Published in final edited form as:

J Assoc Nurses AIDS Care. 2015 ; 26(6): 743–757. doi:10.1016/j.jana.2015.07.006.

Correlates and Experiences of HIV Stigma in Prisoners Living with HIV in Indonesia: A Mixed Method Analysis

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Abstract

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Disclosures: The authors report no real or perceived vested interests that relate to this article that could be construed as a conflict of interest.

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In Indonesia, the syndemic nature of HIV, drug use, and incarceration may influence experiences of stigma for HIV-infected prisoners. This mixed method study explores HIV stigma in prisoners living with HIV in Indonesia. Randomly selected male HIV-infected prisoners ($n = 102$) from two large prisons in Jakarta completed in-depth interviews and a structured HIV stigma survey. Quantitative results found 4 groups of HIV-infected prisoners with significantly higher HIV stigma levels, including those: (a) with drug-related offenses, (b) seeking help to decrease drug use, (c) diagnosed with HIV before the current incarceration, and (d) who had not disclosed their HIV status to family members or friends. Qualitative results highlighted the prominent role of HIV stigma in decisions to disclose HIV status to family members, partners, and other prisoners. Interventions should address HIV stigma in HIV-infected prisoners in Indonesia to achieve HIV treatment as prevention goals.

Keywords

antiretroviral therapy; drug use; HIV; Indonesia; prisoners; stigma

Indonesia's rapidly expanding HIV epidemic, the third largest in Asia, is transitioning from an epidemic concentrated in people who inject drugs (PWID) to a generalized epidemic (Joint United Nations Programme on HIV/AIDS [UNAIDS], 2013). While other Asian countries have recently stabilized or decreased new HIV infections, HIV incidence in Indonesia, the world's fourth most populous nation, rose 48% between 2008 and 2013. Meanwhile, a mere 8% (range = 5% – 13%) of Indonesia's approximately 610,000 people living with HIV (PLWH) have accessed antiretroviral therapy (ART), and HIV-related deaths increased a staggering 427% between 2005 and 2013 (UNAIDS, 2014).

A national strategy aims to improve detection and treatment of HIV in Indonesia's approximately 160,000 prisoners, of whom conservatively 8% to 13% are PWID and 1.1% to 6.5% are PLWH (Directorate of Corrections, 2010, 2012), suggesting HIV prevalence several-fold higher than in communities. Criminalization of drug use has concentrated PWID in prisons where unsafe drug injection, needle sharing, and limited access to harm reduction services may contribute to ongoing HIV transmission (Culbert et al., 2015). Prison overcrowding and poor sanitation increase exposure to tuberculosis and other opportunistic infections (Al-Darraj, Kamarulzaman, & Altice, 2014). Socio-cultural barriers to ART utilization, especially HIV stigma and fear of discrimination (Wasti et al., 2012), may be intensified in prison settings, thereby restricting ART expansion and contributing to high mortality in incarcerated PLWH.

Stigma is social devaluation and discrediting associated with a mark, characteristic, or attribute (Link & Phelan, 2001; Mahajan et al., 2008). In Indonesia, as in many countries, HIV stigma is both a cause and consequence of limited access to HIV prevention and treatment (Castro & Farmer, 2005). Numerous factors contribute to HIV stigma and undermine engagement along the continuum of care (Earnshaw, Bogart, Dovidio, & Williams, 2013). For example, religion plays an important role in shaping normative social values in Indonesia (Grim, 2010), and has been implicated in stigmatizing attitudes toward PLWH by health care providers (Waluyo, Culbert, Levy, & Norr, 2014). Political-economic

upheaval that slowed an initial response to the HIV epidemic, and inadequate training of health care personnel (Harapan et al., 2013), also contribute to discrimination against PLWH in health care settings (Merati, Supriyadi, & Yuliana, 2005). Incarcerated PLWH, many of whom are PWID, survive under a triple veil of HIV-, drug use-, and incarceration-related stigmas that compound other stressors of incarceration, and magnify the perceived challenges of community re-entry (Choi et al., 2010; Haley et al., 2014). Understanding how incarcerated PLWH experience stigma and how it affects their engagement in care is essential for improving health outcomes. Few studies, however, have assessed stigma in Indonesian PLWH and none have yet examined stigma in incarcerated PLWH – a key population for redressing Indonesia's immense treatment gap (UNAIDS, 2014). Our study aimed to address these gaps in the literature by examining correlates and experiences of HIV stigma in incarcerated PLWH.

Theoretical Framework

Prisons represent a unique and important setting for the study of HIV stigma because incarceration concentrates members of stigmatized populations (i.e., PLWH/PWID) and catalyzes additional processes of social exclusion based on the status as prisoner that produces enduring negative health effects (Schnittker & John, 2007). Within the prison setting, moreover, those perceived not to fit into the prison subculture because of personal characteristics (e.g., gender identity or HIV status) often experience bullying or violent victimization (Wolff, Shi, & Siegel, 2009) that can amplify the way they experience HIV stigma.

Our work is guided by the HIV Stigma Framework (Earnshaw & Chaudoir, 2009) that suggests that social stigma associated with HIV is experienced by PLWH as stigma mechanisms. *Enacted stigma* includes previous experiences of discrimination or unfair treatment from others in the past. *Anticipated stigma* includes expectations of discrimination from others in the future. *Internalized stigma* involves endorsing negative beliefs and feelings about HIV and applying them to the self. Other theoretical work emphasizes that individuals perceive *public stigma*, or are aware of social devaluation and discrediting associated with characteristics with which they themselves live (Bos, Pryor, Reeder, & Stutterheim, 2013), which can further impact experiences of enacted, anticipated, and internalized stigma. Research has suggested that these stigma mechanisms are associated with critical psychosocial, physical, and behavioral health outcomes for PLWH (Earnshaw, Bogart, et al., 2013), including decisions about HIV disclosure that have implications for HIV treatment-related outcomes (e.g., ART acceptance and adherence) and secondary prevention efforts (e.g., sexual risk behaviors; Chaudoir, Fisher, & Simoni, 2011).

We further drew on literature suggesting that stigma mechanisms are context-dependent, meaning that they may vary in both content and magnitude depending on the social context in which they occur. For example, patients receiving methadone maintenance therapy in the United States experience different forms of enacted stigma from family/friends, coworkers/employers, and health service providers (Earnshaw, Smith, & Copenhagen, 2013). HIV-infected PWID in Vietnam describe experiences of layered stigma within the community but not within the family (Rudolph et al., 2012). Incarcerated Indonesian PLWH may experience

stigma through interactions with prison and clinic staff, other prisoners, and visiting family members, all of whom may devalue and judge them as criminals. Delineation within this unique context is needed to fully understand experiences of HIV stigma in incarcerated PLWH and how stigma mechanisms may influence critical health outcomes. Given the importance of HIV disclosure for HIV treatment and secondary prevention (Chaudoir et al., 2011), we focus on the relationships between stigma and disclosure within prison-specific contexts experienced by incarcerated Indonesian PLWH.

