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## Understanding HIV-related stigma among Indonesian nurses

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### Abstract

Evidence indicates widespread stigmatization of persons living with HIV (PLWH) in Indonesia. Such attitudes among health care workers could impede the country's policies for effective diagnosis and medical treatment of PLWH. Nonetheless, research to guide interventions to reduce stigma in health care settings is lacking. Also, the contributions of workplace, religion, and HIV knowledge to nurses' HIV-related stigma are poorly understood. Our cross-sectional study aimed to describe factors associated with nurses' stigmatizing attitudes toward PLWH. Four hundred nurses recruited from 4 hospitals in Jakarta, Indonesia, were surveyed using the Nurse AIDS Attitude Scale (NAAS) to measure stigma. Stigmatizing attitudes were significantly predicted by education, HIV training, perceived workplace stigma, religiosity, Islamic religious identification, and affiliation with the Islamic hospital. HIV knowledge was not a significant predictor of stigmatizing attitudes. Organization changes fostering workplace diversity are likely to substantially reduce stigmatizing attitudes in nurses.

### Keywords

HIV knowledge; HIV stigma; Indonesia; nurses; religion; workplace

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Indonesia has one of the most rapidly expanding HIV epidemics in the world (Joint United Nations Programme on HIV/AIDS [UNAIDS], 2012a). The HIV epidemic in Indonesia is concentrated in people who inject drugs (PWID) and female sex workers (FSW), although

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Conflict of Interest Statement

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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transmission among men who have sex with men (MSM) is quickly increasing (Indonesian National AIDS Commission, 2012; Ministry of Health, Republic of Indonesia, 2008). The incidence of HIV in adults ages 15 to 49 rose 25% between 2001 and 2011 (UNAIDS, 2012a). Today, an estimated 390,000 to 940,000 Indonesians are believed to be infected with the virus (UNAIDS, 2012b).

More than three quarters of Indonesians living with HIV do not know that they are infected (Indonesian National AIDS Commission, 2012). Insufficient HIV knowledge among both patients and providers, lack of perceived benefits of HIV testing, and stigmatization toward people living with HIV (PLWH) contribute to low uptake of HIV counseling and testing services. Most Indonesians who contract HIV present clinically only with advanced HIV infection or AIDS (Wisaksana et al., 2009). Meanwhile, coverage of antiretroviral therapy (ART) among eligible adults hovers below 20% (UNAIDS, 2013). The precise HIV mortality rate in Indonesia is unknown, although best estimates are 16,000 to 42,000 HIV-related deaths annually (UNAIDS, 2012b).

HIV-related stigma still impedes the country's efforts to effectively respond to HIV infection. Stigmatizing attitudes expressed by nurses and physicians in health care settings prevent some members of at-risk populations from accessing HIV prevention services and care. In Bali, PLWH have experienced rejection by health workers and have even been refused treatment (Merati, Supriyadi, & Yuliana, 2005). HIV-infected patients have also reported physical isolation and medical neglect, including failure to provide nursing care, in Jakarta-area hospitals (Waluyo, Nurachmah, & Rosakawati, 2006). Although little data exist for other parts of Indonesia, stigmatizing attitudes toward PLWH likely occur in clinical settings throughout the country, actively discouraging HIV testing and adherence to ART. PLWH may forgo essential HIV prevention or treatment services, rather than engage health care providers who they perceive as unresponsive to individual needs or judgmental about sexual or drug-using behaviors (Kinsler, Wong, Sayles, Davis, & Cunningham, 2007; Mahajan et al., 2008).

## HIV-Related Stigma in Indonesia

Sources of stigma in Indonesian society are complex. Understanding them requires a deeper knowledge of the relationship between religion and culture in Indonesia. Religious faith plays an important role in Indonesian society and is a major component of cultural identity and self-awareness for most Indonesians. Religious values permeate politics, public institutions, and daily life in ways that might seem intrusive to non-Indonesians (Grim, 2010).

Indonesia is the world's most populous Muslim-majority country. Indonesians practice many different forms of Islam under religious pluralism that is protected by the constitution. Today, however, long-standing traditions of religious tolerance are being challenged. Indonesians are influenced by a global movement toward a more rigid interpretation of Islam. In many parts of Indonesia with strong mosque-based religious communities, religious law competes with civil law (Uddin, 2010). Islamic groups such as the Front Pembela Islam (FPI, the Islamic Defense Front) and Laskar Jihad (the Jihad Brigade) have

organized militant actions in response to perceived threats to religious values, marking a shift in some communities toward a more radicalized and conservative Muslim society (Davis, 2002).

