ORIGINAL ARTICLE

Gender-Stratified Factors Associated with Stigma Toward HIV/AIDS among Rural Communities in Sarawak, Malaysia

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ABSTRACT

Introduction: Many factors hinder the effective responses to the HIV/AIDS epidemic. Stigma is one of the major barriers to effective responses to the HIV/AIDS epidemic. It is often considered the main reason for the low response to access proper services for prevention, treatment, and care for HIV/AIDS. In this context, we assessed the perceived level of stigmatisation towards people with HIV/AIDS among rural communities in Sarawak and determined its associated factors. **Methods:** This cross-sectional community-based study was conducted among the adult population aged 18 years and above among rural communities in Sarawak, Malaysia. A gender-stratified multistage cluster sampling technique was adopted to select the respondents. A total of 900 respondents were successfully interviewed using interviewer-guided questionnaires. Stepwise multiple linear regression with forward and backward selection method was used to determine the HIV/AIDS-related stigma. A p-value of ≤.05 was considered statistically significant. **Results:** Analysis revealed that females are more stigmatised than males (p<.05). Multivariate analysis showed that those who did not know someone had HIV and Chinese ethnicity were potential predictors in both male and female groups. Having no gainful job, and discussion of HIV/AIDS, household income less than MYR 500, history of HIV testing, knowledge on HIV transmission and exposure to HIV/AIDS information were factors that influenced HIV/AIDS-related stigma among female respondents. On the other hand, age group 30 to 39, Bidayuh, Chinese ethnicity, and not knowing someone had HIV and media exposure on HIV were factors that influenced HIV/AIDS-related stigma among male respondents. **Conclusion:** HIV/AIDS-related stigma towards HIV/AIDS existed in rural communities. Enhanced health promotion related to HIV/AIDS activities in rural communities are needed to curb stigmatisation toward people with HIV/AIDS.
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Keywords: HIV/AIDS-related Stigma, Rural communities in Sarawak, Malaysia

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INTRODUCTION

In 2018, 37.9 million people were living with HIV globally, compared to 24.9 million in 2000. Despite the reduction in prevalence, the transmission of HIV is increasing (1). There is a rising trend in the percentage contribution to the national total of HIV cases by the state of Sarawak, Malaysia, from 1.9% (69.95 per 100 000 population) in the year 2015 (2) to 8.0% (322.76 per 100 000 population) in the year 2018 (3). While the incidence of HIV/AIDS has yet to plateau in Sarawak, strong government commitment and active participation from multiple agencies to support the policies related to HIV/AIDS have helped to halt and reverse the epidemic in Malaysia as a whole (3). Be that as it may, those with HIV/AIDS are still being stigmatised by the community (4). AIDS-related stigma is defined as "prejudice, discounting, discrediting and discrimination directed at people perceived to have AIDS or HIV and individuals, groups and communities with whom they are associated" (5, p.49).

Further, Gergen (6) divided stigma into personal stigma and perceived community stigma. Self-stigma or personal stigma is a stigmatising attitude, prejudices, and actions by patients' families and members of their community (7). On the other hand, public or community stigma is the perception held by others that the diseased individual is socially undesirable. Previous studies have reported that stigma towards people with HIV/AIDS (PWHA) occurred among adult communities in different cultures and countries in Malaysia (8, 9), Hong Kong (10), China (11), and Kenya (12). The stigmatising attitude toward PWHA by community members creates a barrier for PWHA to access proper services for HIV/AIDS (13, 14). Consequently, people with HIV/AIDS

cannot access treatment after diagnosis, high-risk groups such as sex workers are denied the use of condoms (15), and negative perceptions by the community are directed towards the PWHA, their families, and partners (16). Thus, PWHAs are isolated from the community, which hurts their quality of life (17, 18) and mental and emotional health (19). A negative impact on illness behaviour leads to non-adherence to treatment and inadequate or lack of interaction with the families and communities (19, 20). The Ministry of Health, Malaysia (21) reported that out of 37,306 PWHA eligible for treatment, only 14,002 cases (37.5%) received antiretroviral therapy at the end of December 2011. This was one of the impacts of stigma towards PWHA, whereby PWHA who are eligible for treatment did not come to receive their therapy and may continue to increase the transmission of HIV/AIDS. Loutfy et al. (22) reported that females are more stigmatised than males. This might be their educational background, gender role, cultural values, and norms in society.

However, only a few studies have been reported to assess stigma toward PWHA among the communities in Sarawak. The Malaysian AIDS Council and Malaysian AIDS Foundation (21) mentioned that stigma was one of the factors that remained powerful in impeding advances in HIV treatment. Therefore, to minimise and eliminate the impact of HIV/AIDS stigma, it is essential to identify its root causes among the community. Thus, the present study aimed to determine the factors leading to HIV/AIDS-related stigma toward people with HIV/AIDS among males and females in Sarawak.

MATERIALS AND METHODS

Study setting, sampling, and duration of the study

Sarawak is divided into three regions: Northern, Central, and Southern, each of which contained a number of administrative Divisions. The Northern region consists of Miri and Limbang Divisions; the Central region consists of Sibu, Sarikei, Mukah, Kapit and Bintulu Divisions, while the Southern region consists of Kuching, Samarahan, Sri Aman and Betong Division (23).