Methods

Ethics Statement

Our study was conducted in accordance with international guidelines for research with prisoners (Lazzarini & Altice, 2000). Institutional review boards at Yale University and the University of Indonesia approved the research. Indonesia's Ministry of Research and Technology and Directorate General of Corrections also approved the study. Prison staff members were never present during screening, consent, or interviews. For their time, participants received a snack and small toiletry kit.

Study Design

We conducted a mixed method study to assess individual and institutional factors associated with HIV stigma in incarcerated PLWH. Recognizing that experiences of HIV stigma are influenced by social context, we also explored interpersonal and socio-environmental factors that influenced individual experiences of HIV stigma, and the intersection of other potentially stigmatizing attributes pertaining to participants' status as PWID and prisoners. We therefore chose a convergent mixed method study design (Cresswell & Clark, 2011) in which concurrently collected quantitative and qualitative data were integrated during data analysis and interpretation to produce a nuanced and holistic account of HIV stigma in this unique context.

Study Setting

Participants were recruited from two large prisons in Jakarta including one specialized narcotics prison that housed prisoners charged with drug-related crimes (including drug possession). Both prisons were extremely overcrowded (300%–400% over capacity) and HIV prevalence rates were much higher (11.2%–13.9%) than in Jakarta (~1%). Most cases were undiagnosed, but confirmed cases represented 4.7% of the total inmate population. Most prisoners with confirmed HIV (74.8%) had undergone CD4+ T cell testing. About half of those tested (56.8%) were eligible for ART according to national treatment guidelines (CD4+ T cell count < 350 cells/mL), yet only about two thirds (65%) of those meeting ART eligibility were prescribed ART. Although not systematically available, psychosocial support was gradually being introduced for prisoners with HIV, PWID, and those identifying as gay, bisexual, or transgender.

Recruitment

From November 2013 to May 2014, we recruited 102 incarcerated PLWH using proportional random sampling. Eligible prisoners were male, 18 years of age or older, HIV-

infected, fluent in Bahasa Indonesia, willing to participate in a voice-recorded interview, and able to give informed consent. A complete list of all prisoners meeting eligibility, stratified by most recent CD4 count and ART treatment status, was compiled by a prison physician using medical records. From this list, individuals were assigned a unique identifier that was used to randomly select 60 prisoners from each site who were invited for enrollment screening. Participant understanding of informed consent was assessed using a structured questionnaire.

HIV Stigma Measure

HIV stigma was measured using a modified version of the HIV Stigma Scale (Sayles et al., 2008), consisting of 28 Likert-type items divided into 4 subscales: *stereotypes*, *disclosure concerns*, *self-acceptance*, and *social relationships*. Participants indicated the frequency with which they experience stigma on a 5-point categorical response scale (*never* to *always*). Developed with PLWH in the United States, the HIV Stigma Scale captures multiple stigma mechanisms (Bos et al., 2013; Earnshaw & Chaudoir, 2009), and has been used to assess relationships between stigma and ART access and adherence (Sayles, Wong, Kinsler, Martins, & Cunningham, 2009). The scale has good external validity with subscales positively correlated with shame and negatively correlated with measures of social support, and mental and physical health (Sayles et al., 2008). A researcher administered the stigma scale by reading individual survey items and response choices aloud to participants and recording their responses. We adapted the stigma scale to the Indonesian prison context by modifying three items to capture drug injection-related stigma, and enacted stigma in prison, which we theorized would be salient facets of stigma in this setting. Specific scale modifications (marked with a “†” in Table 2) included two items dealing with parenting stereotypes that were modified to address drug injection stereotypes, and one item in which “prisoners” was substituted for “co-workers.” An expert panel of bilingual researchers (native English and Bahasa Indonesia speakers), then translated the HIV stigma scale using a direct forward translation approach. We piloted the modified scale with 15 participants to ensure understanding and made minor changes before final administration.

In-Depth Interviews

After administering the stigma scale, researchers fluent in Bahasa Indonesia conducted in-depth qualitative interviews with participants (Yeo et al., 2014) using an interview guide consisting of 23 open-ended questions and guided probes. The interview guide was based on a literature review and edited extensively by a survey design expert. To avoid social desirability bias, open-ended interview questions focused on participants’ psychological responses to HIV diagnosis and disclosure, treatment experiences, and anticipated re-entry challenges, without specifically mentioning HIV stigma. For example, we asked, *Tell me what it is like taking HIV medicine in prison*, and *Who have you talked to about your HIV status?* Interviews were conducted in a private room in the medical clinic and lasted about 1 hour.

Analytical Plan

Validation of the HIV stigma scale—Using SPSS Statistical Package Version 19.0 (IBM, Armonk, NY, USA), we conducted an exploratory factor analysis on the 28-item scale to examine its underlying factor structure and compare it to the original scale. We assessed the measure of sampling adequacy to ensure that items would contribute usefully to factor analysis. The Kaiser-Meyer-Olkin statistic overall was high (0.8) but the measure of sampling adequacy for one item, *My family is comfortable talking about my HIV*, was < 0.5, and therefore not included in subsequent analyses.

We conducted principal components analysis of the 27 remaining items and identified a 4-factor structure based on examination of scree plots and Eigenvalues. Using generalized least squares factoring, we extracted 4 factors and examined standardized regression coefficients of items in a series of nested factor solutions. Using chi-square testing to assess goodness-of-fit, we stepwise removed 5 additional items with low factor loadings (< 0.3), including 1 item from the *stereotypes* subscale, 2 from the *social relationships* subscale, and 2 from the *self-acceptance* subscale. We transformed scores linearly to a 0–100 range, and calculated subscale scores by summing individual item scores and dividing by the number of items in that factor. Overall scores were calculated by adding subscale scores and dividing by 4 so that factors were weighted equally. Higher overall scores indicated higher levels of HIV stigma, with a score of 50.0 indicating endorsement of perceptions or experiences of stigma *sometimes*.

Multivariate analyses—We examined associations between HIV stigma scales and demographic, drug use, and clinical characteristics, using multivariate analysis of variance (MANOVA; because scale factors were non-orthogonal) followed by a robust test for equality of means (Welch's ANOVA). Given our limited sample size, we adopted a rule-based approach to variable selection to build a parsimonious model with few parameters. Variables with an initial bivariate association of $p < 0.05$ were entered simultaneously into logistic regression. We then proceeded with manual stepwise elimination of variables that were conceptually redundant and strongly collinear (e.g., *daily drug use before incarceration* and *symptoms of opioid withdrawal after arrest*), while maintaining those of known conceptual importance to HIV stigma. We compared candidate models, based on goodness-of-fit using Akaike information criteria. Variance inflation factor values were low (1.5), indicating that independent variables in the final regression model were not highly correlated. To maintain consistency with previous analyses (Sayles et al., 2009), we selected the highest tercile (mean score > 50) as our dependent variable, *high HIV stigma*. We also compared goodness-of-fit criteria using the upper quartile of stigma scores (> 56) and found the results to be nearly identical.