Islamic teachings prohibit homosexuality, extramarital sex, and drug use. Although Indonesia's minority religions, the largest being Catholicism and Protestantism, differ from Islam in many ways, historically, they have also condemned these behaviors. Consequently, the populations most at risk for HIV in Indonesia, including PWID, FSW, and MSM suffer various intensities of social stigma. Ironically, Indonesia's HIV prevention campaigns may have inadvertently contributed to increased levels of social stigma against members of at-risk populations by focusing public attention on HIV's links to injection drug use, transactional sex, and male-to-male sexual contact (Andriana, 2008).

A second factor closely related to religion and potentially related to HIV stigma is religiosity, which can be defined as the degree to which individuals are influenced by their religion, irrespective of the particular one to which they belong. Indonesians place great importance on religion. In the 44-nation Pew Global Attitudes survey, 95% of Indonesians felt that religion was personally very important, making Indonesia second only to Senegal in terms of the significance of religious faith to people's daily lives (Pew Research Center, 2002). In studies of health care workers, religiosity was positively correlated with HIV-related stigma (Varas-Diaz, Neilands, Rivera, & Betancourt, 2010). Measuring religiosity in Indonesia, therefore, may provide important clues to religion's association with more or less restrictive attitudes in some health care workers toward PLWH.

Workplace culture is another important factor that can moderate social beliefs and counteract or reinforce stigmatizing attitudes toward PLWH (Li et al., 2007). Indonesian hospitals often affiliate with a particular religion. Religious affiliation can influence hospital policies. Hospital policies that clearly support PLWH by mandating consent for testing and sharing of health information have been associated with lower stigmatizing attitudes of health workers (Andrewin & Chien, 2008). Other studies have also found a strong association between institutional support and health workers' attitudes, for example, their willingness or reluctance to have contact with PLWH (Li et al., 2007; Nyblade, Stangl, Weiss, & Ashburn, 2009). Hospitals that support HIV care through policy and training can improve patient access to HIV care. Making HIV care and especially ART more accessible can, in turn, alleviate the effects of stigmatizing attitudes toward PLWH (Abadia-Barrero & Castro, 2006; Wolfe et al., 2008).

Few studies have examined the interplay between religion, religiosity, workplace religious affiliation, and stigmatizing attitudes. No study has examined all three of these aspects simultaneously. This cross sectional study was designed to address this gap by examining factors that predict stigmatizing attitudes in Indonesian nurses toward PLWH. This is the first research to investigate individual- and institutional-level religious commitment as potential predictors of stigmatizing attitudes toward PLWH in the Indonesian context. We address an important gap in understanding stigma in Indonesian health care settings, as religion and religious expression are central to Indonesian normative beliefs and everyday professional life.

## Methods

### Design

Our cross-sectional study was reviewed and approved by the institutional review boards of the University of Illinois at Chicago, the University of Indonesia, and each of the hospitals used as research sites. Survey data concerning HIV knowledge, religiosity, perceived workplace stigma, and stigmatizing attitudes toward HIV were collected by self-administered questionnaire at a single time point. A sample size of 225 nurses was initially calculated based on an estimated effect size,  $f$ , of 0.25,  $\alpha$  (alpha) error probability less than 0.05, and power ( $1-\beta$  error probability) less than 0.85, with 4 groups. To allow for clustering by hospital site, the initial estimate ( $n = 225$ ) was multiplied by 1.5 ( $n = 383$ ), and finally rounded to 400.

### Setting

The study was conducted in Jakarta, Indonesia. The Special Capital Region of Jakarta is the seat of national government and home to some 13 million inhabitants who represent diverse cultures and religions. The province also has the highest reported number of HIV cases of the 33 provinces in Indonesia (Indonesian National AIDS Commission, 2012). Nearly half (46%) of Indonesians live in urban areas like Jakarta. Eighteen percent of Indonesians live below the government poverty line, and nearly half of all Indonesians live on less than \$2 (USD) a day. Many individuals and families lack adequate health services, food security, or sanitation. Jakarta is also Indonesia's medical research hub and primary medical referral center (Central Bureau of Statistics, Republic of Indonesia, 2014). The city's clinics, hospitals, teaching institutions, and government agencies employ more than 18,000 nurses. Jakarta has more than 140 hospitals, 21 of which serve as referral centers for HIV care (Ministry of Health, Republic of Indonesia 2012).

