

Quantifying HIV Stigma from the PLHIV Perspective: The Role of Involuntary Status Disclosure, Minority Identity, and External Support in Bali, Indonesia

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Abstract

Background: Given the public health implications of stigma in limiting access to essential services and affecting the well-being of people living with HIV (PLHIV), evidence from local contexts in Indonesia remains limited. This study addresses this gap by assessing the characteristics and exploring the factors associated with HIV stigma among PLHIV in Denpasar, the most populous area in Bali with the highest number of reported HIV cases.

Design and Methods: A cross-sectional study was conducted in 2024 with 285 PLHIV from five health facilities in Denpasar. A 68-item questionnaire was used to assess the characteristics of enacted stigma (external discrimination) and internalized stigma (negative self-perception due to HIV status) experienced by PLHIV. Data were analyzed using chi-square tests for both outcomes; enacted stigma proceeded to multivariable logistic regression, while internalized stigma was excluded due to poor model fit.

Results: Overall, 20% (n = 57) reported enacted stigma, while 93.7% (n = 267) experienced internalized stigma. External support was significantly associated with internalized stigma (p = 0.003). Regression analysis showed that involuntary status disclosure history (aOR = 5.692, 95% CI: 2.660-12.181) and minority identity (aOR = 3.393, 95% CI: 1.048-10.989) significantly influenced enacted stigma.

Conclusions: These findings highlight the need for interventions to reduce stigma at individual, community, and structural levels. The intervention program should focus on increasing external support, confidentiality, and layered intervention, especially for minority PLHIV populations.

1. Introduction

Stigma against People Living with HIV (PLHIV) remains a critical issue in global public health. *The People Living with HIV Stigma Index 2.0 Global Report 2023*, published by the Global Network of People Living with HIV, reported that 13.0% of PLHIV experienced stigma and discrimination when accessing HIV services in healthcare facilities. This percentage increased significantly in non-HIV service settings, reaching 24.9%, and in community settings, up to 23.6%. Notably, 84.8% of PLHIV experienced internalized stigma.¹ In Indonesia, the *People Living with HIV Stigma Index 2.0 in Indonesia 2024* revealed that approximately 13.4% of respondents experienced stigma and discrimination from other people in the past 12 months and 35.9% of PLHIV experienced internalized stigma.² Numerous studies in Indonesia also showed that HIV stigma persisted across various settings and manifested in discriminatory behaviors that limit access to services and reduced the quality of life for PLHIV.³⁻⁷

The Health Stigma and Discrimination Framework proposed by Stangl et al. (2019) underscores the importance of identifying factors related to HIV stigma to inform targeted and relevant intervention.⁸ Various studies have shown that HIV stigma can be associated with several factors, such as the disclosure of HIV status,⁹⁻¹¹ young age,^{12,13} female gender,¹⁴ and levels of education.¹³ The variation in

these associated factors across different studies indicates that the contributing factors to stigma are context-specific and may differ across regions or populations. This underscores the importance of conducting localized research to better understand the unique dynamics of HIV stigma in specific settings and to inform the design of culturally and socially appropriate interventions. In addition, findings from a scoping review of the Indonesian literature indicated that primary quantitative studies on HIV stigma published after 2019 remain limited. Few studies have specifically examined the magnitude of stigma and its associated factors in specific regions of Indonesia from the perspective of PLHIV, particularly in areas with a high PLHIV population.¹⁵

In 2024, Indonesia reported 63,707 new HIV cases, bringing the cumulative total to 630,414. The Province of Bali ranked ninth nationally, with 1,998 new cases identified among 99,766 individuals who underwent testing.¹⁶ Among the nine regencies/cities in Bali, Denpasar City recorded the highest number of new cases, totalling 816.¹⁷ Given these high figures, it is crucial to understand the characteristics and determinants of HIV stigma in Denpasar to gain a more comprehensive understanding of the challenges faced by PLHIV in this area. Considering that Denpasar, one of the most populous cities in Bali,¹⁸ accounts for a substantial share of the province's HIV burden, findings from this study may provide indicative insights that could be relevant across Bali, similar urban contexts within Indonesia, and comparable settings elsewhere. To date, only limited studies have specifically investigated these aspects in Denpasar.