Qualitative analysis—To enhance interpretive validity, interviewers underwent a structured debriefing immediately after each interview. Voice-recorded interviews were transcribed, translated, and entered into NVivo Qualitative Software (QSR International Pty Ltd. Version 10, 2012) for coding. Using content analysis (Lofland, Snow, Anderson, & Lofland, 2005), three investigators reviewed transcripts in Bahasa Indonesia to analyze language used by participants to indicate perceptions or experiences of HIV stigma, and

delineate differences in meaning according to context; for example, “malu,” which could mean shame, embarrassment, or dilemma depending on context. From these, a set of preliminary descriptive codes was developed and applied to transcripts in a constant comparative process. Researchers used analytic memos and a codebook to refine codes and ensure coding consistency. We examined relationships between codes and grouped them into emergent stigma themes. To support over-arching themes, we selected quotations that captured stigma mechanisms experienced in different contexts, and used implicit quantification to indicate the relative strength of participant perspectives.

Synthesis of qualitative and quantitative findings—During data analysis we compared emergent HIV stigma themes to factors extracted from the HIV Stigma Scale to identify areas of convergence and to cross-validate qualitative and quantitative findings. During interpretation, we drew on qualitative data to help explain associations observed between individual and institutional factors and HIV stigma.

Results

Participant Characteristics

Characteristics of study participants are shown in Table 1. Age ranged from 21 to 51 years; most participants were unmarried and had not completed high school. In general, most participants used and injected drugs immediately before incarceration, but only a third shared needles. Most not only had a primary sexual partner but also secondary partners, and used condoms infrequently. Two thirds were diagnosed with HIV during this incarceration and half had been prescribed ART in prison. Most participants had known someone with HIV, and many had lost a friend, relative, spouse, or partner to HIV. About a quarter said that they had provided care to another PLWH before or while incarcerated. Those who had been diagnosed before the current incarceration were more likely to have disclosed their HIV status to someone outside of prison ($\chi^2 = 13.92, p < 0.001$).

HIV Stigma Scale Validation

Standardized regression coefficients for the final 22-item stigma scale are shown in Table 2. A non-significant chi-square test ($\chi^2 = 153.9, p = 0.37$) indicated good overall fit. Seven items from the original *stereotypes* scale loaded onto a *stereotypes* factor (Cronbach alpha = 0.80), and 4 items (including 2 items modified to address addiction stereotypes) loaded onto a new factor, *addiction stigma* ($\alpha = 0.65$). Disclosure-related items from the original *disclosure concerns* and *self-acceptance* subscales clustered together on a single *disclosure concerns* factor ($\alpha = 0.87$). Four items from the original *social relationships* scale loaded onto a new *social relationships* factor ($\alpha = 0.78$). Reliability of the overall scale was high ($\alpha = 0.90$). Scale inter-correlations ranging from 0.38 to 0.64 were all significant ($p < 0.01$).

HIV Stigma in the Prison Setting

The mean overall stigma score was 40.5 ± 19.8 (range = 2.6–95.0), indicating that, on average, participants endorsed items describing perceptions or experiences of HIV stigma slightly less often than *sometimes* (mean score of 50). Mean scores for stigma items, subscales, and the overall scale are presented in Table 2. A third of participants (33.3%) had

overall stigma scores higher than 50.0, reflecting perceptions and experiences of stigma between *sometimes* and *always*. The highest mean subscale scores were seen on the *addiction stigma* subscale (52.0 ± 24.7) and on individual items measuring perceived public stigma including item 12, *People think that if you have HIV, you must be an injecting drug user* (71.5 ± 32.4), and item 14, *Society looks down on people who have HIV* (62.0 ± 31.4). Similar mean scores were observed on the *stereotypes* (41.9 ± 22.2) and *disclosure* (40.3 ± 28.0) subscales. *Disclosure concerns* emphasized the need to maintain privacy around other prisoners and concern that physical changes caused by ART or becoming sick, could lead to unwanted disclosure. The lowest mean scores were observed on the *social relationships* scale (27.8 ± 25.2), which included two items indicating comparatively low levels of enacted stigma, *People treat me as less than human now that I have HIV* (19.8 ± 27.7) and *People avoid me because I have HIV* (28.4 ± 30.4). Two items measuring enacted stigma by medical providers, although not included in the final scale, had the lowest mean scores. More than half (58.0% and 65.7%) of participants responded *never* to the statements, *Medical providers treat people who have HIV as if they are contagious* and *Medical providers dislike caring for patients with HIV*.

Bivariate and Multivariate Associations with HIV Stigma

Table 3 shows significant bivariate associations (MANOVA) between HIV stigma mean scores and participant characteristics. Higher mean stigma scores were found for participants incarcerated in a prison for drug offenders (44.7 v. 35.6, $p = 0.018$), those who previously had sought help to cut back or stop using drugs (49.0 v. 36.8, $p = 0.006$) or who had participated in drug treatment (52.9 v. 37.0, $p = 0.002$), and those reporting opioid withdrawal upon incarceration (44.0 v. 34.1, $p = 0.02$). Higher overall mean stigma scores were also present for participants diagnosed in the community (49.2 v. 38.0, $p = 0.014$), those prescribed ART (45.1 v. 35.9, $p = 0.019$), and those adhering to ART (45.4 v. 36.9, $p = 0.018$) in prison. Additionally, significant differences ($p < 0.05$) in subscale scores were observed for other characteristics including *education*, *opioid use*, *daily drug use before incarceration*, and *years after diagnosis*, although these differences were not consistently reflected in the overall stigma scale means. The *addiction stigma* subscale registered the highest number of significant mean differences, followed by the *stereotypes* subscale. Surprisingly, the *disclosure* subscale, which contained items assessing disclosure concerns related to accessing HIV care, was not associated with ART use during incarceration.

Table 4 shows independent and multivariate correlates of high HIV stigma (mean score > 50). High HIV stigma was positively associated with being incarcerated in a prison for drug offenders (AOR = 3.62, 95% CI = 1.24–10.52, $p = 0.018$), seeking help to decrease drug use (AOR = 3.26, 95% CI = 1.09–9.78, $p = 0.034$), and diagnosis before the current prison term (AOR = 4.72, 95% CI = 1.35–16.47, $p = 0.015$); it was negatively associated with disclosure of HIV status to a family member or friend (AOR = 0.19, 95% CI = 0.05–0.67, $p = 0.010$).

HIV Disclosure in the Prison Context

Participant decisions to disclose their HIV status while incarcerated highlight variations in stigma mechanisms across different social contexts in prison including interactions with prison officers, clinic staff, and family members. For nearly all participants, HIV stigma

influenced expectations and decisions about disclosing HIV status to family members, partners, and other prisoners. About half (45%) of participants had not yet disclosed their HIV status to someone outside of prison, and more than two thirds (68.6%) were diagnosed during the current incarceration, meaning that many did not yet know how family members would react and lacked experiences of HIV stigma outside of prison.

Participants cited a widely-shared cultural expectation that parents have a duty to support ill children as a reason for disclosing their HIV status in order to gain support during and after incarceration as described in Table 5, quotations A1 and A2. Others, however, expected family members to endorse negative HIV stereotypes or worried that disclosure could bring shame or psychological distress to family members (quotations A3–A6). Attitudes toward partner notification consistently reflected a perception that disclosure would likely lead to rejection and loss of privacy, and threaten a social commitment to marriage (quotations B1–B4).