To compare the effects of hospital-level religious affiliation, the researcher purposively sampled three hospitals representing different religious affiliations (Catholic, Protestant, and Islamic) and a government referral hospital that was non-denominational. Each of the three religiously affiliated hospitals had between 350 and 460 beds and had been providing HIV care for about 10 years. The government hospital had about 1,500 beds and had been providing care for PLWH since the early 1990s.

### Study Participants

Participants in this study were nurses who responded to announcements about the research posted in each of the hospitals. Nurses were eligible to participate if they were at least 18 years of age; employed at one of the four hospitals chosen as sites for this study; had graduated from a high school (SPK), diploma (D3), or Bachelor of Science in Nursing (BSN) program; reported directly caring for PLWH or observing other nurses caring for PLWH; and were willing to give informed consent. Diploma and BSN-prepared nurses had received 3 to 4 years of post high school education that included nursing theory and practice, while SPK graduates were taught basic nursing skills at the high-school level only. SPK graduates were considered nurses by the Ministry of Health although their role was primarily to assist diploma or BSN-prepared nurses. Using convenience sampling, the

researcher recruited 100 nurses from each hospital for a total of 400 nurses. Because the study partly focused on attitudinal differences between Muslim and Christian nurses, four participants from the Catholic hospital who were Balinese Hindu were dropped from the analysis for a final sample of 396 participants.

## Measures

Personal characteristics, including age, gender, religion, monthly income, working experience, and education background, were measured. Nurses were also asked about whether or not they had ever cared for PLWH or perceived themselves to be competent to care for PLWH. HIV knowledge, religiosity, perceived workplace stigma, and stigmatizing attitudes toward PLWH were based on existing measures in English. These instruments were translated into Bahasa Indonesia using a back translation method (Behling & Law, 2000). All scales had readability at or below the sixth grade level. Surveys were administered in sequence so that HIV knowledge was assessed first, followed by religiosity, stigma toward PLWH, and, finally, perceived workplace stigma.

Stigmatizing attitudes toward PLWH, which was the study's dependent variable, was measured using Version 2 of the Nurse AIDS Attitude Scale (NAAS; Preston, Young, Koch & Forti, 1995; Preston, Young, Kock & Forti, 1997). Version 2 of the NAAS consists of 45 items and 5 subscales concerning homosexuality, intravenous drug use, nursing care concerns, social-professional, and women. Each item was scored on a Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores indicated higher levels of stigma against members of at-risk groups and PLWH. In U.S. populations, internal consistency of the five subscales was found to be generally high (Preston et al., 1995). Factor analysis of the Indonesian version of the NAAS revealed a two-factor structure with 24 items. The "women" subscale was later dropped because only two items measured stigma toward women and these 2 items were not felt to sufficiently capture stigma against women although Cronbach's alpha was acceptable ( $\alpha < .70$ ). The overall internal consistency of the final stigmatizing attitudes measure was good (Cronbach's alpha = .83).

HIV knowledge as a predictor variable was assessed using the HIV-KQ-18 questionnaire (Carey & Schroder, 2002). Participants were asked to respond to a series of true/false questions about HIV transmission, diagnosis, and prevention, for example: *Coughing and sneezing DO NOT spread HIV*. Individual scores represented sums of correct answers. *Don't know* responses were recoded as incorrect. Higher scores indicated greater knowledge. The HIV-KQ-18 has been used extensively to assess HIV knowledge in low-literacy populations and has high internal consistency. During the study's analyses, the HIV knowledge measures were not assessed for their psychometric properties as different HIV knowledge domains are not necessarily correlated and facts about HIV transmission and prevention are the same across societies.

Religiosity was measured using the Beliefs and Values Scale developed by King, Speck, and Thomas (2001). Questions assessed participant practices in observing daily or weekly prayers, and the influence of beliefs on his/her life and attitudes. Each item was scored on a Likert type scale from 0 (*strongly disagree*) to 4 (*strongly agree*). Higher scores indicated stronger religious attitudes and greater participation in religious activities. Psychometric

properties of the scale were like those of other instruments used to assess religious attitudes in health research (Monad et al., 2011). Internal consistency of the religiosity scale was good (Cronbach's alpha = .84) and the measure was used with few modifications. Four items that loaded below .40 were dropped.

Perceived workplace stigma was assessed using the HASI-N (Holzemer et al., 2007), a 19-item scale consisting of two factors: 10 items measuring nurses' stigma toward patients and 9 items about nurses feeling stigmatized. This tool, which was the first to measure participants' perceptions of other health workers' stigmatizing attitudes toward PLWH in the workplace, has been validated in several low-income countries (Uys et al., 2009). Nurses were asked to respond to a series of questions about events in the workplace and recorded the frequency with which they had observed that event in the previous 3 months. Higher scores indicated higher perceived workplace stigma. Internal consistency of the HASI-N in previous research was high (Cronbach's alpha = .91; Holzemer et al., 2007). Because our study focused specifically on nurses as agents of stigma, the nine items measuring nurse's feelings of being stigmatized were dropped.

