



Exploring Malaysian Physicians' Intention to Discriminate Against Gay, Bisexual, and Other Men Who Have Sex with Men Patients

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Abstract

Purpose: Gay, bisexual, and other men who have sex with men (MSM) experience high levels of stigma and discrimination. Minimizing the stigma and discrimination is critical to fostering an inclusive environment for care and optimizing health outcomes. This study aimed at exploring the factors related to physicians' intention to discriminate against MSM in Malaysia.

Methods: Physicians ($N=542$) from two university-affiliated hospitals in Kuala Lumpur, Malaysia, completed an online cross-sectional survey between January and March 2016. Measures included sociodemographic and clinical characteristics, intention to discriminate against MSM, and several stigma-related constructs. Bivariate and multivariable linear regressions were used to evaluate independent correlates of discrimination intent against MSM.

Results: Physicians' intention to discriminate against MSM was low (mean [M]=1.9, standard deviation [SD]=0.7), but most physicians (70.6%) had a mean score greater than 1.0, indicating that most physicians expressed some degree of intention to discriminate against MSM. A minority of physicians (10.7%), however, had a score of 3.0 or higher, revealing some physicians holding a moderate to high level of discrimination intent toward MSM. The multivariable model demonstrated that physicians who expressed greater prejudice ($B=0.30$, $p<0.01$), had more MSM-related shame ($B=0.19$, $p<0.01$), and fear about MSM ($B=0.31$, $p<0.01$) were more likely to have the intention to discriminate against MSM.

Conclusion: Stigma-related constructs including prejudice, MSM-related shame, and fear were independently correlated with increases in a physician's intention to discriminate against MSM. Therefore, implementing interventions to reduce physicians' stigma toward MSM may promote equitable and stigma-free access to health care.

Keywords: discrimination, health care, Malaysia, MSM, physician, stigma

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Introduction

STIGMA AND DISCRIMINATION against gay, bisexual, and other men who have sex with men (MSM) are prevalent worldwide.¹ In Malaysia, same-sex sexual activity is illegal in both secular and Sharia law. Even when criminal sanctions are not enforced, MSM are highly stigmatized and often discriminated against. For instance, police often raid venues such as gay clubs where MSM congregate, with public shaming by identifying them in front of television cameras.² Consequently, structural and individual-level stigma toward MSM is strong in Malaysia. Discrimination against MSM also extends to health care settings, where it is characterized by suboptimal medical treatment of MSM. There is increasing evidence that stigma from health care providers, including discriminatory behaviors, leads to adverse health outcomes for multiple key populations, including people living with HIV (PLWH), people who inject drugs, transgender people, and MSM.³

Research involving stigma toward MSM in health care settings is critical, particularly in countries where strong societal MSM stigma abounds. Overall, the presence of high levels of stigma and discrimination has been cited as a key barrier to accessing health care services for MSM. Poor engagement in health care places MSM at an increased risk for poor health outcomes, including substance use, mental illness, and HIV.^{4–7} For example, MSM may be reluctant to openly discuss their sexual risk behaviors or other health-related issues with their physicians, especially in a clinical environment that they feel is unwelcoming or hostile toward them.⁸ This lack of openness may prevent MSM from proactively engaging with physicians, which may foster physicians' distrust of MSM patients, potentially reducing the quality of health care services that physicians provide.⁸ Poor engagement in health care also lowers MSM's awareness of their risky behaviors, which in turn could lead to increased mental health problems, such as anxiety and depression, as well as substance use (e.g., tobacco, alcohol, and other drugs), self-harm, and suicidal ideation among MSM.^{9,10}

Malaysia, a middle-income country with 32 million people,^{11,12} has an HIV epidemic that has transitioned from people who inject drugs to sexual transmission, mostly among MSM.¹² The Global AIDS Monitoring Report suggests high (21.6%) HIV prevalence among MSM in Malaysia,¹³ and despite underreporting of risk, MSM account for more than 50%¹⁴ of the new infections nationwide. The correlates of physicians' intention to discriminate against PLWH and transgender people have been previously studied. Those studies found that physicians' personal shame (also known as *MSM-related shame*) and fear of HIV and transgender people (also known as *HIV fear* and *transgender fear*) were associated with greater discrimination intent toward PLWH and transgender patients, respectively.^{15,16} Also, physicians who expressed more negative feelings or attitudes toward PLWH (also known as *prejudice*) expressed greater discrimination intent against PLWH.¹⁵