Managing their identity as PLWH and maintaining privacy while incarcerated emerged as central concerns for many participants. Fear of becoming a social outcast in prison caused many participants to conceal their HIV status and HIV medications from other prisoners as shown in quotations C1–C5. Others, however, reported disclosing their HIV status and bonding with other PLWH as indicated in quotation C6. Finally, HIV stigma undermined patient-provider relationships and ART acceptance, including in some with low CD4+ T cell counts (quotations D1–D3).

Discussion

This mixed method analysis, the first to examine HIV stigma in incarcerated PLWH in Indonesia, contributes to the conceptualization and contextualization of HIV stigma in prisoners, a globally marginalized population with neglected health needs (UNAIDS, 2014). Among these PLWH, who primarily had substance use disorders and extremely low utilization of drug treatment or HIV care prior to incarceration, we found perceptions and experiences of stigma (40.5 ± 19.8) similar to those found in economically-disadvantaged and medically-underserved PLWH in the United States (41 ± 19 ; Sayles et al., 2009); and high levels of stigma (mean score > 50) in 33.3% of participants, in part reflecting the lived experience of a group with high HIV mortality and limited access to effective HIV treatments (Castro & Farmer, 2005). Many participants had lost someone close to HIV, including cellmates, friends, siblings, and spouses; 28.4% had given end-of-life care to another PLWH including assistance to bathe, feed, and ambulate, providing incontinence care, and, in one case, washing the body of another prisoner in preparation for burial.

These prisons represented distinct psychosocial environments endowed with particular social rules that could intensify individual experiences of HIV stigma. In our study, contextual factors common to many prison settings including limited contact with family members, anticipated loss of social support, loss of privacy, and co-stigma of being labeled a drug offender or drug user, heightened individual perceptions and experiences of HIV stigma. In prison, HIV stigma becomes another means to enforce social stratification within an ultra-competitive subculture in which the performance of a “worthy” social identity

becomes a crucial aspect of survival (Andrinopoulos, Figueroa, Kerrigan, & Ellen, 2011). HIV stigma in the prison setting influences patient decisions to seek treatment during incarceration vis-à-vis their assessment of the potential risks of disclosure, which can include violent victimization, loss of companionship, personal safety, material support, and protection (Culbert, 2014).

In our study, stereotypes about PLWH often centered on injection drug use, which had been the dominant mode of transmission in Indonesia. These stereotypes undermine wider acceptance for HIV testing (Earnshaw, Smith, Chaudoir, Lee, & Copenhagen, 2012) and are especially counterproductive in prisons where HIV testing is initiated by prisoners or based on drug-use risk assessments. Higher mean HIV stigma scores in those incarcerated in a narcotics prison, those with opioid disorders, and those seeking help to cut back or stop using drugs (e.g., drug treatment) suggested that previous experiences of addiction stigma associated with participation in addiction treatment (Luoma et al., 2007) may alter the experience of HIV stigma. Criminalization of drug use in Indonesia has fueled negative addiction stereotypes, isolated PWID, and prevented them from reaching health and harm-reduction services (Mesquita et al., 2007). Addiction stereotypes, moreover, thwart methadone maintenance therapy expansion efforts (Bachiredy et al., 2011), which are urgently needed both to avert new HIV infections in Indonesia and to change community perceptions toward addiction as a treatable illness and thereby reduce stigma toward people with addiction problems.

During in-depth interviews, HIV stigma typically manifested as concerns about HIV status disclosure to family members, partners, other prisoners, and health care providers, with implications for social support, partner notification, and HIV treatment (Derlega, Winstead, Gamble, Kelkar, & Khuanghlawn, 2010). Family members were seen as the primary source of material and emotional support during and after incarceration, a finding consistent with other culturally grounded work on HIV stigma with PWID in the Asia-Pacific region (Li, Wang, He, Fennie, & Williams, 2012; Rudolph et al., 2012). An HIV diagnosis caused additional psychological distress because it was perceived to threaten participants' responsibilities to family members and many worried that disclosure could undermine support or bring shame to families. Lower levels of HIV stigma in participants who had disclosed and higher HIV stigma in those initiating ART in prison suggested the importance of clinical interventions that facilitate disclosure and alleviate HIV stigma within the patient's immediate social context to improve ART adherence.

Given high rates of pre-incarceration sexual and drug risk behaviors in Indonesian PWID and their inextricable links to partner risk behaviors, structural changes are required to facilitate HIV disclosure to partners of PLWH diagnosed while incarcerated. Voluntary and confidential partner notification services are effective when notifying partners of recent HIV exposure and are generally acceptable to PLWH (Passin et al., 2006), yet individual and structural barriers to partner notification are amplified by incarceration. Few PLWH have opportunities to disclose to partners while incarcerated and may not want to disclose their HIV status because of HIV stigma, loss of privacy, and fear of rejection or loss of social support. Integration of voluntary and confidential partner notification and referral services into prison-based HIV prevention programs represents an actionable opportunity to

overcome stigma associated with disclosure and to extend HIV testing and treatment to exposed women, men who have sex with men, and PWID in the community.

Finally, although our study suggests that fear of unwanted disclosure may not itself be a barrier to accessing ART during incarceration, concerns about unwanted disclosure may evolve after ART initiation as prisoners taking ART become increasingly scrutinized under the microscope of prison subculture. Moreover, HIV stigma may magnify the perceived challenges of accessing HIV care and utilizing ART after release from prison (Choi et al., 2010; Haley et al., 2014). Higher stigma scores in those taking ART while incarcerated may also reflect higher ART use in those who were diagnosed before incarceration and therefore had greater exposure to stigmatizing public attitudes before incarceration. Encouraging within our findings was that most participants categorically rejected statements indicating anticipated or enacted stigma by health care providers, although internalized stigma and a desire to save face sometimes interfered with patient-provider relationships.

Although our sample size was too small to allow robust analysis of HIV stigma scale structural validity in this population (using structural equation modeling), reliability estimates were comparable to those obtained for the original scale (Sayles et al., 2008). Given the cross-sectional design, we were unable to assess causal relationships between HIV stigma, health behaviors, and clinical outcomes. Finally, we did not examine sexual or ethnic minority status as potentially important types of intersecting stigma.

Conclusion

Individual experiences of HIV stigma by Indonesian prisoners vary across social contexts and encompass multiple domains including HIV stereotypes, disclosure concerns, social relationships, and perceptions about addiction and HIV treatment in the wider society. Co-stigma of drug use or addiction may alter the experience of HIV stigma for prisoners who have been labeled as drug users. While stigma may not limit ART initiation in prison, discrimination by prisoners, clinic staff, or family members could potentially impact ART adherence. Perceptions of public stigma by PLWH diagnosed in prison may deter disclosure of HIV status to family members or needle-sharing and sexual partners, which has implications for social support and secondary prevention. Collectively, our findings point to the need for interventions that mitigate the impact of HIV stigma on incarcerated PLWH.