### Data Collection Procedures

Nurses who met eligibility criteria were asked to sign up for one of three sessions held at each hospital. Each session was attended by an average of 30 to 40 nurses. After a short information briefing, the researcher answered questions about the study, obtained informed consent, and distributed questionnaires. To ensure privacy, the researcher arranged seating in the classroom so that nurses could not see each other's answers. The researcher verbally clarified words or sentences for participants who did not understand particular questions. No identifying information was collected from participants. The questionnaire took an average of 30 to 45 minutes to complete. As an incentive to participate, each nurse who completed a questionnaire was invited to attend a 2-day seminar on HIV nursing care for which they could receive continuing education credit.

### Coding and Data Analysis

The data were coded and entered into SPSS Version 7.0 for analysis. ANOVA and Pearson correlation were employed to examine differences between groups. Stepwise multiple linear regressions examined possible factors associated with stigmatizing attitudes toward PLWH.

## Results

### Demographic Characteristics

About half of participants (53.5%), mostly from the Islamic hospital and the general hospital, identified their religion as Islam (see Table 1). Nurses recruited from the study's Catholic hospital accounted for the highest number of participants who reported not belonging to the religion affiliated with the hospital in which they were employed. Participants from the Catholic hospital reported significantly more work experience on average than participants from other hospitals. Most (89%) of the nurses sampled were female. Males were more likely to be employed at the Islamic hospital than at other hospitals. Significantly more participants from the Islamic hospital reported high monthly

incomes compared to nurses from other hospitals. The average age of nurses in the study was 35 years (range = 22–55 years), with nurses in the Catholic hospital being somewhat older than nurses in the other three hospitals. No significant differences were found between participants drawn from different hospitals with respect to education, training in HIV care, or perceived competence to care for PLWH. Perceived competence to care for PLWH was highest (88%) at the Catholic hospital, which also had the highest percentage of BSN-educated participants and participants with HIV training. Interestingly, perceived competence to care for PLWH was generally high across hospitals despite most nurses (65.2%) reporting little or no formal education and HIV training.

**HIV knowledge**—Participants scored a mean of 12.5 (range = 4–18) correct answers out of a possible 18 on HIV knowledge. To put this score in perspective, low-income African American adolescents in the United States answered half (mean = 9.04) of these same questions correctly (Swenson et al., 2010); in another study using the HIV-KQ-18, Turkish college students answered an average of 14.8 questions correctly 3 months after participating in an HIV education session led by a peer educator (Bulduk & Erdogan, 2012). Significant differences in HIV knowledge by age, years of working experience, education, HIV training, and perceived competence, as well as individual religion and institutional-level religious affiliation were found (see Table 2).

**Religiosity**—The mean religiosity score for the sample was 56.2 (SD = 5.47, range = 32–64) out of a possible 80. This finding indicated a comparatively high degree of religious involvement across the sample that was consistent with a culture in which religion is highly important to people's daily lives. Statistically significant differences in religiosity scores were found by monthly income, education, religious identification, and hospital affiliation (see Table 3). Islamic nurses and those with higher monthly incomes and educational attainment scored higher on average than those in the comparison groups.

**Perceived workplace stigma**—The mean score for workplace stigma was 2.45 out of 30 (range = 2–29) indicating low overall levels of perceived stigma in the workplace. Significant differences, however, were found in mean stigma scores by age, years of working experience, perceived competence to care for PLWH, religious identification, and hospital religious affiliation (see Table 4). The highest mean perceived workplace stigma was found at the general hospital and the Islamic hospital.

**Stigma toward PLWH**—Stigmatizing attitudes were high ( $M = 78.6$ ,  $SD = 11.85$ , range = 44 – 110) in our sample, despite generally low levels of perceived workplace stigma. In the upper quartile of responses indicating stigmatizing attitudes were items that included: *Nurses need to know the HIV antibody status of patients they are caring for.* In the lowest quartile of items indicating HIV-related stigma were items that included such sentiments as: *I feel disgusted when I consider the state of sinfulness of male homosexuality.*

