

Determinant factors correlated with discriminatory attitude towards people living with HIV in Indonesian population: demographic and health survey analysis

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Abstract

Introduction: Discrimination of people living with HIV (PLHIV) and its' various forms is a concerning issue. The purpose of this study was to examine HIV stigma and discriminatory behaviors among Indonesian women and men aged 15 to 49 years.

Material and methods: This was a cross-sectional study that analyzed data from the 2017 Indonesia Demographic and Health Survey, focusing on the discriminatory attitude. A stratified two-stage cluster design was utilized. Data included demographics (age, education, wealth index, and place of residence), knowledge of HIV, and discriminatory attitude towards PLHIV. Logistic multiple regression modelling examined the determinant factors towards PLHIV. A total of 49,204 women aged 15 to 49 years, and males aged 15 to 54 years were included in this survey.

Results: According to the findings, 85.1 percent of women and 85.7 percent of men presented discriminatory attitudes towards PLHIV. Older age ($p = 0.00$; 95% CI: 1.13-1.50%), richest group ($p = 0.00$; 95% CI: 0.69-0.93%), inhabiting rural area ($p = 0.00$; 95% CI: 1.11-1.33%), and comprehensive knowledge about HIV ($p = 0.00$; 95% CI: 0.45-0.53%) were the determinant factors of discriminatory attitudes towards PLHIV in women, while secondary education ($p = 0.04$; 95% CI: 1.00-5.09%) and richer group ($p = 0.003$; 95% CI: 0.483-0.859%) were the determinant factors in men.

Conclusions: A large proportion of men and women in Indonesia continue to engage in discriminatory attitude towards PLHIV. Stigma and prejudice must be tackled in order to battle the HIV/AIDS pandemic in Indonesia. People should be informed about behavior modification strategies to prevent the disease from spreading.

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Key words: HIV, discriminatory attitude, stigma, discriminant factors, DHS.

Introduction

Human immunodeficiency virus (HIV) is still a threat to public health worldwide. It is estimated that 37.7 million people

were living with HIV by the end of 2020. In 2020, an estimated 1.5 million people were confirmed to have HIV, and 680,000 people's deaths' were related to HIV [1,2]. HIV and acquired immune deficiency syndrome (AIDS) data hub for Asia-Pacific

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recorded about 640,000 people living with HIV (PLHIV), and there were 46,000 new cases in 2018. Data shows an increase of PLHIV in Indonesia [3]. Antiretroviral therapy (ART) provides benefits for PLHIV, including limiting viral reservoir, maintaining immune function, and reducing systemic inflammation [4, 5]. However, discrimination against PLHIV is still a challenge to HIV treatment [6-8], including in Indonesia [9]. Discrimination or stigma towards PLHIV result in an decreased adherence to ART [10, 11].

PLHIV receive various forms of discrimination, including relational discrimination, ill-treatment by health workers, misconduct and rejection by spouses, and discrimination in the workplace [12]. Such discriminatory condition causes disturbances to PLHIV, including worse global sleep quality [13], loneliness [13, 14], depressive syndrome [13, 15], disclosure status to the partner [14, 15], and low self-esteem [16]. Furthermore, PLHIV also feel worthlessness, fear, feeling of injustice, lacking future [17], and avoiding therapy or prevention [18]. HIV stigma also results in decreasing quality of life of patients [19, 20].

Stigma or discrimination towards PLHIV have negative impact on health of PLHIV [21]; they still occur in families, communities, and health facilities [22, 23]. Stigma and discrimination are reflected in negative labelling, segregation of personal belonging, avoidance, treatment refusal, and PLHIV rejection by healthcare providers, families, and community members [24]. Apart from losing their jobs, other types of PLHIV discrimination are disclosing HIV status without consent and denying access to education [25]. In society, PLHIV must deal with gossiping and verbal attacks [26]. Unfortunately, the community is still not ready and not educated enough to accept PLHIV in their environment. This condition impacts rejection, marginalization, and isolation of PLHIV [27], which further adds to the overall problems of PLHIV.

Discriminatory behavior or stigma towards PLHIV are issues that still occur and are experienced by PLHIV. Reducing or even eliminating discriminatory or stigmatized behavior are a part of the campaign against HIV [28, 29]. Further identification of discriminatory behaviors towards PLHIV in society, especially in Indonesia, needs to be done. Accordingly, the present study aimed to assess HIV stigma and discriminatory practices among women and men aged 15-49 years in Indonesia.