Based on this background, the present study aims to examine the characteristics and explore determinants of HIV stigma in Denpasar from the perspective of PLHIV, using a quantitative cross-sectional approach. By focusing on a setting with a relatively high number of PLHIV, this study intends to generate contextual insights that can enrich the understanding of HIV stigma dynamics in Indonesia and inform more relevant intervention strategies. In line with this aim, the variables included in this study were developed from the *People Living with HIV Stigma Index 2.0 in Indonesia 2024*, resulting in the inclusion of HIV status disclosure, age, gender, educational attainment, minority status, multiple key population identity, and levels of external support. It was hypothesized that these variables are significantly associated with the experience of HIV stigma.

2. Design and Methods

2.1 Study Design and Research Setting

This study utilized a quantitative cross-sectional design. The required sample size for this study was calculated using Slovin's formula. We utilized the total population of 896 PLHIV on ARV in Denpasar City in 2023¹⁹ and applied a 5% margin of error. This calculation yielded a minimum sample size of 277 respondents. The calculated sample was then proportionally distributed among different healthcare facilities. The selection of health facilities considered the diversity of healthcare service types in Denpasar, including public health centers (puskesmas) and NGO HIV clinics as providers of primary

healthcare services, as well as public hospital and military hospital representing secondary healthcare services. The study involved five healthcare facilities: NGO HIV clinic (WM Medika Clinic), public health centers (UPTD Puskesmas I Denpasar Utara and UPTD Puskesmas II Denpasar Timur), public hospital (Wangaya Hospital), and military hospital (Bhayangkara Hospital). These facilities were selected based on the number of PLHIV receiving antiretroviral therapy (ARV) at each location, as recorded in 2023. The five health facilities that participated in the study included three with high numbers of PLHIV on ARV and two with low numbers. The number of respondents at each healthcare facility was proportionally allocated based on the number of PLHIV receiving ARV therapy at each respective facility.

2.2 Procedure

As part of the routine visits by PLHIV to HIV or voluntary counseling and testing (VCT) clinics within healthcare facilities, trained healthcare staff, who were part of the research team, approached potential participants. They provided an explanation of the study's objectives and procedures and proceeded with the interview only for those PLHIV who voluntarily agreed to participate. This approach was designed to maintain the confidentiality of the respondents' HIV status and minimize the risk of information leakage.

Interviews were conducted in a private room, separated from the main service area, to ensure participants' privacy and comfort. Data collection was carried out by a trained enumerator (not healthcare staff) using an online-based digital questionnaire. As a form of appreciation for their participation, respondents received a compensation of IDR 50,000 (approximately \$3.20 USD at the time of the study).

Ethical clearance for this study was granted by the Ethics Committee of Faculty of Medicine, Udayana University, Bali, Indonesia (approval number: 2013/UN14.2.2.VII.14/LT/2024), on August 14, 2024.

2.3 Data Collection and Measurement

Data were collected using a one-time, 68-item questionnaire developed by the researchers based on the *People Living with HIV Stigma Index 2.0 2024* report in Indonesia by Jaringan Indonesia Positif. All variables included in this study were developed with reference to that report and had undergone content validity assessment by experts. Trained enumerators administered the questionnaire through interviews with PLHIV who met the inclusion criteria and provided informed consent. Data collection was conducted from October to December 2024.

2.4 Participants

Respondents included in this study were individuals aged 18 years or older who had accessed healthcare services at facilities in Denpasar City within the past 12 months. They were also required to have the ability to understand and communicate effectively in the Indonesian language and express a

willingness to participate voluntarily after receiving an explanation from the enumerators regarding the study's purpose, procedures, duration, potential risks and benefits, confidentiality, and their right to withdraw at any time without penalty.

2.5 Research Variables

The independent variables included in this study were age, gender, educational level, minority group identity, key population group identity, history of HIV status disclosure, and external support. The dependent variables were enacted stigma and internalized stigma. Detailed information on the definitions, measurement methods, and category classifications of all variables included in this study is provided in the supplementary material.

2.6 Analysis

The analysis was conducted in two stages. First, descriptive analysis summarized respondents' characteristics and the distribution of both stigma types. In the second stage, inferential analysis examined how sociodemographic, minority group identity, key population group identity, history of status disclosure, and external support contributed to enacted and internalized stigma. Chi-square tests identified significant associations, and those variables were included in logistic regression models to assess their effect size and direction, adjusting for other significant factors. Separate models were run for enacted and internalized stigma. All analyses were conducted using STATA version 12.0.