Significant differences were found in stigmatizing attitudes with respect to age, education, years of working experience, perceived competence to care for PLWH, religious identification, and hospital affiliation (see Table 5). Younger nurses (< 35 years of age) had a significantly higher mean of stigmatizing attitudes ( $M = 80.73$ ,  $SD = 11.85$ ) compared to

older nurses ( $M = 76.16$ ,  $SD = 11.65$ ). Stigmatizing attitudes among diploma-prepared nurses ( $M = 80.0$ ,  $SD = 11.46$ ) were significantly higher than among BSN-prepared nurses ( $M = 72.5$ ,  $SD = 11.75$ ). Also, nurses with more working experience ( $M = 76.55$ ,  $SD = 11.97$ ) had significantly lower mean stigmatizing attitudes compared to nurses with less than 13 years working experience ( $M = 80.39$ ,  $SD = 11.49$ ). Nurses who felt competent to care for PLWH had significantly lower mean stigma scores than nurses who lacked perceived self-competence.

Multiple comparisons of the four hospitals by ANOVA indicated that nurses from the Islamic hospital ( $M = 85.15$ , 95% CI [83.11, 87.18]) had significantly higher stigmatizing attitudes than nurses from the Catholic hospital ( $M = 71.11$ , 95% CI [68.88, 73.35]),  $p = .001$ , and Protestant hospital ( $M = 75.17$ , 95% CI [73.11, 77.23]),  $p = .001$ . Tukey post-hoc comparisons of the three religious groups also showed that Islamic nurses ( $M = 83.67$ , 95% CI [82.25, 85.09]) had significantly higher stigmatizing attitudes than Catholic nurses ( $M = 70.84$ , 95% CI [68.06, 73.61]),  $p = .001$ , and Protestant nurses ( $M = 74.08$ , 95% CI [72.25, 75.92]),  $p = .001$ .

In the final regression model, stigmatizing attitudes were significantly predicted ( $F_{(15, 320)} = 11.734$ ,  $p < 0.001$ ) by education ( $B = 6.10$ ,  $p < .001$ ), HIV training ( $B = 2.28$ ,  $p < .05$ ), perceived workplace stigma ( $B = 0.58$ ,  $p < .001$ ), religiosity ( $B = 0.21$ ,  $p < .05$ ), Islamic religious identification ( $B = 4.65$ ,  $p < .05$ ), and affiliation with the Islamic hospital ( $B = 3.63$ ,  $p < .05$ ; see Table 6). HIV knowledge was not a significant predictor of stigmatizing attitudes in the final model.

## Discussion

To our knowledge, this is the first study to examine the effects of religion and workplace on nurses' stigmatizing attitudes in the Indonesian context. This study was also unique in that it examined hospital religious affiliation as well as individual religious identification as important factors that shape stigmatizing attitudes. The findings of our study provided additional support for a growing body of research showing that stigmatizing attitudes are very much a product of the environment (Andrewin & Chien, 2008; Zou et al., 2009). In our study, nurses' stigmatizing attitudes were closely related to their workplaces, including the degree to which they perceived other health workers to be agents of stigma and the religious affiliations of their hospitals. Perceived workplace stigma is important to understand because it is an indicator of the culture of a medical unit or the extent to which certain stigmatizing attitudes become accepted or trigger health workers to behave in discriminatory ways (Holzemer et al., 2007). Nurses may emulate attitudes or behaviors to gain acceptance from their peers. An unexpected finding from our study was that, although stigmatizing attitudes were high overall, perceived workplace stigma was comparatively low. This result suggested that nurses may harbor stigmatizing attitudes even when these beliefs do not find expression in the workplace. Another possibility was that nurses merely reported the common professional belief that medical facilities treat patients equally well without moral or character judgments.



The results of our research strongly indicated that a nurse's religion, degree of involvement in religion, and the religious affiliation of the workplace contributed significantly to stigmatizing attitudes toward PLWH and populations at risk for HIV. Stigmatizing attitudes were strongest among Muslim nurses, although stigmatizing attitudes among Catholic and Protestant nurses were also high. This may reflect the relative intensities of the sanctions against homosexuality and drug use in these religions. It may also have reflected the relative assertiveness of religious attitudes in a society where Muslims are a majority. A limitation of our research was that no group without religion or religious involvement was available for comparison.