Acknowledgments

The research was supported through a Fulbright Senior Scholar Award in Global Health from the J. William Fulbright Commission, U.S. State Department; NIH Fogarty International Center, Global Health Fellows and Scholars Research Training Grant R25 TW009338; and the National Institutes on Drug Abuse (R01 DA 25943 and K24 DA017072). Additional funding was provided by the Chicago Developmental Center for AIDS Research, an NIH-funded program (P30 AI 082151) that is supported by the following NIH Institutes and Centers: NIAID, NCI, NIMH, NIDA, NICHD, NHLBI, NCCAM. We thank study participants for generously sharing their time and experiences. We thank Mariska Iriyanti, Azalia Muchransyah, Budhi Mulyadi, and Herlia Yuliantini for research assistance. We gratefully acknowledge operational support from the Directorate General of Corrections, Republic of Indonesia, especially Akbar Hadi Prabowo, Finnahari, Astia Murni, and Hetty Widiastuti. We also thank Nurlan Silitonga, Cindy Hidayati, Alia Hartanti, David Shenman, Suzanne Blogg (HIV Cooperation Programme for Indonesia); Judith Levy, Kathleen Norr, and Colleen Corte (University of Illinois at Chicago); Elly Nurachmah, Dewi Irawaty, and Junaiti Sahar (Universitas Indonesia).

References

- Al-Darraj HA, Kamarulzaman A, Altice FL. Latent tuberculosis infection in a Malaysian prison: Implications for a comprehensive integrated control program in prisons. *BMC Public Health*. 2014; 14:22.10.1186/1471-2458-14-22 [PubMed: 24405607]
- Andrinopoulos K, Figueroa JP, Kerrigan D, Ellen JM. Homophobia, stigma and HIV in Jamaican prisons. *Culture, Health, and Sexuality*. 2011; 13(2):187–200.10.1080/13691058.2010.521575
- Bachireddy C, Bazazi AR, Kavasery R, Govindasamy S, Kamarulzaman A, Altice FL. Attitudes toward opioid substitution therapy and pre-incarceration HIV transmission behaviors among HIV-infected prisoners in Malaysia: Implications for secondary prevention. *Drug and Alcohol Dependence*. 2011; 116(1–3):151–157.10.1016/j.drugalcdep.2010.12.001 [PubMed: 21232882]
- Bos AER, Pryor JB, Reeder GD, Stutterheim SE. Stigma: Advances in theory and research. *Basic and Applied Social Psychology*. 2013; 35(1):1–9.10.1080/01973533.2012.746147
- Castro A, Farmer P. Understanding and addressing AIDS-related stigma: From anthropological theory to clinical practice in Haiti. *American Journal of Public Health*. 2005; 95(1):53–59.10.2105/AJPH.2003.028563 [PubMed: 15623859]
- Chaudoir SR, Fisher JD, Simoni JM. Understanding HIV disclosure: A review and application of the Disclosure Processes Model. *Social Science and Medicine*. 2011; 72(10):1618–1629.10.1016/j.socscimed.2011.03.028 [PubMed: 21514708]
- Choi P, Kavasery R, Desai MM, Govindasamy S, Kamarulzaman A, Altice FL. Prevalence and correlates of community re-entry challenges faced by HIV-infected male prisoners in Malaysia. *International Journal of STD & AIDS*. 2010; 21(6):416–423.10.1258/ijsa.2009.009180 [PubMed: 20606222]
- Cresswell, JW.; Clark, VLP. *Designing and conducting mixed methods research*. 2. Thousand Oaks, CA: Sage; 2011.
- Culbert GJ. Violence and the perceived risks of taking antiretroviral therapy in US jails and prisons. *International Journal of Prisoner Health*. 2014; 10(1):1–17.10.1108/IJPH-05-2013-0020
- Culbert GJ, Waluyo A, Iriyanti M, Muchransyah AP, Kamarulzaman A, Altice FL. Within-prison drug injection among HIV-infected male prisoners in Indonesia: A highly constrained choice. *Drug and Alcohol Dependence*. 2015; 149:71–79.10.1016/j.drugalcdep.2015.01.018 [PubMed: 25659895]
- Derlega VJ, Winstead BA, Gamble KA, Kelkar K, Khuanghlawn P. Inmates with HIV, stigma, and disclosure decision-making. *Journal of Health Psychology*. 2010; 15(2):258–268.10.1177/1359105309348806 [PubMed: 20207669]
- Directorate of Corrections. HIV and syphilis prevalence and risk behavior study among prisoners and detention centres in Indonesia. 2010. Retrieved from https://www.unodc.org/documents/hiv-aids/HSPBS_2010_final-English.pdf
- Directorate of Corrections. HIV and HCV prevalence and risk behavior study in Indonesian narcotics prisons. Jakarta: Directorate of Corrections, Ministry of Law and Human Rights, Republic of Indonesia; 2012.
- Earnshaw VA, Bogart LM, Dovidio JF, Williams DR. Stigma and racial/ethnic HIV disparities: Moving toward resilience. *American Psychologist*. 2013; 68(4):225–236.10.1037/a0032705 [PubMed: 23688090]
- Earnshaw VA, Chaudoir SR. From conceptualizing to measuring HIV stigma: A review of HIV stigma mechanism measures. *AIDS & Behavior*. 2009; 13(6):1160–1177.10.1007/s10461-009-9593-3 [PubMed: 19636699]
- Earnshaw VA, Smith L, Copenhaver M. Drug addiction stigma in the context of methadone maintenance therapy: An investigation into understudied sources of stigma. *International Journal of Mental Health and Addiction*. 2013; 11(1):110–122.10.1007/s11469-012-9402-5 [PubMed: 23956702]
- Earnshaw VA, Smith LR, Chaudoir SR, Lee IC, Copenhaver MM. Stereotypes about people living with HIV: Implications for perceptions of HIV risk and testing frequency among at-risk populations. *AIDS Education and Prevention*. 2012; 24(6):574–581.10.1521/aeap.2012.24.6.574 [PubMed: 23206205]