In general, research on discrimination against MSM in Malaysia is limited but developing, with current studies finding high intention to discriminate against MSM by medical students in Malaysia,¹⁷ and HIV physicians who have considerable experience with MSM still somewhat withholding

antiretroviral therapy (ART) for MSM with HIV.³ These studies were restricted to medical students and HIV specialists with no insight on discrimination intent among a broader group of practicing physicians.¹⁸ Understanding physicians' intention to discriminate against MSM is important given that they act as gatekeepers in the health care system and can have a significant impact on patient health. Unlike students, physicians have greater experience and clinical decision-making power. Such differences between physicians and students may raise important differences in their attitudes and intention to discriminate against key populations, including MSM.

Therefore, this study aimed to explore the drivers of physicians' intention to discriminate against MSM in Malaysia. This research can inform the design and implementation of tailored HIV intervention strategies to reduce discrimination among physicians toward MSM in Malaysia.

Methods

Study sample and data collection

A cross-sectional online survey of all physicians employed at two major university-affiliated hospitals in Kuala Lumpur, Malaysia (University of Malaya Medical Center [UMMC] and University Teknologi MARA Medical Center [UiTMMC]) was conducted between January and March 2016. The study procedures have been previously described elsewhere.¹⁵ All physicians at the two hospitals were e-mailed an invitation that contained a complete description of the study and a link to the online survey. Physicians' e-mail addresses were provided from each department with the approval of the department head. Participants were recruited from all departments in the two major hospitals, including internal medicine, infectious disease, primary care medicine, surgery, orthopedics, anesthesiology, sports medicine, ear, nose and throat (ENT), ophthalmology, obstetrics and gynecology, emergency medicine, pathology, radiology, psychiatry, rehabilitation medicine, and oncology.

On average, it took 15–20 minutes for the participants to complete the anonymous online survey. Reminder e-mails were sent out to those who had not responded to the questionnaire on a weekly basis for 6 weeks. Participants were thanked for their time and allowed to enter a lottery drawing to win a tablet computer or one of five portable mobile power banks. Of the 1431 physicians at UMMC ($n=1097$) and UiTMMC ($n=334$), the response rate was 41.6% (595), and 37.9% (542) provided complete data for analyses.

This study was approved by the Institutional Review Boards at Yale University, the University of Malaya, and the University Teknologi MARA. All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional research committee and with the Declaration of Helsinki as revised in 2013. Participants reviewed all study-related risks and benefits and provided their informed consent before taking the survey by clicking a checkbox that indicated their agreement to participate in the study.

Measures

Sociodemographic and clinical characteristics. Demographic variables included age, sex, ethnicity, and religion.

Clinical characteristics include years of clinical practice, area of specialization, and clinical rank. The current clinical rank of physicians in Malaysia was adapted from the British health care system, in which physicians were ranked from low to high levels as house officer, medical officer, registrar, specialist, and consultant. The area of medical specialization was assessed based on their field of practice, including internal medicine, infectious disease, primary care medicine, surgery, orthopedics, anesthesiology, sports medicine, ENT, ophthalmology, obstetrics and gynecology, emergency medicine, pathology, radiology, psychiatry, rehabilitation medicine, and oncology.

Discrimination intent. The primary outcome variable was the intention to discriminate against MSM, measured using the adapted version of the intention-to-discriminate at work subscale of the multidimensional HIV stigma scale.^{15,19} This subscale comprised four items designed to measure discrimination intent toward MSM (i.e., *I am willing to work with men who have sex with men; I am willing to provide the same care to men who have sex with men as I am to other patients; I am willing to do physical examinations on men who have sex with men; and I am willing to interact with men who have sex with men the same way I interact with other patients*). Participants responded using a 5-point Likert scale ranging from 5 (*strongly disagree*) to 1 (*strongly agree*). The subscale showed excellent internal consistency (Cronbach's $\alpha=0.94$). This subscale had previously been adapted to the Malaysian context in a sample of medical and dental students.^{4,18}

Stigma-related measures. Participants completed several stigma-related measures from the multidimensional HIV stigma scale,^{15,19} including the following: (1) prejudice toward MSM; (2) MSM-related shame related to interacting with MSM; (3) fear of MSM; and (4) MSM-related stereotypes. Each subscale was measured on a Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Specifically, the prejudice construct was measured using 4 items (Cronbach's $\alpha=0.70$), including "Men who have sex with men do not belong in society." MSM-related shame was measured using 3 items (Cronbach's $\alpha=0.85$), including "I would be ashamed if a relative is a man who has sex with man." MSM-related fear was measured using 3 items (Cronbach's $\alpha=0.82$), including "I am afraid that men who have sex with men will give me HIV/AIDS if I treat them." Finally, the stereotypes construct consisted of four items (Cronbach's $\alpha=0.86$), including "Men who have sex with men are promiscuous."