Material and methods

Data

Indonesian Demographic Health Survey (IDHS) is conducted every 5 years. Here, we used data from the most recent survey (2017). IDHS employs a complex sampling design with stratification by regions and urban/rural areas before sampling the households. Institutionalized review board in ICF, as the DHS survey implementing agency and institutionalized review board in host countries approved the survey protocols. All participants provided informed consent before data collection. Data used in this cross-sectional study

were obtained from the DHS website (www.dhsprogram.com), and contained a secondary analysis of de-identified data. The survey included women aged 15-49 years and men 15-54 years. A stratified two-stage cluster design was applied [30]. Data of discriminatory attitude towards PLHIV were analyzed.

DHS sample designs were two-stage probability samples drawn from an existing sample frame, generally the most recent census frame. Stratification was the process, by which the sampling frame was divided into sub-groups or strata that were as homogeneous as possible using certain criteria. Within each stratum, the sample was designed and selected independently. The principal objective of stratification was to reduce sampling errors. In a stratified sample, the sampling errors depended on the population variance existing within the strata, but not between the strata. Typically, DHS samples were stratified by geographic region and according to urban/ rural areas in each region. Within each stratum, the sample design specified an allocation of households to be selected. Most DHS surveys use a fixed take of households per cluster of about 25-30 households, determining the number of clusters to be selected. In the first stage of selection, the primary sampling units (PSUs) were selected with probability proportional to size (PPS) within each stratum. PSU formed the survey cluster. In the second stage, a complete household listing was conducted in each of the selected clusters. Following the listing of the households, a fixed number of households was selected by equal probability systematic sampling in the selected cluster. Sampling weights were applied to each case in tabulations to adjust for differences in the probability of selection and interview between cases in a sample, due to either design or happenstance.

Variables and measures

In the survey, questionnaires on HIV/AIDS were used, which included sections on stigma and discrimination towards PLHIV, acceptance on various issues pertaining to stigma and discrimination, such as willingness to take care of their infected family members, preference to buy vegetables from HIV-infected vendors, discrimination towards female-infected teacher, perception on whether HIV-positive people should be ashamed of themselves, and perception on whether HIV-infected individuals should be blamed for bringing the disease into the community. Socio-demographic information, such as age, highest educational attainment, marital status, and household monthly income were also obtained.

In this study, inclusion criteria were women and men aged 15-49 years, living in household, and those who gave consent to participate in the study. Participation was solely voluntary, and the information gathered concerned personal and sensitive issues, such as sexual relationship, stigma, and attitudes of discrimination towards PLHIV. The interviewers ensured that participants were informed about the study protocol, upon which written informed consent was taken.

Ethical consideration

The 2017 Indonesia Demographic and Health Survey was approved under the institutional review board approval for the Demographic Health and Survey Program (DHS-7). The survey was registered as an ICF project (ICF project number: 132989.0.000) on March, 11, 2015.

Statistical analysis

Frequency and percentages were applied to describe demographic characteristics of the respondents. Multivariate logistic regression procedure was used to analyze factors associated with HIV stigma and discrimination towards PLHIV. Final models were derived using backward elimination of variables, and variables with $p < 0.05$ were applied in the final model. A lower significance level was used due to the large sample size, and the intention was to detect those

factors, which were strongly associated with the outcome. All analyses were conducted with statistic software using `svy` commands to adjust for the complex sampling design.

Results

A total of 49,204 men and women aged 15-54 years participated in the study. The majority of participants were aged 35-39 years (16.3%), had a secondary education (60.5%), were in the richest wealth index (25.5%), resided in urban areas (55.8%), and did not have comprehensive knowledge about HIV/AIDS (81.8%). The socio-demographic characteristics by gender are shown in Table 1.