- Grim, BJ. Indonesia's place along the spectrum of global religious restriction. 2010. [Press release]. Retrieved from <http://www.pewforum.org/2010/11/04/indonesias-place-along-the-spectrum-of-global-religious-restriction/#1>
- Haley DF, Golin CE, Farel CE, Wohl DA, Scheyett AM, Garrett JJ, Parker SD. Multilevel challenges to engagement in HIV care after prison release: A theory-informed qualitative study comparing prisoners' perspectives before and after community reentry. *BMC Public Health*. 2014; 14:1253.10.1186/1471-2458-14-1253 [PubMed: 25491946]
- Harapan H, Feramuhawan S, Kurniawan H, Anwar S, Andalas M, Hossain MB. HIV-related stigma and discrimination: A study of health care workers in Banda Aceh, Indonesia. *Medical Journal of Indonesia*. 2013; 22(1):23–29.10.13181/mji.v22i1.518
- Joint United Nations Programme on HIV/AIDS. HIV in Asia and the Pacific: UNAIDS report, 2013. 2013. Retrieved from http://www.unaids.org/sites/default/files/media_asset/2013_HIV-Asia-Pacific_en_0.pdf
- Joint United Nations Programme on HIV/AIDS. The Gap Report. 2014. Retrieved from http://www.unaids.org/en/resources/documents/2014/20140716_UNAIDS_gap_report
- Lazzarini Z, Altice FL. A review of the legal and ethical issues for the conduct of HIV-related research in prisons. *AIDS & Public Policy Journal*. 2000; 15(3–4):105–135. [PubMed: 12189712]
- Li X, Wang H, He G, Fennie K, Williams AB. Shadow on my heart: A culturally grounded concept of HIV stigma among Chinese injection drug users. *Journal of the Association of Nurses in AIDS Care*. 2012; 23(1):52–62.10.1016/j.jana.2011.07.002 [PubMed: 21924643]
- Link BG, Phelan JC. Conceptualizing stigma. *Annual Review of Sociology*. 2001; 27(1):363–385.10.1146/annurev.soc.27.1.363
- Lofland, J.; Snow, DA.; Anderson, L.; Lofland, LH. *Analyzing social settings: A guide to qualitative observation and analysis*. 4. Florence, KY: Wadsworth Publishing; 2005.
- Luoma JB, Twohig MP, Waltz T, Hayes SC, Roget N, Padilla M, Fisher G. An investigation of stigma in individuals receiving treatment for substance abuse. *Addictive Behaviors*. 2007; 32(7):1331–1346.10.1016/j.addbeh.2006.09.008 [PubMed: 17092656]
- Mahajan AP, Sayles JN, Patel VA, Remien RH, Sawires SR, Ortiz DJ, Coates TJ. Stigma in the HIV/AIDS epidemic: A review of the literature and recommendations for the way forward. *AIDS*. 2008; 22(Suppl 2):S67–S79.10.1097/01.aids.0000327438.13291.62 [PubMed: 18641472]
- Merati T, Supriyadi &, Yuliana F. The disjunction between policy and practice: HIV discrimination in health care and employment in Indonesia. *AIDS Care*. 2005; 17(Suppl 2):175–179.10.1080/09540120500119932
- Mesquita F, Winarso I, Atmosukarto II, Eka B, Nevendorff L, Rahmah A, Angela R. Public health the leading force of the Indonesian response to the HIV/AIDS crisis among people who inject drugs. *Harm Reduction Journal*. 2007; 4:9.10.1186/1477-7517-4-9 [PubMed: 17306033]
- Passin WF, Kim AS, Hutchinson AB, Crepaz N, Herbst JH, Lyles CM. A systematic review of HIV partner counseling and referral services: Client and provider attitudes, preferences, practices, and experiences. *Sexually Transmitted Diseases*. 2006; 33(5):320–328.10.1097/01.olq.0000194597.16236.48 [PubMed: 16505750]
- Rudolph AE, Davis WW, Quan VM, Ha TV, Minh NL, Gregowski A, Go V. Perceptions of community and family level IDU and HIV related stigma, disclosure decisions and experiences with layered stigma among HIV positive injection drug users in Vietnam. *AIDS Care*. 2012; 24(2):239–244.10.1080/09540121.2011.596517 [PubMed: 21777075]
- Sayles JN, Hays RD, Sarkisian CA, Mahajan AP, Spritzer KL, Cunningham WE. Development and psychometric assessment of a multidimensional measure of internalized HIV stigma in a sample of HIV-positive adults. *AIDS & Behavior*. 2008; 12(5):748–758.10.1007/s10461-008-9375-3 [PubMed: 18389363]
- Sayles JN, Wong MD, Kinsler JJ, Martins D, Cunningham WE. The association of stigma with self-reported access to medical care and antiretroviral therapy adherence in persons living with HIV/AIDS. *Journal of General Internal Medicine*. 2009; 24(10):1101–1108.10.1007/s11606-009-1068-8 [PubMed: 19653047]

- Schnittker J, John A. Enduring stigma: The long-term effects of incarceration on health. *Journal of Health and Social Behavior*. 2007; 48(2):115–130.10.1177/002214650704800202 [PubMed: 17583269]
- Waluyo A, Culbert GJ, Levy J, Norr KF. Understanding HIV-related stigma among Indonesian nurses. *Journal of the Association of Nurses in AIDS Care*. 201410.1016/j.jana.2014.03.001
- Wasti SP, van Teijlingen E, Simkhada P, Randall J, Baxter S, Kirkpatrick P, Gc VS. Factors influencing adherence to antiretroviral treatment in Asian developing countries: A systematic review. *Tropical Medicine and International Health*. 2012; 17(1):71–81.10.1111/j.1365-3156.2011.02888.x [PubMed: 21967241]
- Wolff N, Shi J, Siegel J. Understanding physical victimization inside prisons: Factors that predict risk. *Justice Quarterly*. 2009; 26(3):445–475.10.1080/07418820802427858
- Yeo, A.; Legard, R.; Keegan, J.; Ward, K.; Nicholls, CM.; Lewis, J. In-depth interviews. In: Ritchie, J.; Lewis, J.; Nicholls, CM.; Ormston, R., editors. *Qualitative research practice: A guide for social science students and researchers*. 2. Thousand Oaks, CA: Sage; 2014. p. 177-208.

Key Considerations

- Contextual factors common to many prison settings may amplify individual perceptions and experiences of HIV stigma.
- Interventions to reduce HIV stigma in Indonesian prisons should also address the co-stigma of addiction and incarceration.
- Nursing interventions that facilitate disclosure and alleviate stigma within the patient's immediate social context are required to achieve HIV treatment as prevention goals in Indonesia.

Table 1Characteristics of HIV-Infected Prisoners ($N = 102$)

Characteristic	n (%)
Mean years of age $\pm$ SD	31.3 $\pm$ 5.7
Married before incarceration	32 (31.4)
Finished high school	46 (45.1)
Living with family before incarceration	73 (71.6)
Employed or self-employed before incarceration	67 (65.7)
Income from drug trafficking	35 (34.3)
Incarcerated in a narcotics prison	55 (53.9)
Incarcerated $\geq$ 2 years	63 (61.8)
Drug use and needle sharing (3 months before incarceration)	
Any drug use	98 (96.0)
Any opioid use	70 (68.6)
Any drug injection	66 (64.7)
Any needle sharing	36 (35.2)
2 or more needle-sharing partners	28 (27.5)
Sexual behaviors (6 months before incarceration)	
Heterosexual sexual orientation	93 (91.2)
2 or more sexual partners	46 (45.1)
Primary sexual partner	82 (80.3)
Consistently used condoms with primary partner ($n = 82$)	7 (8.5)
Other sexual partner(s)	45 (44.1)
Consistently used condoms with other partner(s) ($n = 45$)	7 (15.5)
Ever exchange money or drugs for sex	40 (39.2)
Clinical characteristics	
1 year since diagnosis	35 (34.3)
Diagnosed with HIV before incarceration	32 (31.4)
Regular medical care before incarceration	12 (11.8)
Was taking ART during 3 months before incarceration	6 (5.9)
Prescribed ART while incarcerated	51 (50.0)
Knew someone living with HIV	86 (84.3)
Knew someone close who died of AIDS	77 (75.5)
Provided care to someone living with HIV	29 (28.4)
Disclosed HIV status to someone outside prison	56 (54.9)

Note. SD = standard deviation; ART = antiretroviral therapy.