Participants also rated their general attitude toward MSM using a feeling thermometer, with scores ranging from 1 (*very negative*) to 100 (*very positive*), with lower scores indicating more negative attitudes.^{15,20} Discrimination intent is expected to be inversely correlated with this score, with less-favorable attitudes toward a group resulting in a smaller score, thus indicating larger bias toward them. Feeling thermometers have been previously established as dependable tools to measure prejudice²⁰ and have previously been used to assess attitudes of physicians,¹⁵ medical students,^{4,18} and health care providers.¹⁵ The MSM feeling thermometer stated: "Please indicate how you feel about patients who are men who have sex with men on a scale

from negative (1) to very positive (100)." Lastly, personally knowing an MSM was measured by the question "Do you personally know any men who have sex with men?"²¹ All the questions measuring outcome variables can be found in Supplementary Appendix SA1.

Data analyses

First, descriptive statistics were calculated to summarize participants' sociodemographic and clinical characteristics. Second, Pearson correlations were used to examine the associations between ordinal and interval level variables, including the feeling thermometer toward MSM and PWH, the four stigma-related constructs, and the outcome variable—intention to discriminate against MSM. Third, a series of bivariate linear regressions were conducted to examine associations between intention to discriminate against MSM and sociodemographic characteristics, clinical characteristics, stigma-related constructs, and personally knowing any MSM. Variables in the bivariate analysis with a probability value [p] < 0.05 were selected for inclusion in a multivariable linear regression analysis. Multicollinearity was evaluated before the multivariable regression, with results suggesting no variables were collinear (variance inflation factor [VIF] < 6).

Finally, we conducted a hierarchical linear regression model to explore the amount of variance in physicians' intention to discriminate against MSM that was explained by stigma-related constructs over and above that explained by sociodemographic and clinical characteristics. This method has been described elsewhere.¹⁵ We first entered personally knowing MSM, sociodemographic and clinical characteristics (age, sex, ethnicity, years of clinical practice, current clinical status, specialization) into step 1 of the linear regression. Next, in step 2, we entered the stigma-related constructs (MSM prejudice, MSM-related shame, MSM fear, MSM stereotypes) to determine the additional variance explained. Statistical significance was defined as $p < 0.05$. All data analyses were performed using SAS 9.4 (SAS Institute Inc., Cary, NC).

Results

Characteristics of the sample are presented in Table 1. Physicians who participated were mostly ethnic Malay (43.4%) or Chinese (35.8%) and just over half were female (52.9%). Participants' mean age was 35.0 years (standard deviation [SD]=6.5) and the majority of participants had been practicing medicine for just under 10 years (mean [M]=9.9; SD=6.4). The most common areas of medical specialization were internal medicine (27.3%) and primary care medicine (10.5%). Medical officers (43.5%) and specialists (23.3%) were the two most common clinical ranks followed by registrar (16.4%), consultant (14.0%), and house officer (2.8%). Of all the physicians, 262 (48.3%) reported personally knowing an MSM (i.e., personal contact with MSM).

Descriptive statistics and Pearson correlations among the feeling thermometer, stigma-related constructs, and intention to discriminate against MSM are presented in Table 2. The mean score for intention to discriminate against MSM was 1.9 (SD=0.7), suggesting that physicians had a low level of intention to discriminate. Importantly, however, the majority of physicians (70.6%) had a score greater than 1.0, indicating that most expressed some degree of intention to discriminate against MSM. A minority

TABLE 1. PHYSICIAN PARTICIPANT CHARACTERISTICS (N=542)

