associated with QOL and HRQOL domains.[15] Similarly, in a cross-sectional study among 200 Iranian PLWH, negative correlations were found between fear and all domains of QOL.[16] In the context of HIV-related stigma, fear can manifest itself in various ways. It may deter people from seeking correct medical care and adhering to treatment regimens, resulting in physical health problems. Fear associated with HIV-related stigma can deter individuals from seeking medical care and adhering to treatment, leading to physical health issues and mental well-being concerns.[17] Consequently, these findings underscore the nuanced nature of stigma's effects and underscore the necessity for interventions targeting the unique context and requirements of this specific population.

Relationship between HIV-related stigma, other factors, and QOL

In our research, we found that higher levels of feeling stigma were significantly associated with lower scores on all domains of the WHOQOL-HIV BREF questionnaire. These findings are consistent with previous research conducted in Canada, which also demonstrated a negative correlation between stigma and QOL among PLWH.[18] However, our study also identified some unique associations, such as the negative impact of feeling stigma on the spiritual domain and the positive impact of no history of Hepatitis B/C or comorbidities on the spiritual domain. Thus, these findings suggest that interventions to reduce stigma and improve QOL among PLWH should consider the specific context and needs of the population.

On the one hand, the findings of this study are consistent with previous research on the negative impact of HIV-related stigma on the QOL of PLWH, which is similar to a study in Uganda.[19] Another study in China highlighted that stigma can lead to psychological distress, depression, and social isolation, all of which can contribute to a lower QOL.[20] Another study conducted among PLWH in the United States also found that HIV-related stigma was associated with lower QOL scores.[21] Specifically, the study found that stigma was associated with poorer mental and physical health, decreased social support, and reduced overall QOL. The study also found that participants who experienced high levels of stigma reported lower levels of treatment adherence and an increased likelihood of engaging in risky behaviors. Collectively, these findings underscore the pressing need for comprehensive interventions aimed at mitigating the pervasive impact of HIV-related stigma. Such interventions should not only seek to ameliorate the psychological and emotional burdens associated with stigma but also address its repercussions on treatment adherence and overall well-being. In doing so, we strive to pave the way for a more inclusive and supportive environment that promotes the holistic well-being of PLWH, irrespective of their geographical location.

Besides, our finding that stigma negatively affects the quality of life of PLWH is consistent with previous research. Some previous studies have found that HIV-related stigma is a significant predictor of poor quality of life among PLWH.[22,23] The aspects of quality of life that are most negatively influenced by stigma may differ across studies, but these aspects include physical health, psychological well-being, and social relationships.[22,23] Furthermore, our finding showed that stigma was negatively associated with the level of independence, social relationships, environmental, and spiritual domains of quality of life was consistent with some previous research. For example, a study conducted in South Africa found that HIV-related stigma was associated with poorer social relationships and poorer environmental quality of life among PLWH.[22] Another study conducted in China found that HIV-related stigma was associated with poorer spiritual well-being among PLWH.[24] Thus, these findings not only reinforce the imperative need for targeted interventions addressing HIV-related stigma but also underscore the multidimensional nature of these interventions. By focus on these part, we endeavor to create a more supportive and inclusive environment that elevates the overall well-being of PLWH, transcending geographical boundaries and cultural contexts.

In addition, our results suggest that HIV-related stigma negatively affects the quality of life of HIV-infected outpatients in Vietnam, specifically in the psychological domain. This finding is consistent with previous studies that have shown the negative impact of HIV-related stigma on mental health outcomes among PLWH.[25,26] Finally, HIV-infected outpatients who did not have a history of Hepatitis B/C or comorbidities had higher scores in the spiritual domain, which is an interesting highlight. While there is limited research on the relationship between HIV-related stigma and spirituality among PLWH, previous studies have suggested that spirituality may be an important coping mechanism for PLWH in dealing with the stigma and stress associated with HIV.[27,28] In light of these findings, it becomes increasingly evident that comprehensive interventions aimed at mitigating the repercussions of HIV-related stigma should encompass not only psychological well-being but also the spiritual dimension. As we endeavor to enhance the overall well-being of PLWH, our study underscores the significance of recognizing and addressing the diverse aspects of QOL that are influenced

by stigma, transcending traditional boundaries and embracing the complexity of the human experience.

Study strengths and limitations

The use of culturally modified and validated QOL and stigma questionnaires, as well as the ability to choose participants from one Department of Tropical Diseases of the provincial hospital in Nghe An City, were both highlights of this study.