Table 2
Four Factor Pattern Matrix (Standardized Regression Coefficients) for 22 Final Stigma Scale Items

Item	Mean score ± SD	Factor				Stigma mechanism
		1	2	3	4	
Factor 1 = Stereotypes						
1. People think I slept around because I have HIV.	41.9 ± 22.2	0.72	0.00	0.16	0.05	P
2. Medical providers think that PLWH have many sexual partners.	29.6 ± 34.2	0.65	0.22	0.16	0.02	P
3. People assume I have done something bad to get HIV.	44.6 ± 32.9	0.60	0.11	0.06	0.07	E
4. People think you can't be a good parent if you have HIV.	41.6 ± 35.7	0.57	0.04	0.05	0.12	P
5. Society looks down on people with HIV.	35.2 ± 34.7	0.54	0.12	0.06	0.07	P
6. HIV is different from other diseases like cancer because people are judged.	62.0 ± 31.4	0.51	0.03	0.17	0.02	P
7. People lose their jobs because they have HIV.	42.8 ± 33.8	0.47	0.15	0.00	0.22	P
Factor 2 = Addiction stigma						
8. People think that if you have HIV then you got what you deserve.	52.0 ± 24.7	0.09	0.89	0.07	0.06	P
9. People blame me for having HIV.	42.6 ± 35.4	0.35	0.48	0.01	0.13	E
10. Medical providers think that all PLWH are drug users. [†]	45.0 ± 36.3	0.09	0.47	0.16	0.18	P
11. People think that if you have HIV, you are an injection drug user. [†]	49.0 ± 36.3	0.01	0.38	0.09	0.08	P
Factor 3 = Disclosure						
12. I am concerned people will find out that I have HIV by looking at my medical paperwork.	40.3 ± 28.0	0.04	0.06	0.85	0.04	A
13. I am concerned if I go to an AIDS organization, someone I know might see me.	37.9 ± 36.5	0.09	0.08	0.81	0.17	A
14. I am concerned that if I am sick, people I know will find out I have HIV.	31.1 ± 35.7	0.06	0.04	0.80	0.11	A
15. I am concerned if I have physical changes from the HIV medicines, people will know I have HIV.	36.5 ± 37.3	0.12	0.19	0.68	0.21	A
16. I am concerned if I go to an HIV clinic someone I know might see me.	47.7 ± 38.0	0.31	0.02	0.68	0.16	A
17. I feel ashamed to tell people I have HIV.	35.7 ± 36.4	0.18	0.22	0.61	0.24	I
18. It is important to keep HIV a secret from other prisoners. [†]	44.1 ± 37.9	0.08	0.09	0.42	0.07	A
Factor 4 = Social relationships						
19. People avoid me because I have HIV.	48.7 ± 36.7	0.03	0.00	0.02	0.95	E
20. People treat me as less than human now that I have HIV.	27.8 ± 25.2	0.19	0.01	0.20	0.61	E
21. I feel like I am an outsider because I have HIV.	19.8 ± 27.7	0.22	0.06	0.08	0.45	E
22. People I am close to are afraid they will catch HIV from me.	32.1 ± 35.9	0.30	0.02	0.08	0.45	E
	30.8 ± 34.3					

Item	Mean score ± SD	Stigma mechanism			
		Factor			
		1	2	3	4
Overall Stigma Scale					
	40.5 ± 19.8				

Note. A = anticipated stigma; E = enacted stigma; I = internalized stigma; P = public stigma; SD = standard deviation;

[†] modified;

PLWH = people living with HIV infection.

Table 3

HIV Stigma Mean Scores by Select Participant Characteristics ($N = 102$)

Characteristic	Group	N (%)	Overall mean score	Factor		
				Stereotypes	Addiction stigma	Social relationships
Age 31 years	yes	52 (50.9)	41.4	41.7	55.8	40.0
	no	50 (49.0)	39.6	42.1	48.4	40.5
Finished high school [†]	yes	46 (45.0)	44.1	49.3**	54.3	42.5
	no	56 (54.9)	37.6	35.9	50.2	38.4
Married	yes	32 (26.6)	41.4	41.1	54.4	32.8
	no	70 (58.3)	40.1	42.3	50.9	25.8
Incarcerated in narcotics prison [‡]	yes	55 (53.0)	44.7*	43.1	57.2*	46.1*
	no	47 (46.0)	35.6	40.6	46.0	33.5
Drug use 3 months before incarceration						
Using heroin or another opioid [‡]	yes	70 (68.6)	41.7	40.5	55.8*	40.3
	no	32 (31.3)	37.9	45.0	43.9	40.2
Daily drug use	yes	82 (80.3)	42.1	42.2	54.9*	41.8
	no	20 (19.6)	33.9	41.0	40.3	34.1
Injection drug use	yes	66 (64.7)	42.1	41.3	55.7	41.5
	no	36 (35.2)	37.6	43.1	45.3	37.9
Opioid withdrawal symptoms upon arrest [‡]	yes	66 (64.7)	44.0*	42.9	58.0**	43.3
	no	36 (35.2)	34.1	40.2	41.1	34.7
Drug use severity and treatment						
Have sought help to cut back or stop using drugs [‡]	yes	31 (30.3)	49.0**	47.5	63.3**	48.2
	no	71 (69.6)	36.8	39.5	47.1	36.8
Ever participated in drug treatment [‡]	yes	21 (20.5)	52.9**	48.6	69.0**	53.0*
	no	81 (79.4)	37.0	40.0	47.6	36.9
Prescribed methadone in prison [§]	yes	17 (30.9)	49.5	49.1	62.5	53.5
	no	38 (69.0)	42.5	40.4	54.9	42.7
Clinical characteristics						
Diagnosed for 2 years	yes	63 (61.7)	37.7	39.9	48.1	38.0
	no	39 (38.3)	42.5	40.4	54.9	42.7

Characteristic	Group	N (%)	Overall mean score	Factor			
				Stereotypes	Addiction stigma	Disclosure concerns	Social relationships
Diagnosed while incarcerated [‡]	no	39 (38.2)	44.9	45.3	58.4 *	43.9	32.2
	yes	79 (77.4)	38.0	39.1	48.5	38.6	25.7
	no	23 (22.5)	49.2 *	51.8 *	64.1 **	46.1	35.0
Underwent CD4+ T cell testing in prison	yes	80 (78.4)	39.8	40.8	53.4	38.1	27.0
	no	22 (21.5)	42.9	46.1	47.1	48.0	30.6
Prescribed ART while incarcerated	yes	51 (50.0)	45.1 *	46.8 *	58.0 *	42.9	32.5
	no	51 (50.0)	35.9	37.1	46.0	37.6	23.0
Took ART in the previous week	yes	57 (55.8)	45.4 *	46.9 *	58.6 **	43.3	32.7
	no	45 (44.1)	36.9	38.0	46.9	37.9	23.9

Note.