2.7 Bias Control

Several efforts were undertaken to minimize potential sources of bias in this study. To reduce selection bias, participants were recruited from multiple healthcare settings. To address information bias, the survey was administered anonymously, and confidentiality was emphasized to encourage honest responses. Regarding instrument bias, the questionnaire was developed based on the *People Living with HIV Stigma Index 2.0 in Indonesia 2024* report and underwent expert content validity assessment prior to use. Furthermore, to minimize confounding bias, multivariable logistic regression analyses were performed, and adjusted odds ratios (aOR) were calculated to account for the influence of sociodemographic and other relevant variables.

3. Results

A total of 285 participants were included in this study. The majority received services at NGO HIV clinics (137 individuals, 48.1%), were aged between 25 and 49 years (197 individuals, 69.1%), and identified as male (171 individuals, 60%). The most common level of education was secondary (141 individuals, 49.5%), and the largest proportion reported moderate level of external support (172 individuals, 60.4%). Most participants (244 individuals, 85.6%) had not experienced involuntary HIV status disclosure, while

the majority (94.7%) had disclosed their HIV status voluntarily. In addition, the majority of participants were not part of any key population group (170 individuals, 59.6%) and did not identify as members of a minority group (263 individuals, 92.3%). More detailed information is presented in Table 1.

Among the 285 respondents, 57 (20%) experienced enacted stigma, while 267 (93.7%) experienced internalized stigma. The enacted stigma was notably higher among individuals who belonged to more than one key population group (42.9%), identified with a minority identity group (50%), or had experienced involuntary HIV status disclosure (51.2%). As shown in Figure 1, the majority of reported sources of enacted stigma were friends and health worker. For internalized stigma, the prevalence was high across all groups, particularly among those aged 18-24 years (100%), with higher education (95.5%), and low external support (100%). Detailed information can be found in Table 2.

Descriptive analysis indicated that individuals categorized as having a low level of external support primarily received support only from healthcare providers. Moreover, the highest percentage of unsupported responses was found in the category of institutional support sources across all three levels of external support reported by respondents. Detailed information can be found in supplementary materials.

Based on the forms of HIV stigma observed in the study, the most frequently reported forms of enacted stigma included negative labeling (8.4%), being gossiped about (6%), and being treated differently (6%). Regarding internalized stigma behaviors, the most respondents reported not applying for jobs (97.9%), engaging in other self-directed negative actions (97.5%), and avoiding healthcare services (95.8%) due to their HIV status. In terms of internalized stigma perceptions, the largest proportions of respondents stated that they concealed their HIV status (strongly agree + agree: 83.8%), found it difficult to disclose their status (strongly agree + agree: 84.9%), and felt guilty because of their HIV status (strongly agree + agree: 54.4%). Further details are presented in Table 3 and Table 4.

Among the examined variable, significant associations were found between enacted stigma and the history of involuntary HIV status disclosure ($p = 0.000$) as well as multiple key population status ($p = 0.041$). For internalized stigma, significant associations was found with external support status ($p = 0.003$).

Binary logistic regression analysis revealed that enacted stigma was significantly associated with two variables. Respondents with a history of involuntary HIV status disclosure to others were more likely to report enacted stigma. Specifically, they had nearly six times the odds compared to those without such history (aOR = 5.692; 95% CI: 2.660–12.181, $p < 0.005$). Additionally, being part of a minority group was associated with greater odds of enacted stigma, approximately three times higher than individuals outside these groups (aOR = 3.393; 95% CI: 1.048–10.989, $P < 0.005$). Detailed information are presented in Table 2. Multiple logistic regression analysis could not be performed on the internalized stigma variable due to poor model fit.