However, this study has some limitations. First, this was a cross-sectional analysis, preventing any drawing of conclusions about causal relationships between research variables. Second, the convenient sample and self-reported measures may have resulted in an over- or under-estimation of stigma and QOL. Finally, the fact that this study was limited to HIV outpatients in a central province hospital in Vietnam may make it difficult to extrapolate the findings to other HIV-positive populations in Vietnam. Despite these limitations, our research adds to the body of knowledge by demonstrating that the stigma associated with HIV influences QOL in PLWH in Vietnam and contributes to the current understanding of the relationship between sociodemographic and QOL.

In addition, our study was subject to several potential sources of bias. It was imperative to address errors originating from investigators by implementing rigorous training for enumerators. This training encompassed a comprehensive understanding of the research objectives, toolkit utilization, specific data collection procedures, and questionnaire content. Additionally, we took measures to reduce errors stemming from interview respondents, including self-reported and recall errors, by providing clear explanations of key areas during interviews and promptly addressing subject queries. Emphasizing the importance of confidentiality and privacy was instrumental in ensuring the accuracy of responses. To minimize errors during the data collection phase, we diligently collected questionnaires and conducted data quality checks after each investigation session. Furthermore, to rectify errors during data cleaning and entry, meticulous attention was devoted to scrutinizing slips and cleansing data before inputting it. We also leveraged data entry software equipped with built-in error checks to minimize inaccuracies. Moreover, any missing or unreasonable data points were rectified before proceeding with data analysis, thereby preserving data integrity.

Conclusions

In conclusion, this study highlights the significant negative impact of HIV-related stigma on the quality of life (QOL) among HIV-infected outpatients in Vietnam. The findings underscore the detrimental effects of self-stigma, fear stigma, and feeling stigma on various domains of QOL, including physical health, psychological well-being, level of independence, social relationships, environment, and spirituality. The research reveals the complex interplay between stigma and QOL, emphasizing the need for comprehensive interventions to address this issue.

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Author contributions

V.H.T.H, T.T.Q.L conceived the present idea. T.H.P and L.T.P.T performed the data analysis. V.H.T.H verified the analytical methods and supervised the findings of this research. T.H.P, A.N.T and V.H.T.H wrote the manuscript with input from all authors. V.H.T.H provided critical feedback and helped shape the research, analysis, and manuscript.

Data availability statement

Not applicable

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Statement of data availability

Data not publicly available.

Institutional review board statement

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Informed consent statement

Informed consent was obtained from all subjects involved in the study.