It would be wrong to conclude, however, that religion was the only reason behind these differences. Rather, the data suggest that stigmatizing attitudes thrive in workplaces that are culturally, religiously, and educationally homogeneous. As a case in point, nurses who practiced a religion that differed from the religious affiliation of their employing institution were also the *most* likely to come from the Catholic hospital where a large proportion of nurses (41%) were non-Catholic. Stigmatizing attitudes toward PLWH were significantly lower at the Catholic hospital even after controlling for individual religion. Possibly, religion is not as influential in determining the degree of an individual nurse's stigmatizing attitudes as exposure to religious diversity - other health professionals, patients, and family members who are from different religious and cultural backgrounds. The results of the regression model also showed low educational attainment to significantly predict stigmatizing attitudes toward PLWH. Exposure to ideas, cultures, and ways of thinking that differed from one's own was a common characteristic of higher education. Perhaps lack of workplace diversity and lower educational attainment reinforced homogeneity of thought and more restrictive attitudes toward certain patients including PLWH. This hypothesis begs further testing.

The results of our study support other research showing that improved HIV knowledge did not automatically mitigate stigmatizing attitudes (Albarracin et al., 2005). This finding was important because HIV knowledge was often the sole focus of efforts to reduce HIV stigma in health workers. The mean HIV score overall was lower than the researchers expected (12.5 correct answers out of 18), especially given that all participants had worked on medical units where care was being provided to PLWH. Education and training factors positively influencing HIV knowledge were similar to those found in another study (Suominen et al., 2010). The differences in HIV knowledge by age, education, and years of training, while statistically significant, were less meaningful from a practical standpoint as additional years of experience and training translated into only minimal advances in HIV knowledge. We also found differences in HIV knowledge by individual- and institutional-level religious affiliation. Catholic nurses had greater HIV knowledge than nurses who identified as Islamic or Protestant. Most Catholic nurses (88%), however, came from just one hospital, suggesting that HIV knowledge may have depended on workplace factors such as policies and training. In addition, a ceiling effect may have existed for the success of knowledge-based stigma interventions that pointed to the need for issues of religiosity and workplace to also be addressed.

Given that low educational attainment was a strong predictor of stigmatizing attitudes in this sample of Indonesian nurses, the results of this study pointed to an issue that requires further investigation, namely, apart from HIV knowledge (which was not a significant predictor of stigmatizing attitudes) what differentiates nurses with high versus low educational attainment? One possibility is the greater exposure to nursing theory that BSN-prepared nurses receive. Improving the quality of nursing education by ensuring that nursing care theory is prominent in the curriculum could be a practical way to organize efforts to reduce HIV-related stigma. Low educational attainment in Indonesian nurses is principally related to the long-standing need for a unified framework to guide nursing education and practice. To date, Indonesia has no nurse practice act, resulting in wide variations in how Indonesian nurses are educated and socialized to clinical practice. Indonesian accrediting bodies have difficulty setting standards and monitoring the quality of education programs. The Indonesian Nursing Association continues to meet resistance to phasing out SPK programs throughout the country, largely because these programs are seen as an inexpensive source of nursing labor. Ratifying a nurse practice act in Indonesia would establish a basis for improving nursing education and holding nursing educators accountable.

HIV-related stigma involves making assumptions about a person's HIV status based on personal characteristics (Herek & Glunt, 1988), and it, therefore, obstructs all aspects of the HIV care continuum from testing (because the care giver assumes only certain kinds of people are at risk) to treatment (because the care giver regards some people as less worthy of care than others). Nurses may choose to distance themselves from patients because of these personal characteristics (Chan & Reidpath, 2007). In this study we used an encompassing instrument that measured both stigma against members of at-risk populations (including PWID and MSM) as well as stigma against PLWH to capture the different variations of HIV-related stigma. Specific questions about homosexuality and intravenous drug use likely contributed to higher stigma scores and greater variance in scores than might have been observed had researchers not included items specifically focused on these behaviors. Stigma toward individuals who engaged in same sex behavior or drug use may have been stronger than toward PLWH. Fear of being stigmatized is a barrier to being tested that undeniably contributes to the spread of HIV (Mahajan et al., 2008). According to country progress reports for Indonesia, prevalence of HIV in MSM is 8% while coverage of HIV prevention programs for MSM remain at less than 25% (Joint United Nations Programme on HIV/AIDS, 2012c). In all likelihood, stigma against MSM has already exerted a sizeable negative impact on HIV testing, diagnosis, and linkage to care for MSM with consequences for the rest of society.

## Conclusion

HIV-related stigma among Indonesian nurses is unacceptably high. Education interventions that emphasize common values of human dignity and compassionate care are likely to reduce HIV-related stigma in nurses, the largest group of health care workers serving PLWH in Indonesia. While religious faith is not itself a barrier to compassionate care, religious feelings that are mobilized to advance harmful stereotypes or threaten patient access to care are appropriate targets for policy interventions aimed at reducing HIV-related stigma. Given the urgent need for a scientifically sound public health approach to control the spread of

HIV, hospitals and government ministries in Indonesia should involve representatives of affected communities to organize workplaces that promote diversity and non-discrimination, thereby shaping social (and religious) attitudes to coincide with the goals of public health.