Table 1. Sociodemographic Characteristics of Respondents

Category	n (%)	Category	n (%)
Health Facilities		Age	
Private HIV clinic	137 (48.1)	18 -24 years	26 (9.1)
Hospital	112 (39.3)	25 - 49 years	197 (69.1)
Puskesmas/primary health care	36 (12.6)	>50 years	62 (21.8)
Gender identity		Key Population Categories *	
Female	93 (32.6)	Sex workers	46 (16.1)
Male	171 (60.0)	MSM	76 (26.7)
Other	21 (7.4)	Lesbian	2 (0.7)
Education level		Transgender	5 (1.8)
Low	77 (27.0)	Non-key population	170 (59.6)
Middle	141 (49.5)	Multiple Key Populations	
High	67 (23.5)	Only one group	101 (35.4)
External support		More than one group	14 (5.0)
Low	13 (4.6)	Non-key Population	170 (59.6)
Middle	172 (60.4)	Minority Group Identity	
High	100 (35.0)	Yes	10 (3.5)
Involuntary Disclosure History		No	263 (92.3)
Yes	41 (14.4)	Not answer	12 (4.2)
No	244 (85.6)	N = 285	
Voluntary Disclosure History			
Yes	270 (94.7)		
No	15 (5.3)		

*There were respondents who belong to more than one key population group category

[Figure 1. Source of Enacted Stigma toward PLHIV]

Table 2. Prevalence and Determinat Factor of Enacted and Internalized Stigma based on Respondent Characteristics

Category	Enacted Stigma					Category	Internalized Stigma				
	Yes	P value ¹	P value ²	aOR	CI		Yes	P value ¹	P value ²	aOR	CI
All Respondents	57 (20.0%)					All Respondents	267 (93.7%)				
Health Facilities						Health Facilities					
Private HIV clinic	26 (19.0%)	0.458				Private HIV clinic	129 (94.2%)	0.860			
Hospital	21 (18.8%)					Hospital	105 (93.8%)				
Puskesmas/primary health care	10 (27.8%)					Puskesmas/primary health care	33 (91.7%)				
Gender identity						Gender identity					
Female	20 (21.5%)	0.907				Female	87 (93.5%)	0.806			
Male	33 (19.3%)					Male	161 (94.2%)				
Other	4 (19.0%)					Other	19 (90.5%)				
Education level						Education level					
Low	14 (18.2%)	0.895				Low	72 (93.5%)	0.815			
Middle	29 (20.6%)					Middle	131 (92.9%)				
High	14 (20.9%)					High	64 (95.5%)				
External support						External support					
Low	1 (7.7%)	0.069	0.369	0.368	0.042 – 3.252	Low	13 (100.0%)	0.003			
Middle	29 (16.9%)		0.802	0.917	0.467 – 1.803	Middle	167 (97.1%)				
High	27 (27.0%)		Ref			High	87 (87.0%)				
Involuntary Disclosure History						Involuntary Disclosure History					
Yes	21 (51.2%)	0.000	0.000	5.692	2.660 – 12.181	Yes	38 (92.7%)	0.731			
No	36 (14.8%)					No	229 (93.9%)				
Voluntary Disclosure History						Voluntary Disclosure History					
Yes	55 (20.4%)	0.743				Yes	252 (93.3%)	0.609			
No	2 (13.3%)					No	15 (100.0%)				
Multiple Key Populations						Multiple Key Populations					
Only one group	23 (22.8%)	0.041	0.343	1.373	0.713 – 2.644	Only one group	94 (93.1%)	0.935			
More than one group	6 (42.9%)		0.179	2.402	0.669 – 8.618	More than one group	13 (92.9%)				
Non-key Population	28 (16.5%)		Ref			Non-key Population	160 (94.1%)				
Age						Age					
18 -24 years	8 (30.8%)	0.216				18 -24 years	26 (100.0%)	0.388			
25 - 49 years	40 (20.3%)					25 - 49 years	184 (93.4%)				
>50 years	9 (14.5%)					>50 years	57 (91.9%)				
Minority Group Identity						Minority Group Identity					
Yes	5 (50.0%)	0.069	0.042	3.393	1.048 – 10.989	Yes	10 (10.0%)	1.000			
No	50 (19.0%)					No	245 (93.2%)				
Not answer	2 (16.7%)					Not answer	12 (100.0%)				

Note: ¹ Analysis conducted using Chi-square test, ² Analysis conducted using logistic regression, and gray-shaded cells indicate that logistic regression was not performed, aOR = adjusted Odds Ratio, CI = Confidence Interval