ORCID iD

Hai-Thanh Pham https://orcid.org/0000-0002-8344-2888

References

1. Dolezal L. Shame anxiety, stigma and clinical encounters. *J Eval Clin Pract* 2022; 28: 854–860.

2. Fauk NK, Hawke K, Mwanri L, et al. Stigma and discrimination towards people living with HIV in the context of families, communities, and healthcare settings: a qualitative study in Indonesia. *Int J Environ Res Public Health* 2021; 18: 5424.
3. Madiba S, Ralebona E and Lowane M. Perceived stigma as a contextual barrier to early uptake of HIV testing, treatment initiation, and disclosure; the case of patients admitted with AIDS-related illness in a rural hospital in South Africa. *Healthcare* 2021; 9: 962.
4. Pantelic M, Steinert JI, Park J, et al. Management of a spoiled identity': systematic review of interventions to address self-stigma among people living with and affected by HIV. *BMJ Glob Health* 2019; 4: e001285.
5. Oke OO, Akinboro AO, Olanrewaju FO, et al. Assessment of HIV-related stigma and determinants among people living with HIV/AIDS in Abeokuta, Nigeria: a cross-sectional study. *Sage Open Med* 2019; 7.
6. Gamassa E, Steven E, Mtei R, et al. Prevalence of depression and suicidal ideation and associated risk factors in adolescents receiving care and treatment for HIV/AIDS at a tertiary health facility in Kilimanjaro Region, Tanzania. *Res Sq* 2023, rs.3.rs-2534893.
7. Scofield D and Moseholm E. HIV-related stigma and health-related quality of life in women living with HIV in developed countries: a systematic review. *AIDS Care* 2022; 34: 7–15.
8. Zhu M, Guo Y, Li Y, et al. HIV-related stigma and quality of life in people living with HIV and depressive symptoms: indirect effects of positive coping and perceived stress. *AIDS Care* 2020; 32: 1030–1035.
9. Unaids. HIV and AIDS estimates_Vietnam fact sheet, https://www.unaids.org/en/regionscountries/countries/vietnam (accessed 28 August 2023).
10. Than PQT, Tran BX, Nguyen CT, et al. Stigma against patients with HIV/AIDS in the rapid expansion of antiretroviral treatment in large drug injection-driven HIV epidemics of Vietnam. *Harm Reduct J* 2019; 16: 6.
11. General Statistics Office of Vietnam. Number of people living with HIV/AIDS in 2021 by locality. *General Statistics Office of Vietnam*, https://www.gso.gov.vn/px-web-2/ (accessed 7 March 2023).
12. Sowell RL, Lowenstein A, Moneyham L, et al. Resources, stigma, and patterns of disclosure in rural women with HIV infection. *Public Health Nurs* 1997; 14: 302–312.
13. Tran BX. Quality of life outcomes of antiretroviral treatment for HIV/AIDS patients in Vietnam. *PLoS One* 2012; 7(7): e41062.
14. Khademi N, Zanganeh A, Saeidi S, et al. Quality of life of HIV-infected individuals: insights from a study of patients in Kermanshah, Iran. *BMC Infect Dis* 2021; 21: 203.
15. Nobre N, Pereira M, Roine RP, et al. HIV-related self-stigma and health-related quality of life of people living with HIV in Finland. *J Assoc Nurses AIDS Care* 2018; 29: 254–265.
16. Ebrahimi Kalan M, Han J, Ben Taleb Z, et al. Quality of life and stigma among people living with HIV/AIDS in Iran. *HIV/AIDS (Auckland, N.Z.)* 2019; 11: 287–298.
17. Wanjala SW, Nyongesa MK, Mapenzi R, et al. A qualitative inquiry of experiences of HIV-related stigma and its effects among people living with HIV on treatment in rural Kilifi, Kenya. *Front Public Health* 2023; 11: 1188446.
18. Emlet CA, Brennan DJ, Brennenstuhl S, et al. The impact of HIV-related stigma on older and younger adults living with HIV disease: does age matter? *AIDS Care* 2015; 27: 520–528.
19. Tsai AC, Bangsberg DR, Kegeles SM, et al. Internalized stigma, social distance, and disclosure of HIV seropositivity in rural Uganda. *Ann Behav Med* 2013; 46: 285–294.
20. Li Z, Morano JP, Khoshnood K, et al. HIV-related stigma among people living with HIV/AIDS in rural Central China. *BMC Health Serv Res* 2018; 18: 453.
21. Kalichman SC, Eaton L, Kalichman MO, et al. Medication beliefs mediate the association between medical mistrust and antiretroviral adherence among African Americans living with HIV/AIDS. *J Health Psychol* 2017; 22: 269–279.
22. Greeff M, Phetlhu R, Makoae LN, et al. Disclosure of HIV status: experiences and perceptions of persons living with HIV/AIDS and nurses involved in their care in Africa. *Qual Health Res* 2008; 18: 311–324.
23. Holzemer WL, Uys LR, Chirwa ML, et al. Validation of the HIV/AIDS stigma instrument—PLWA (HASI-P). *AIDS Care* 2007; 19: 1002–1012.
24. Li X, Huang L, Wang H, et al. Stigma mediates the relationship between self-efficacy, medication adherence, and quality of life among people living with HIV/AIDS in China. *AIDS Patient Care STDS* 2011; 25: 665–671.
25. Earnshaw VA and Chaudoir SR. From conceptualizing to measuring HIV stigma: a review of HIV stigma mechanism measures. *AIDS Behav* 2009; 13: 1160–1177.
26. Logie CH, James L, Tharao W, et al. HIV, gender, race, sexual orientation, and sex work: a qualitative study of intersectional stigma experienced by HIV-positive women in Ontario, Canada. *PLoS Med* 2011; 8: e1001124.
27. Arrey AE, Bilsen J, Lacor P, et al. Spirituality/religiosity: a cultural and psychological resource among Sub-Saharan African migrant women with HIV/AIDS in Belgium. *PLoS One* 2016; 11: e0159488.
28. Yeager KA and Bauer-Wu S. Cultural humility: essential foundation for clinical researchers. *Appl Nurs Res* 2013; 26: 251–256.