[‡] MANOVA significant at $p < 0.05$;

^{*} Welch's ANOVA significant at $p < 0.05$,

^{**} $p < 0.01$;

[§] compared to other narcotics prisoners;

ART = antiretroviral therapy.

Table 4

Bivariate and Multivariate Correlates of High HIV Stigma (Mean Score > 50) in HIV-Infected Prisoners ($N = 102$)

Variable	UOR	95% CI	p-value	AOR	95% CI	p-value
Finished high school	1.60	0.70–3.68	0.26	2.24	0.76–6.52	0.140
Drug Injection 3 months before incarceration	1.48	0.61–3.60	0.03	1.31	0.43–3.94	0.624
Has sought help to cut back or stop using drugs	2.56	1.06–6.17	0.03	3.26	1.09–9.78	0.034
Incarcerated in narcotics prison	2.35	0.99–5.57	0.05	3.62	1.24–10.52	0.018
Knew HIV status before current incarceration	2.36	0.99–5.66	0.05	4.72	1.35–16.47	0.015
Disclosed HIV status to family member or friend	0.61	0.25–1.46	0.27	0.19	0.05–0.67	0.010
CD4+ T cell count < 200 cells/mL	1.08	0.42–2.76	0.87	0.37	0.09–1.43	0.152
Currently taking ART (in past week)	2.04	0.88–4.71	0.09	1.15	0.36–3.59	0.808

Note. ART = antiretroviral therapy; UOR = unadjusted odds ratio; AOR = adjusted odds ratio; CI = confidence interval; Bolded *p*-values significant at $p < 0.05$.

Table 5

Stigma Themes in HIV-Infected Indonesian Prisoners (N = 102)

Theme	Quotation
Family disclosure and acceptance	A1 <i>Even though other people may not accept me, I can always rely on my family. Like my parents, they must support me, especially since I haven't seen them in a long time. (24 year-old, CD4+ T cell count > 350 cells/mm³, not taking ART)</i>
	A2 <i>My parents used to remind me to take my medicines, bring me my medication, accompany me to pick up my medicine, take care of my health. Even when I was in jail they brought me my medicine. (35 year-old, taking ART)</i>
	A3 <i>I am afraid that outside my family will not accept me and I will be isolated because they are lay people. They don't see the illness like I do. Even with my parents, I'm still afraid to tell them. Because they might think I can give them HIV. (33 year-old, taking ART)</i>
	A4 <i>I'm afraid to make my family ashamed because it is about the family name. Because of my illness, my family will be bad-mouthed by neighbors in my village. When I was a child, if there was gossip it would spread quickly. I don't want my family to have that. (27 year-old, CD4+ T cell count > 350 cells/mm³, not taking ART)</i>
	A5 <i>I haven't told my parents yet. I'm afraid they won't accept me. I'm ashamed. Where I used to live, many of my friends have already died. (19 year-old, taking ART)</i>
	A6 <i>I opened up about my status to my big brother when I started taking ART. He told my parents and my parents told the neighbors. Then he told me that when I get out, my family doesn't want my existence in the house. So I only have 3 days at home. After that it's up to me where I will live. Now I'm worried. Why do they have that attitude about HIV? (29 year-old, taking ART)</i>
Partner disclosure and acceptance	B1 <i>My fear is that there is nobody who will want to marry me. My biggest concern is about a partner. Because I believe that a soul mate is already given by God. It's important for me because it's one of my religious beliefs. (29 year-old, taking ART)</i>
	B2 <i>I have a girlfriend who is still waiting for me outside but I haven't disclosed to her because I'm confused. If I tell her, how should I do it? Because I'm still inside [prison]. If I tell her here, I'm afraid that she will disappear. I'm afraid that it will make me anxious. I'm afraid that after I tell her she will tell my other friends. But I think it's important to tell her because I am afraid that she will get HIV like me. (24 year-old, CD4+ T cell count > 350 cells/mm³, not taking ART)</i>
	B3 <i>I need to get married so my future will be brighter. I still haven't got any would-be wife but I will try to find one when I get out. I'm just afraid that she will not accept the truth if I tell her that I have this disease. But I will still tell the truth. (24 year-old, CD4+ T cell count > 350 cells/mm³, not taking ART)</i>
	B4 <i>I'm not ready yet. I'm afraid she will...she will leave me. Or my problem will become a worry for her. (31 year-old, CD4+ T cell count > 350 cells/mm³, not taking ART)</i>
Disclosure and discrimination in prison	C1 <i>They (other HIV-infected prisoners) never talk about their status. It's impossible here to disclose your status. Even about taking ART, they're not honest. They just say they're taking common medications. If they take ART, other prisoners will think that they have HIV. Then we will be discriminated against. Like me, my drinking glass has been separated from the others. That's the reason why I become depressed. (33 year-old, taking ART)</i>
	C2 <i>Sometimes when I take my medicine in front of the boys I feel awkward. Sometimes I take the medicine and I just drink it immediately without anybody noticing. I don't want to show them. I don't want other people to know. I don't want them to have this view about me. I tell them, "It's just vitamins." (27 year-old, taking ART)</i>
	C3 <i>Right now, nobody knows. In terms of being cast out, yeah, I think I'm afraid. It will be sad if people know my status. They won't want to be my friend any more. They will keep their distance. (24 year-old, CD4+ T cell count < 350 cells/mm³, not taking ART)</i>
	C4 <i>The biggest concern is fear of discrimination. Most of them are afraid to open up about their status. They are most afraid of being distanced and cast out. (35 year-old, taking ART)</i>
	C5 <i>People in this prison, if they see me in the clinic they would ask, "What is your disease? You don't have HIV, do you?" I say, "No," and cover it up because I'm afraid that he (another prisoner) will distance himself. (28 year-old, CD4+ T cell count < 350 cells/mm³, not taking ART)</i>

Theme	Quotation
Medical provider interactions	C6 <i>My cellmates are all peer educators and every time we need to take our medicine everybody starts teasing each other saying, "You don't want to die, right?" (29 year-old, taking ART)</i>
	D1 <i>I've never asked (prison doctors). I'm discouraged. I'm ashamed. I don't know why I'm ashamed. Since I was diagnosed, I feel afraid. I feel nervous when I'm meeting someone. (27 year-old, CD4+ T cell count = 350–500 cells/mm³, not taking ART)</i>
	D2 <i>I want to consult with the doctor. But in here, communication with the doctor is difficult. Honestly, the doctors here see us like whatever. They treat us indifferently. If we are special people, people with money, it's handled quickly. (31 year-old, CD4+ T cell count < 200 cells/mm³, not taking ART)</i>
	D3 <i>There's a wide gap in my relationship with the doctors. It's not close. The nurses here, maybe one or two of them see us as inmates or ordinary people. But some see us as inmates on methadone, and they serve us like fifth (najis). (34year-old, CD4+ T cell count < 200 cells/mm³, not taking ART)</i>

Note. ART = antiretroviral therapy.