Table 3. Identified Manifestations of Enacted Stigma

Category	n (%)	Category	n (%)
Negative labelling		Denied job promotion	
Never	257 (90.2)	Never	284 (99.6)
Ever	24 (8.4)	Ever	1 (0.4)
Not answer	4 (1.4)	Exclusion from religious activities/worship	
Gossiped		Never	279 (98.0)
Never	264 (92.6)	Ever	3 (1.0)
Ever	17 (6.0)	Not answer	3 (1.0)
Not answer	4 (1.4)	Denied Healthcare Services	
Verbal harassment		Never	278 (97.5)
Never	278 (97.5)	Ever	7 (2.5)
Ever	6 (2.1)	Evicted	
Not answer	1 (0.4)	Never	283 (99.3)
Treated differently		Ever	2 (0.7)
Never	268 (94.0)	Offensive Advice	
Ever	17 (6.0)	Never	274 (96.1)
Denied employment		Ever	10 (3.5)
Never	279 (97.9)	Not answer	1 (0.4)
Ever	5 (1.8)	Avoidance of Interaction	
Not answer	1 (0.3)	Never	272 (95.4)
Physically harassed		Ever	13 (4.6)
Never	282 (98.9)	Extorted	
Ever	3 (1.1)	Never	285 (100)
		Ever	0 (0.0)
n = 285			

Table 4. Identified Manifestations of Internalized Stigma

Category	n (%)	Category	n (%)
Avoided seeking social support due to HIV status		Avoided accessing healthcare services because of HIV status	
Yes	39 (13.7)	Yes	12 (4.2)
No	246 (86.3)	No	273 (95.8)
Did not engage in sexual activity because of HIV status		Withdrew from family and friends because of HIV status	
Yes	45 (15.8)	Yes	28 (9.8)
No	240 (84.2)	No	257 (90.2)
Avoided social gatherings because of HIV status		Other actions (due to HIV status)	
Yes	34 (11.9)	Yes	7 (2.5)
No	251 (88.1)	No	278 (97.5)
Avoided job applications because of HIV status		I conceal my HIV status from others	
Yes	6 (2.1)	Strongly agree	83 (29.1)
No	279 (97.9)	Agree	156 (54.7)
It is difficult for me to tell others that I am PLHIV		Neutral	24 (8.4)
Strongly agree	105 (36.8)	Disagree	17 (6.0)
Agree	137 (48.1)	Strongly disagree	5 (1.8)
Neutral	20 (7.0)	I feel guilty because of my HIV status	
Disagree	19 (6.7)	Strongly agree	57 (20.0)
Strongly disagree	4 (1.4)	Agree	98 (34.4)
I feel ashamed because of my HIV status		Neutral	42 (14.7)
Strongly agree	46 (16.0)	Disagree	66 (23.2)
Agree	95 (33.3)	Strongly disagree	22 (7.7)
Neutral	36 (12.6)	Sometimes I feel that I am worthless because I am PLHIV	
Disagree	76 (27.0)	Strongly agree	26 (9.0)
Strongly disagree	32 (11.1)	Agree	75 (26.3)
Being PLHIV makes me feel dirty		Neutral	25 (9.0)

Strongly agree	23 (8.1)	Disagree	109 (38.2)
Agree	54 (18.9)	Strongly disagree	50 (17.5)
Neutral	35 (12.3)	N = 285	
Disagree	121 (42.5)		
Strongly disagree	52 (18.2)		

4. Discussion

The findings of this study showed that PLHIV in Denpasar continued to face various forms of HIV stigma, including both enacted and internalized stigma. Approximately 20% of respondents had experienced at least one form of enacted stigma in the past 12 months, while the prevalence of internalized stigma reached 93.7%. These findings indicated a substantial disparity in the prevalence of internalized stigma compared to enacted stigma among PLHIV. This phenomenon aligns with the *People Living with HIV Stigma Index 2.0 Global Report 2023* and *People Living with HIV Stigma Index 2.0 in Indonesia 2024* report, which similarly documented a higher prevalence of internalized stigma than enacted stigma.^{1,2} The results also align with a study conducted in another Southeast Asian country, Myanmar, where 47% of PLHIV experienced enacted stigma and 87% reported internalized stigma.²⁰ However, similar studies remain limited in several countries and specific cities in Indonesia, restricting the possibility of further comparisons.