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Table 1

## Demographic Characteristics

Characteristic	Total (n = 396)	Islamic Hospital (n = 100)	Protestant Hospital (n = 100)	Catholic Hospital (n = 96)	General Hospital (n = 100)	$\chi^2/F$ test
<b>Age: Mean (SD)</b>	35.45 (9.460)	34.66 (8.52)	32.14 (10.39)	40.95 (7.49)	34.26 (8.97)	$\chi^2 = 53.71^{***}$
35 years old or younger (%)	54.8	60	71	25	62	$\chi^2 = 7.53^{**}$
> 35 years old	45.2	40	29	75	38	
<b>Gender (%)</b>						
Male	11	20	4	6	14	$\chi^2 = 16.26^{***}$
Female	89	80	96	94	86	
<b>Religion (%)</b>						
Islam	53.5	100	5	19	88	$\chi^2 = 443.51^{***}$
Protestant	29.5	0	87	18	12	
Catholic	17	0	8	59	0	
<b>Monthly Income Mean (SD)</b>	\$406 (\$307)	494.5 (238.9)	272 (196.5)	448.1 (304.9)	434.8 (436.9)	$F = 10.50^{***}$
U.S. \$100–406 (%)	56.3	30	81	52	62	
> U.S. \$406	43.8	70	19	48	38	$\chi^2 = 5.99^{**}$
<b>Working Experience: Mean (SD)</b>	13.41 (9.256)	12.81 (8.50)	9.73 (9.81)	18.15 (7.77)	13.43 (9.26)	$F = 15.96^{***}$
13 years or less (%)	55.1	62	69	31	57	$\chi^2 = 8.79^{**}$
> 13 years	44.9	38	31	69	43	
<b>Education (%)</b>						
SPK	9.0	1	15	5	15	$\chi^2 = 1.65$
Diploma	73.0	76	78	65	73	
BSN or higher	18.0	23	7	30	12	
<b>Training on HIV care (%)</b>						
Never	65.2	59	74	47	80	$\chi^2 = 0.085$
Ever, once or more	34.8	41	26	53	20	
<b>Perceived competence (%)</b>						
Yes	63.2	68	52	88	46	$\chi^2 = 0.002$
No or doubt	36.8	32	48	12	54	

Note. SD = standard deviation; SPK = graduated from a high school; BSN = Bachelor of Science in Nursing;

\*\*\*  
p < .001.

$\cdot 10^{-10}$   
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**Table 2****HIV Knowledge Among Indonesian Nurses**

	<b>HIV Knowledge (Mean, SD)</b>	<b>F-test</b>
<b>Age</b>		
35 years	11.98 (2.25)	26.82***
> 35 years	13.18 (2.31)	
<b>Years of Work Experience</b>		
13 years	12.04 (2.29)	22.01***
> 13 years	13.12 (2.29)	
<b>Education</b>		
Diploma or less	12.26 (2.31)	23.49***
BSN	13.71 (2.19)	
<b>HIV Training</b>		
Never	12.31 (2.41)	6.50**
Ever, once or more	12.93 (2.19)	
<b>Perceived competence</b>		
Competence	12.93 (2.28)	21.19***
No competence	11.83 (2.33)	
<b>Religion</b>		
Muslim nurse	12.35 (2.35)	4.62**
Protestant nurse	12.39 (2.24)	
Catholic nurse	13.31 (2.46)	
<b>Hospital Religious Affiliation</b>		
Islam	12.21 (2.29)	9.92***
Protestant	12.01 (2.19)	
Catholic	13.62 (2.15)	
General	12.30 (2.47)	

Note. SD = standard deviation; BSN = Bachelor of Science in Nursing;

\*\*\*  
 $p < .001$ .

\*\*  
 $p < .01$ .