Table 1 also shows an overview of discriminatory attitudes towards PLHIV, where 85.1% of women and 85.7% of men showed discriminatory attitudes towards PLHIV. Furthermore, the most discriminatory attitude was observed in women aged 15-19 years (13.6%) and men aged

Table 1. Socio-demographic characteristics

Factor	Women (n = 40,904)			Men (n = 8,300)		
	Discriminatory attitude, n (%)			Discriminatory attitude, n (%)		
	No	Yes	Total	No	Yes	Total
Age (years)						
15-19	1,008 (2.4)	5,591 (13.6)	6,599 (16.0)	1 (0.01)	17 (0.2)	18 (0.2)
20-24	892 (2.2)	5,140 (12.6)	6,032 (14.8)	33 (0.4)	247 (3.0)	280 (3.4)
25-29	985 (2.4)	4,820 (11.8)	5,805 (14.2)	131 (1.6)	789 (9.5)	920 (11.1)
30-34	903 (2.2)	5,162 (12.6)	6,065 (14.8)	222 (2.6)	1,177 (14.2)	1,399 (16.9)
35-39	992 (2.4)	5,423 (13.3)	6,415 (15.7)	252 (3.0)	1,360 (16.4)	1,612 (19.4)
40-44	761 (1.9)	4,647 (11.4)	5,408 (13.3)	245 (2.9)	1,302 (15.7)	1,547 (18.6)
45-49	570 (1.4)	4,010 (9.8)	4,580 (11.2)	189 (2.4)	1,272 (15.3)	1,461 (17.6)
50-54	N.A.	N.A.	N.A.	113 (1.4)	950 (11.4)	1,063 (12.8)
Education level						
No education	26 (0.06)	139 (0.3)	165 (0.4)	10 (0.1)	38 (0.5)	48 (0.6)
Primary	871 (2.1)	7,179 (17.5)	8,050 (19.6)	297 (3.6)	1,938 (23.3)	2,235 (26.9)
Secondary	3,588 (8.8)	21,419 (52.4)	25,007 (61.2)	649 (7.8)	4,098 (49.4)	4,747 (57.2)
Highest	1,626 (4.0)	6,056 (14.8)	7,682 (18.8)	230 (2.8)	1,040 (12.5)	1,270 (15.3)
Wealth index						
Poorest	558 (1.4)	4,306 (10.5)	4,864 (11.9)	110 (1.3)	945 (11.4)	1,055 (12.7)
Poorer	886 (2.2)	6,436 (15.7)	7,322 (17.9)	214 (2.6)	1,346 (16.2)	1,560 (18.8)
Middle	1,191 (2.9)	7,344 (18.0)	8,535 (20.9)	253 (3.1)	1,517 (18.2)	1,770 (21.3)
Richer	1,469 (3.5)	8,168 (20.0)	9,637 (23.5)	293 (3.5)	1,596 (19.2)	1,889 (22.8)
Richest	2,007 (4.9)	8,539 (20.9)	10,546 (25.8)	315 (3.8)	1,711 (20.6)	2,026 (24.4)
Place of residence						
Urban	3,882 (9.5)	19,134 (46.8)	23,016 (56.3)	669 (8.1)	3,776 (45.5)	4,445 (53.6)
Rural	2,230 (5.4)	15,658 (38.3)	17,888 (43.7)	517 (6.2)	3,339 (40.2)	3,855 (46.4)
Comprehensive knowledge of HIV						
No	4,271 (10.4)	29,250 (71.5)	33,251 (81.9)	923 (11.1)	5,812 (70.0)	6,735 (81.1)
Yes	1,841 (4.5)	5,542 (13.6)	7,383 (18.1)	263 (3.2)	1,302 (15.7)	1,565 (18.9)

35-39 years (16.4%). Both women and men in the secondary education group (52.4% and 49.4%, respectively), richest (20.9% and 20.6%, respectively), and urban residents (46.8% and 45.5%, respectively) indicated a lot of discriminatory attitudes. Meanwhile, both women and men, who did not have comprehensive knowledge on HIV (71.5% and 70%, respectively) showed discriminatory attitudes towards PLHIV.

Table 2 shows the results of logistic regression analysis of the determinant factor of discriminatory attitudes towards PLHIV. In the female group, the determinant factors that were significant for discriminatory attitudes towards PLHIV were older age ($p = 0.00$; 95% CI: 1.13-1.50), richest ($p = 0.00$; 95% CI: 0.69-0.93), living in rural areas ($p = 0.00$, 95% CI: 1.1-1.33), and having comprehensive knowledge about HIV ($p = 0.00$; 95% CI: 0.45-0.53). Women in the richest and most comprehensive knowledge groups showed a negative correlation with discriminatory attitudes. Meanwhile, in the men group, the determinant factors significant for discriminatory attitudes towards PLHIV included the secondary education group ($p = 0.04$; 95% CI: 1.00-5.09) and the richer group ($p = 0.003$; 95% CI: 0.483-0.859). On the contrary, men in the poorer group demonstrated a negative correlation with discriminatory attitudes.