The notable disparity between the prevalence of enacted and internalized stigma in Denpasar highlighted the substantial psychological burden borne by PLHIV, which may have been driven by deep-rooted societal narratives and ongoing structural stigma. This is evident in the forms of enacted stigma reported, with the majority involving negative labelling (8.4%), being gossiped about (6%), and being treated differently (6%). The relatively low reporting of enacted stigma might have reflected more subtle or unrecognized forms of discrimination, while the high prevalence of internalized stigma underscored the need for more intensive interventions to address its psychological and emotional impacts.²¹ Thus, stigma reduction efforts should have targeted not only external discrimination but also the internalization of stigma, which significantly affected the quality of life and treatment adherence of PLHIV.^{22,23} This is reflected in the findings, where the majority of respondents reported self-limiting behaviors due to their HIV status, such as not applying for jobs (97.9%), engaging in other self-directed negative actions (97.5%), and avoiding healthcare services (95.8%).

Several studies in Indonesia identified interventions targeting internalized stigma among PLHIV, one of which involved the establishment of peer support groups. These groups provided a space for PLHIV to share experiences, discuss challenges, and offer mutual motivation.^{6,7,24} However, quantitative studies specifically evaluating the effectiveness of such interventions in reducing internalized stigma within the Indonesian context remained limited. Therefore, the development of more comprehensive peer support models warranted consideration. An innovative example could be found in the Wakakosha ("You Are

Worthy”) intervention implemented in Sub-Saharan Africa, which was designed to address self-stigma through a unique approach incorporating self-reflection, mindfulness, meditation, and creative expression.²⁵ Approaches that enhance self-confidence, self-worth, and provide a supportive environment for PLHIV are crucial, given that a large proportion of respondents reported concealing their HIV status (83.8% strongly agree or agree), experiencing difficulty in disclosing their status (84.9%), and feeling guilty because of their HIV status (54.4%).

In addition, this study found an association between external support level and internalized stigma. Although the analysis could not be extended to multivariate regression, the descriptive findings revealed that individuals with low levels of external support primarily received support only from healthcare providers. Furthermore, institutional support showed the highest rate of being unsupported across all levels of external support. Moreover, the support situation among respondents categorized as having low external support is difficult to assess, as the majority did not disclose their HIV status, even to those closest to them, such as family members and close friends. This limited disclosure may indicate a fear of rejection due to their HIV status. Therefore, comprehensive and cross-sectoral interventions are needed, not only within the healthcare system but also targeting institutions beyond the health sector, the general public, and the immediate social environment of PLHIV, in order to foster a more supportive and stigma-free ecosystem.²⁶ This limited disclosure may also help explain why friends and healthcare workers were the most frequently reported perpetrators of enacted stigma, as PLHIV may tend to disclose their status primarily to these groups. Nevertheless, the study also found that healthcare workers were among the most common sources of support for PLHIV, suggesting that external stigma within this group may be driven by a minority of individuals. Despite this, both friends and healthcare workers should remain key targets of HIV stigma-reduction interventions.

At the same time, the development of comprehensive intervention models must ensure they are tailored to the local context and informed by stigma-related factors specific to each setting. Bali, including the city of Denpasar, is known as a region with a predominantly Hindu population²⁷ and a strong religious-cultural foundation. In addition, it has a distinctive social structure known as *banjar*, the smallest unit of community organization that brings together residents within a specific area and plays a central role in social life. Therefore, this local context requires a culturally sensitive and participatory approach, involving local stakeholders in the design and implementation of programs, particularly at the community level. Additionally, this study found that minority group identity and a history of involuntary HIV status disclosure were significant factors associated with enacted stigma. Specifically, respondents who had involuntarily disclosed their HIV status were nearly 5.7 times higher odds of experiencing enacted stigma compared to those who had not (aOR = 5.692; 95% CI: 2.660-12.181, $p < 0.005$). Additionally, individuals identifying as members of minority groups were approximately 3.4 times higher odds of reporting enacted stigma compared to those outside these groups (aOR = 3.393; 95% CI: 1.048-10.989, $p < 0.005$). These findings aligned with prior research indicating that HIV stigma tended to increase following disclosure,^{9–11} and that health-related stigma could be further exacerbated by one’s social identity.^{28,29}