Variable	n (% or SD)
Mean age, years (SD)	35.0 (6.5)
Mean years practicing medicine (SD)	9.9 (6.4)
Sex	
Female	287 (52.9)
Male	255 (47.1)
Ethnicity	
Malay	235 (43.4)
Chinese	194 (35.8)
Indian	78 (14.4)
Other	35 (6.4)
Religion	
Muslim	261 (48.1)
Buddhist	111 (20.5)
Christian	85 (15.7)
Hindu	58 (10.7)
Other	27 (5.0)
Personally know MSM	
Yes	262 (48.3)
No	280 (51.7)
Clinical rank	
Consultant	76 (14.0)
Specialist	126 (23.3)
Registrar	89 (16.4)
Medical officer	236 (43.5)
House officer	15 (2.8)
Specialization	
Internal medicine	148 (27.3)
Primary care medicine	57 (10.5)
Surgery	41 (7.6)
Radiology	38 (7.0)
Obstetrics and gynecology	36 (6.6)
Anesthesiology	29 (5.4)
Orthopedics	24 (4.4)
Emergency medicine	44 (8.1)
Psychiatry	38 (7.0)
Rehabilitation medicine	20 (3.7)
Infectious disease	16 (2.9)
Pathology	15 (2.8)
Ophthalmology	13 (2.4)
Sports medicine	10 (1.9)
Ear, nose, and throat	9 (1.7)
Oncology	4 (0.7)

MSM, men who have sex with men; SD, standard deviation.

of physicians (10.7%) had a score of 3.0 or higher, revealing some physicians holding a moderate to high level of discrimination intent toward MSM. The mean scores for the stigma-related constructs, including prejudice, MSM-related shame, fear, and stereotypes, were 2.3 (SD=0.7), 2.0 (SD=0.9), 1.9 (SD=0.8), and 2.3 (SD=0.8), respectively. The mean score for the MSM feeling thermometer was 48.5 (SD=30.9).

As expected, each of the measures in Table 2 correlated with each other in the anticipated direction. For example, the discrimination intent was positively correlated with the stigma-related constructs including prejudice (correlation coefficient [*r*]=0.59, *p*<0.01), MSM-related shame (*r*=0.64, *p*<0.01), fear (*r*=0.65, *p*<0.01), and stereotypes (*r*=0.49, *p*<0.01). These results confirm our measurement validity. Similarly, the stigma-related constructs were all positively correlated with each other (*p*<0.01). The feeling thermometer toward MSM was negatively correlated with the stigma-related constructs and the discrimination intent against MSM (*r*=−0.43, *p*<0.01).

Results of the bivariate and multivariable linear regression analyses examining factors associated with intention to discriminate against MSM are presented in Table 3. In the multivariable analyses, higher levels of prejudice (*B*=0.30, *p*<0.01), MSM-related shame (*B*=0.19, *p*<0.01), and fear (*B*=0.31, *p*<0.01) were associated with higher intention to discriminate.

In step 1 of the hierarchical linear regression model, we found that personally knowing an MSM and sociodemographic and clinical characteristics explained a small but significant portion of the variance in physicians' intention to discriminate against MSM (*R*²=0.046, *F*=4.36, *p*<0.01). In step 2, we found that the stigma-related constructs explained a significant portion of the variance in intention to discriminate (*R*²=0.509, *R*²Δ=0.505, *F*=139.19, *p*<0.01), explaining a total of 50.9% of the total variance in physicians' intention to discriminate against MSM.

Discussion

To our knowledge, this study is the first to investigate physicians' intention to discriminate against gay, bisexual, and other MSM in Malaysia. The mean score for the intention to discriminate against MSM was 1.9 (SD=0.7), which was a relatively low score,¹⁵ indicating that generally physicians' intention to discriminate against MSM was low. Nevertheless, an overwhelming majority of physicians in the present study expressed some level of intention to discriminate against MSM. Moreover, a minority of physicians expressed a moderate to high level of intention to discriminate against MSM.

TABLE 2. PEARSON CORRELATIONS BETWEEN FEELING THERMOMETER, STIGMA-RELATED CONSTRUCTS, AND DISCRIMINATION INTENT

Variable	M (SD)	1	2	3	4	5
1. MSM thermometer	48.5 (30.9)					
2. MSM prejudice	2.3 (0.7)	−0.54*				
3. MSM-related shame	2.0 (0.9)	−0.52*	0.69*			
4. MSM fear	1.9 (0.8)	−0.46*	0.59*	0.74*		
5. MSM stereotype	2.3 (0.8)	−0.43*	0.69*	0.64*	0.63*	
6. MSM discrimination intent	1.9 (0.7)	−0.43*	0.59*	0.64*	0.65*	0.49*