Discussion

Discriminatory behavior towards PLHIV is still very high. In line with previous research [8, 31-33], our findings indicate that there is still high level of stigma and discrimination towards PLHIV in the Indonesian population. This condition has a potential to expand the HIV/AIDS epidemic and increase health risks to PLHIV. Various studies have shown evidence that stigma and discrimination have a negative impact on adherence to therapy of PLHIV [10-12]. This discriminatory attitude also causes PLHIV not to reveal their status to their partners [34, 35]; this condition has a potential to spread HIV more widely. Research by Shrestha *et al.* [36] determined non-disclosure practice and non-disclosure correlation among people at high-risk of HIV infection. In that study, it was found that high HIV-related stigma was associated with non-disclosure.

In the current study, factors tested, including age, education, wealth index, residence, and comprehensive knowledge of HIV, showed a significant relationship with the discriminatory attitude toward PLHIV. In the female group, the older age group, the richest group, living in a rural area, and having comprehensive knowledge of HIV were the determinants

Table 2. Socio-demographic factors associated with discriminatory attitudes towards PLHIV

Factor	Adjusted odd ratio	p-value	95% CI	
Women				
Age (years)				
45-49	1.30	0.00*	1.13	1.50
Highest education				
Primary	1.71	0.07	0.94	3.11
Wealth index				
Richest	0.81	0.00*	0.69	0.93
Place of residence				
Rural	1.21	0.00*	1.11	1.33
Comprehensive knowledge				
Have comprehensive knowledge	0.49	0.00*	0.45	0.53
Cons	15.69	0.00	2.538	97.107
Men				
Age (years)				
50-54	0.38	0.27	0.70	2.13
Highest education				
Secondary	2.27	0.04*	1.00	5.10
Wealth index				
Poorer	0.72	0.03*	0.53	0.98
Place of residence				
Rural	1.02	0.70	0.84	1.25
Comprehensive knowledge				
Have comprehensive knowledge	0.84	0.12	0.67	1.04
Cons	15.16	0.00	2.41	95.10

of discriminatory attitudes towards PLHIV. Meanwhile, in the men group, secondary education and the richer group were the determinants of discriminatory attitudes towards PLHIV. The critical thing to note is that women who have comprehensive knowledge of HIV show significant negative impact on discriminatory attitude or stigma towards PLHIV. This demonstrates that having a solid understanding of HIV can help minimize stigma towards PLHIV.

The findings of this study imply that majority, both females and males, presented discriminatory attitudes towards PLHIV. These results illustrate that efforts are still needed to promote positive and acceptable attitudes towards PLHIV in the Indonesian population. Programs should be structured to increase awareness about HIV/AIDS in the community, encourage compassion for HIV-infected individuals, and emphasize respect for the rights of PLHIV. A research by dos Santos *et al.* [22] in South Africa indicated that four factors were expected to reduce stigma against PLHIV, namely, providing support, delivering education to PLHIV, advocating for the rights of PLHIV, and public awareness and knowledge about PLHIV. Previously published studies have provided evidence that reducing or even eliminating stigma and discrimination has a good effect, increasing the quality of service, mental status, and quality of life of PLHIV [29, 36-40]. Therefore, it is essential to implement strategies and programs to eradicate discriminatory attitudes and practices towards PLHIV.

The degree of HIV stigma and discrimination towards PLHIV in Indonesia was assessed in the current study. To better understand the influence of stigma and discrimination on HIV/AIDS prevention, further epidemiological research is required. Additional study should concentrate on HIV/AIDS education or intervention initiatives that attempt to raise community awareness and understanding, particularly among rural populations. Stigma and discrimination towards PLHIV can be minimized by raising public awareness about HIV/AIDS.

Limitations

In this study, we used a very large sample size to measure the determinant factors of discriminatory attitudes towards PLHIV. However, this study was cross-sectional in design, and thus, causal relationships could not be assumed.

Conclusions

Discriminatory attitudes and actions regarding PLHIV were found to be prevalent in this study. The vast majority of men and women present discriminatory attitudes towards people living with HIV/AIDS. According to the research, a comprehensive understanding of HIV is associated with a reduction in discriminatory attitudes. Indonesia's policy-makers should pay more attention to these issues, because of the negative effects that discriminatory attitudes and stigma have on HIV treatment in general.

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Conflict of interest

The authors declare no conflict of interest.

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