Based on the findings related to factors contributing to HIV stigma, both internalized and enacted, it is crucial to enhance external support for PLHIV. This support should not be limited to a single source but should involve multiple actors within the PLHIV's social environment, including family members, communities, healthcare providers, and various institutions. In parallel with efforts to expand and strengthen external support systems, it is equally important to reinforce protections for HIV status confidentiality, particularly within healthcare settings. A more comprehensive approach to support must also consider the social identities of PLHIV beyond their HIV status. Marginalized social identities (such as those related to sexual orientation, religion, ethnicity, and others) can increase vulnerability to enacted stigma. Moreover, although not statistically significant in the multivariable analysis, PLHIV identified as belonging to more than one key population group exhibited a higher proportion of experiencing enacted HIV stigma compared to other groups. Therefore, PLHIV experiencing a double burden of social marginalization require layered and context-sensitive support. Interventions grounded in an intersectional framework (which considers the overlapping impacts of multiple social identities such as gender, race, class, and HIV status) can serve as a critical foundation for building inclusive, holistic, and equitable support systems for all PLHIV.

Beyond the key findings discussed, this study has several limitations that merit attention. One notable limitation concerns the characteristics of the respondents involved in the research. Participation was primarily based on respondents' willingness to engage, which made it challenging to ensure a representative distribution across healthcare facilities in Denpasar. The most respondents were PLHIV who accessed services at specialized NGO HIV Clinic (137 individuals, 48.1%) and were predominantly male (171 individuals, 60%). Consequently, the findings of this study mainly reflect the experiences of PLHIV in Denpasar who access HIV services and are willing to engage with external parties but may not fully reflect the actual magnitude of HIV stigma within the broader population. Another limitation relates to the instrument used, which was self-developed and underwent content validity assessment by experts. As the tool was designed primarily for exploratory purposes, it did not generate standardized stigma scores. This provides an opportunity for future research to utilize or develop more extensively validated instruments to allow for broader comparability across studies. Therefore, future studies are recommended to develop more effective strategies to reach PLHIV who do not access healthcare services as well as those who, despite accessing services, tend to remain reserved or discreet. This is essential to gain a deeper understanding of their self-isolation patterns and the relationship between HIV stigma and such behaviors in a clearer and more comprehensive manner. Furthermore, this approach will facilitate a more thorough and representative exploration of HIV stigma, thereby ensuring that study outcomes better capture the realities experienced in the field.

5. Conclusion

HIV stigma remains prevalent among PLHIV in Denpasar, with a notably high prevalence of internalized stigma. This study found that involuntary HIV status disclosure and minority group identity were associated with a greater likelihood of enacted stigma. External support was generally limited, especially among those with low external support levels, with institutional sources consistently identified as the

least supportive. These findings highlight the urgent need for multisectoral interventions to strengthen external support systems, use comprehensive method, and protect confidentiality. Enhancing social support and adopting a more inclusive approach that recognizes the intersecting marginalization of PLHIV are essential strategies for reducing stigma. This study contributes to a deeper understanding of the HIV stigma situation in Denpasar City, which indirectly supports public health efforts to reduce barriers to healthcare access, enhance service utilization, and create a more enabling environment for HIV prevention and treatment.

Declarations

Supplementary Materials: Supplementary materials for this study can be accessed via the following Google Drive link: <https://drive.google.com/drive/folders/1cy2wmt-a5sitc2JCqngKfJR1PnbPPGTO?usp=sharing>

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Ethical Consideration: This study received ethical approval from the Ethics Committee of the Faculty of Medicine, Udayana University, Bali, Indonesia (Approval No. 2013/UN14.2.2.VII.14/LT/2024), on August 14, 2024.

Consent to Participation: Participation in this study was voluntary. Before data collection, enumerators provided potential respondents with an online informed consent form explaining the study's purpose,

procedures, duration, potential risks and benefits, confidentiality assurances, and their right to withdraw at any time without penalty. Respondents were asked whether they agreed to participate, and consent was recorded electronically by selecting “Yes” in the corresponding question on the online questionnaire.

Consent for Publication: Not applicable

Conflicts of Interest: The author is affiliated with a research institution actively engaged in HIV prevention studies. Additionally, personal and professional interests may influence the interpretation and reporting of findings. This affiliation and personal interests have been disclosed and considered in the review process to ensure transparency and objectivity.