**p*<0.01.
M, mean.

TABLE 3. BIVARIATE AND MULTIVARIABLE CORRELATES OF PHYSICIANS' INTENTION TO DISCRIMINATE AGAINST GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN (N=542)

	n	Bivariate regression				Multivariable regression			
		B	SE	t	p	B	SE	t	p
Sociodemographic characteristics									
Age (years; continuous)	542	0.01	0.01	1.17	0.24				
Male	255	0.01	0.06	0.04	0.97				
Malay	235	0.15	0.06	2.41	0.02*	-0.13	0.10	-1.28	0.20
Chinese	194	-0.17	0.06	-2.61	0.01*	-0.05	0.06	-0.74	0.46
Indian	78	-0.13	0.09	-1.47	0.14				
Muslim	261	0.18	0.06	2.95	<0.01*	-0.02	0.11	-0.17	0.87
Clinical characteristics									
Years of clinical practice	542	0.01	0.01	1.20	0.23				
Clinical rank									
Consultant	76	-0.06	0.09	-0.67	0.50				
Specialist	126	-0.03	0.07	-0.38	0.71				
Registrar	89	0.07	0.08	0.81	0.42				
Medical officer	236	0.03	0.06	0.43	0.67				
House officer	15	-0.14	0.19	-0.75	0.46				
Specialization									
Internal medicine	148	-0.15	0.07	-2.16	0.03*	-0.05	0.05	-0.99	0.32
Primary care	57	0.04	0.10	0.42	0.68				
Infectious disease	16	-0.28	0.18	-1.55	0.12				
Stigma-related constructs									
MSM prejudice	542	0.61	0.04	17.16	<0.01*	0.30	0.05	6.14	<0.01*
MSM-related shame	542	0.50	0.03	19.42	<0.01*	0.19	0.04	4.67	<0.01*
MSM fear	542	0.59	0.03	19.73	<0.01*	0.31	0.04	7.08	<0.01*
MSM stereotype	542	0.43	0.03	13.12	<0.01*	-0.05	0.04	-1.27	0.20
Personally know MSM person	262	-0.25	0.06	-4.15	<0.01*	0.04	0.05	0.78	0.43

* $p < 0.05$.

SE, standard error.

Importantly, this study suggests that stigma-related factors play a central role in physicians' level of discrimination intent, with prejudice, MSM-related shame, and fear toward MSM explaining more than half of all the variances in discrimination intent. This finding echoes results from previous research in Malaysia that found physicians' intention to discriminate against PWH was largely driven by HIV-related stigma, including prejudice toward PWH, HIV-related shame, and fear of HIV.¹⁵

Collectively, future intervention strategies for reducing health care-related discrimination toward MSM and PWH may need to focus on increasing physicians' positive feelings or attitudes toward MSM and PWH, and reducing physicians' MSM-related shame and fear of treating patients who are MSM or PWH. In Malaysia, training physicians on the personal, clinical, and policy barriers that MSM and PWH must overcome to minimally access HIV care might be helpful to reduce physicians' prejudice toward MSM and PWH.

This study also reflects that more research is warranted to investigate the difference of discrimination intent against MSM across different ethnic groups of physicians. Malaysia is a multicultural nation comprised of Malay, Chinese, Indian, indigenous, and other ethnic groups.²² The bivariate model showed that physicians who were Malay were more likely to discriminate against MSM, whereas Chinese physicians were less likely to do so MSM. Although beyond the scope of the study, this finding may reflect that same-sex sexual behavior in Malaysia is a crime under both criminal and

Sharia (Islamic) law²³ and that, relative to ethnic Chinese physicians, ethnic Malay physicians' attitudes are more likely to be impacted by both. Future research is needed, however, to better understand the potential mechanisms by which ethnicity influences physicians' intent to discriminate against MSM.

We found that physicians who had more favorable feelings toward MSM were less likely to discriminate against MSM. This finding aligns with a previous study on the intention to discriminate against MSM among Malaysian medical and dental students.¹⁷ Our study further showed that personally knowing someone who is MSM did not significantly reduce physicians' intention to discriminate against MSM after controlling for other stigma-related constructs.