**Table 3**

## Religiosity Among Indonesian Nurses

	Religiosity (Mean, SD)	F-test
<b>Age</b>		
35 years	55.98 (5.46)	1.131
> 35 years	56.56 (5.48)	
<b>Years of Work Experience</b>		
13 years	56.16 (5.32)	0.108
> 13 years	56.34(5.66)	
<b>Education</b>		
Diploma or less	55.97 (5.62)	4.46*
BSN	57.48 (4.58)	
<b>HIV Training</b>		
Never	56.18 (5.76)	0.102
Ever, once or more	56.36 (4.89)	
<b>Perceived competence</b>		
Competence	56.53 (5.46)	1.904
No competence	55.75 (5.48)	
<b>Religion</b>		
Muslim nurse	56.96 (5.76)	4.03*
Protestant nurse	55.53 (4.67)	
Catholic nurse	55.22 (5.59)	
<b>Hospital Religious Affiliation</b>		
Islam	57.79 (4.42)	13.75**
Protestant	55.70 (4.35)	
Catholic	55.36 (5.57)	
General	56.08 (6.91)	

Note. SD = standard deviation; BSN = Bachelor of Science in Nursing;

\*\*\*  
 $p < .001$ .

\*\*  
 $p < .01$

\*  
 $p < .05$ .

**Table 4**

## Perceived Workplace Stigma Among Indonesian Nurses

	Perceived Workplace Stigma (Mean, SD)	F-test
<b>Age</b>		
35 years	2.84 (3.65)	6.123 *
> 35 years	1.97 (3.24)	
<b>Years of Work Experience</b>		
13 years	2.78 (3.66)	4.45**
> 13 years	2.04 (3.49)	
<b>Education</b>		
Diploma or less	2.46 (3.21)	0.022
BSN	2.39 (4.60)	
<b>HIV Training</b>		
Never	2.54 (3.43)	0.750
Ever, once or more	2.24 (3.61)	
<b>Perceived competence</b>		
Competence	2.06 (3.59)	8.31**
No competence	3.10 (3.21)	
<b>Religion</b>		
Muslim nurse	3.12 (4.13)	17.80***
Protestant nurse	1.70 (2.46)	
Catholic nurse	1.63 (2.14)	
<b>Hospital Religious Affiliation</b>		
Islam	3.07 (4.97)	24.22***
Protestant	1.69 (2.34)	
Catholic	1.56 (2.14)	
General	3.43 (3.37)	

Note. SD = standard deviation; BSN = Bachelor of Science in Nursing;

\*\*\*  
 $p < .001$ .

\*\*  
 $p < .01$

\*  
 $p < .05$ .

**Table 5**

## Attitudes Toward PLWH Among Indonesian Nurses

	Attitudes toward PLWH (Mean, SD)	F-test
<b>Age</b>		
35 years	80.73 (11.64)	15.11 ***
> 35 years	76.16 (11.65)	
<b>Years of Work Experience</b>		
13 years	80.39 (11.49)	10.56 ***
> 13 years	76.55 (11.97)	
<b>Education</b>		
Diploma or lower	80.01 (11.46)	24.54 ***
BSN	72.53 (11.75)	
<b>HIV Training</b>		
Never	79.51 (11.33)	3.790
Ever, once or more	77.09 (12.66)	
<b>Perceived competence</b>		
Competence	76.67 (11.61)	20.14 ***
No competence	82.08 (11.52)	
<b>Religion</b>		
Muslim nurse	83.67 (10.52)	53.49 ***
Protestant nurse	74.08 (10.05)	
Catholic nurse	70.83 (11.37)	
<b>Hospital Religious Affiliation</b>		
Islam	85.15 (10.27)	38.87 ***
Protestant	75.17 (10.38)	
Catholic	71.11 (11.01)	
General	82.93 (10.11)	

Note. PLWH = people living with HIV infection; SD = standard deviation; BSN = Bachelor of Science in Nursing;

\*\*\*  
 $p < .001$ .

\*\*  
 $p < .01$

\*  
 $p < .05$ .

**Table 6**

Regression Analysis on Attitudes of Indonesian Nurses Toward PLWH

Variable	B	P value
<b>Background</b>		
Nurse's Age	0.12	0.54
Gender	-3.15	0.06
Working experience	-0.17	0.39
Monthly salary	0.00	0.48
Low Educational (Non Diploma)	6.10	0.00
<b>HIV Care Factors</b>		
HIV training (have)	0.33	0.77
Perceived Competence	2.28	0.05
Workplace Stigma	0.58	0.00
<b>HIV Knowledge</b>	-0.32	0.19
<b>Religious Factors</b>		
Religiosity	0.21	0.05
Religion (Muslim)	4.65	0.03
Religion (Catholic)	1.10	0.60
<b>Religious Factors</b>		
Hospital (Protestant)	-3.17	0.16
Hospital (Catholic)	-5.07	0.04
Hospital (Islam)	3.63	0.02
R2	0.355	
R2	0.028	
<i>F(df, p value)</i>	<i>F(15, 320) = 11.734, p &lt; 0.001</i>	

Note. PLWH = people living with HIV infection.