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Data Availability Statement: The dataset generated and analyzed during the current study is not publicly available due to the sensitive nature of the information and the need to protect respondent confidentiality. The participants are members of a vulnerable population, and public sharing of the dataset could compromise their privacy. Data may be made available from the corresponding author upon reasonable request and subject to ethical approval.

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Figures

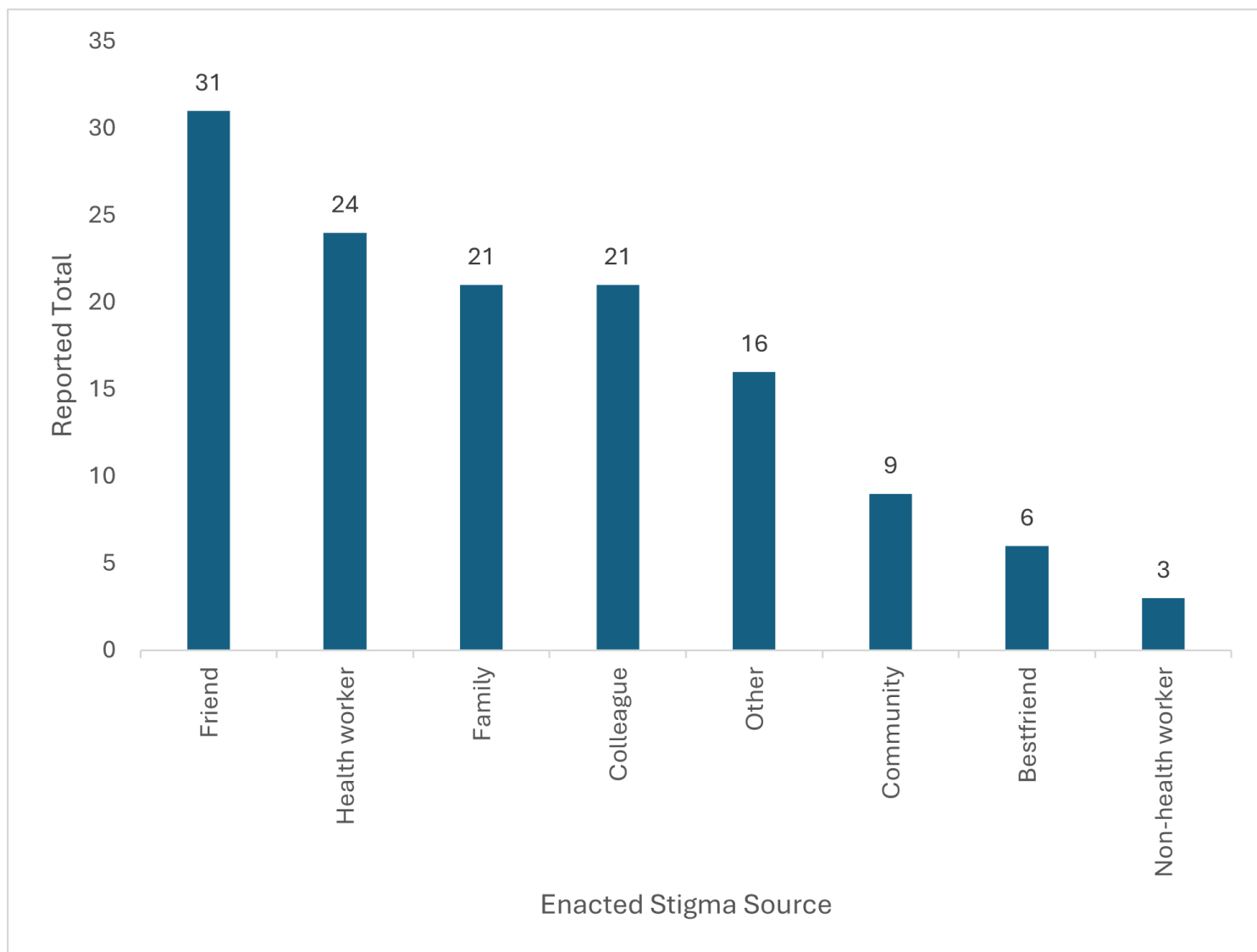


Figure 1

Source of Enacted Stigma toward PLHIV

Supplementary Files

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- [StudyVariables.docx](#)
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