This result is different from the finding in the former study that previous experience of interacting with MSM could provide medical and dental students opportunities to gain knowledge about MSM that helped them combat their fear and shame of MSM.¹⁷ This difference may be because younger people are more likely to accept gay people or have more friends who are MSM in their social networks. Or it could be because we have controlled for mediating mechanisms that link the previous contact with lower discrimination intent (e.g., fear and prejudice). Future research should explore associations between previous contact and intentions to discriminate through longitudinal and experimental methods that enable insight into causal associations between variables.

Given the strong association between the stigma-related constructs and discrimination intent against MSM, our findings suggest it is necessary to reduce the stigma toward MSM among physicians. Literature shows that prejudice, MSM-related shame, fear, and stereotypes are manifestations of stigma.²⁴ Moreover, stigma is a broad social process²⁵ in which prejudice, stereotypes, shame, and fear are ways that individuals experience it.²⁴ A global review of interventions to reduce HIV-related stigma found that skills building such as participatory learning sessions to reduce negative attitudes and contact with PWH to increase interactions could increase health care providers' willingness to treat PWH by changing individual-level fear and prejudice.^{26,27}

Therefore, providing training programs for physicians to increase their tolerance or willingness to treat MSM may eliminate physicians' intention to discriminate against MSM in clinical settings. This is particularly critical in the context of providing care to patients who are MSM and either HIV-infected or at risk of becoming HIV-infected. In Malaysia, more than 90% of all new HIV infections are attributed to sexual transmission, of which more than half are among MSM, thus, it is important to foster a discrimination-free environment to ensure that MSM have fair and equal access to HIV treatment services.^{14,28} Without effective measures to counteract physicians' prejudice toward MSM, it would be challenging to stop HIV transmission among MSM. The current data show that HIV prevalence in MSM is high (21.6%),¹³ despite the fact that its transmission is stabilized and contracted among most other adult populations.^{29,30}

The implication of this study is that future research should explore how to effectively reduce stigma among physicians. We suggest that, in Malaysia, those interventions could include deploying MSM peer navigators to increase physicians' hands-on interaction with MSM patients and thus build trust and foster empathetic care toward MSM patients.³¹ In addition, using virtual online platforms to connect MSM with physicians who received training in culturally competent care might be valuable.³² Finally, the Malaysian Ministry of Health and the Ministry of Higher Education should incorporate MSM-specific health topics into physicians' preservice curricula or continuing medical education.^{17,31}

Limitations

Despite the many important insights, this study has some limitations. First, it is a cross-sectional study and included only physicians from two major university-affiliated teaching hospitals. Compared with other rural and suburban public hospitals in Malaysia, physicians in university-affiliated hospitals may be more likely to know MSM or receive training and gain knowledge and experience about MSM-related clinical care. Therefore, a study using the same method among general Malaysian physicians may yield different results. Second, in this study, we only studied the intention to discriminate against MSM; future studies should examine actual discriminatory actions by physicians and explore the experiences of patients who have been the target of discrimination in health care settings.

Finally, despite having a large sample size, the size was based on convenience sampling. Future studies should deploy more sampling methods, such as random or clus-

tered samplings, and more qualitative research to understand the unique impact of stigma on intention to discriminate against MSM in the Malaysian context.

Conclusion

This study aimed to understand physicians' intention to discriminate against MSM in the Malaysian health care context. We found that stigma-related constructs including prejudice, MSM-related shame, and fear were positively related to physicians' intention to discriminate against MSM. These findings reflect the challenges that MSM face when engaging with physicians in Malaysia's health care system, including HIV treatment and prevention services, such as HIV and sexually transmitted infections testing, and accessing preexposure prophylaxis and ART. Investment in continuing medical education programs that aim to reduce physicians' stigma, prejudice, and discrimination toward sexual and gender minority people, particularly as it relates to HIV outcomes, is greatly needed in Malaysia. Findings from this study can be used to inform future studies and research programs that aim to decrease physicians' discrimination against MSM and improve HIV-related health equity.

Authors' Contributions

Y.C.T., V.A.E., A.K., F.L.A., and J.A.W. designed the study and supported data collection and data cleaning; Z.N., J.A.W., and R.S. conducted the data analysis; Z.N., J.A.W., R.S., F.L.A., I.A., and X.Z. provided interpretations and critical evaluation of the data analysis and results; Z.N., R.S., and J.A.W. drafted the article; all authors provided critical feedback and revisions to the drafted article; all authors reviewed and approved the article before submission.

Author Disclosure Statement

No competing financial interests exist.

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Supplementary Material

Supplementary Appendix SA1

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