All adults aged 18 years and above and who fulfilled the inclusion criteria (physically healthy and not being diagnosed with HIV/ AIDS, Malaysian citizens who agreed to participate, and who understood Malay or English) were interviewed at the selected communities in the Northern, Central and Southern zones of Sarawak. We calculated the sample size based on the anticipated population proportion of stigma 60% (24) with a 95% confidence interval and 5% absolute precision. The sample size was further inflated with a design effect of 2.0 and a non-response rate of 20%. The final sample size was 885. However, we collected data from 900 respondents. A multistage cluster sampling with replacement was used to select the study participants. The study started in September 2015 and ended in April 2018. However, data collection was conducted for nine months, from April 2016 to December 2016. First, a Division was randomly selected, and that was followed by the random selection of two districts from the selected Divison. Next, five villages were randomly selected from each District. Then 30 households were selected by stratified systematic random sampling, and finally, Kish (25) method was followed to select males or females from the selected household. The list of the households in a village was obtained from the village headman.

Measurements

The questionnaire was developed in English and then translated into the Malay language. Two bilingual professionals validated the questionnaire content. Both were academicians in local learning institutes in Sarawak who were fluent in both Malay and English. At that stage, any items that appeared discrepant to the meaning of the original items were translated again. After the questionnaire was drafted, the questionnaire was prepared in dual language (i.e., English and Malay), and the pilot study used the final questionnaire. The translated questions were field-tested by face-to-face interviews. Thirty participants were recruited in the interview sessions. Those samples were not included in the actual study.

HIV/AIDS-related knowledge and transmission were measured using 17 items. The routes of HIV transmission had 12 items, and misconception about HIV transmission had five items (26). Each statement was scored '1' for the correct answer and '0' for an incorrect answer. Item responses were yes, no, and not sure. The total number of the correct answers, (for example, correct answers were scored with 1, while missing or not sure were scored 0), was converted to a sum score and that was used to determine the level of knowledge on HIV/AIDS transmission. The maximum score was 17, and the minimum score was 0. The knowledge of transmission of HIV was calculated in a similar way. (27). Thus, the total score of knowledge on HIV transmission was a continuous variable. The reliability coefficient (Cronbach's alpha) for each domain of knowledge of HIV transmission and total knowledge of HIV transmission ranged from 0.836 to 0.873, indicating internal consistency.

The media exposure and communication had two domains, one for media exposure having six items (28) and communication and discussion about HIV/AIDS having six items (29). The questions in this section consisted of the frequency of communication and types of communication used, such as mass media or interpersonal communication. The reliability coefficient (Cronbach's alpha) for each domain of media exposure and communication ranged from 0.855 to 0.920.

HIV/AIDS-related stigma was measured using 32 items with five-point Likert scale questions. The answers and

scores ranged from strongly disagree (1) to strongly agree (5). All 32 items of the question were divided into four domains, namely (a) fear of casual transmission (16 items); (b) shame (3 items); (c) blame (9 items), and (d) judgement (4 items) (26, 30). A sum score for HIV/AIDS-related stigma was calculated with a higher score reflecting a higher level of HIV/AIDS-related stigma toward PWHA. Moreover, the mean score for each domain such as fear of casual contact with PWHA, blame, shame and judgement and overall HIV/AIDS-related stigma were obtained according to gender. The reliability coefficient (Cronbach's alpha) for each stigma domain and total stigma ranged from 0.781 to 0.867.

Data collection

We conducted a field test with 30 respondents from a non-sampled area before finalising the questionnaire. Minor corrections were made to make the questionnaire understandable, straightforward, and unambiguous. The reliability coefficient (Cronbach's alpha) for each domain of stigma and total stigma ranged from 0.781 to 0.867. We appointed trained personnel for data collection. The principal and co-researchers monitored the data collection process. At least three attempts were made to complete the interview if it failed in the first and second attempts. Data were collected via face-to-face interviews using an interviewer-guided questionnaire. A written informed consent was obtained before data collection started. The respondents were assured of data confidentiality and privacy.

Data analysis

We used Microsoft Excel for data entry, and then the data were transferred to IBM SPSS version 27 for analysis (27). We did an exploratory data analysis for data validation, outlines, and normality of the data set (31). The descriptive statistics were presented in frequency, mean, standard deviation. An independent sample t-test was done to compare the mean scores of HIV/AIDS-related knowledge and domain-wise stigma between males and females. A forward and backward stepwise multiple linear regression model was fitted to identify the factors associated with HIV/AIDS-related stigma. We used two separate models for male and female respondents. Univariate and multivariate outliers were determined using Mahalanobis distance (32) with a significant p-value of less than 0.05 and studentised residual with a 95% confidence interval of absolute value ±2.0 (33). We examined Variance Inflation Factors (VIF) for multicollinearity (34). After exploratory data analysis, a total of 219 (117 female and 102 male) records were excluded from the multiple linear regression due to multivariate outliers. The categorical variables were dummy-coded to determine the individual effects. The unstandardised regression coefficient (β) with a 95% CI, adjusted R2, and percentage of contribution (semi-partial coefficient) in the regression model was examined. We developed two models for multivariate analysis to get the potential predictors for males and females separately. For statistically significant results, we set a p-value of ≤.05.

Ethical clearance

We obtained the ethics approval from the Research Ethics Committee, Faculty of Medicine and Health Science, University Malaysia Sarawak (Ref: # UNIMAS/NC-21.02/03-02 Jld.2(08)).

RESULTS

Characteristics of the participants

The average age of the male participants was 40.28 (13.33) years, and for females was 39.99 (13.09) years. Regarding ethnicity, more than two-fifths (43.9%) were Iban, followed by Malay (17.4%), Orang Ulu (20.6%), and Bidayuh (16.3%). About half (48%) of the participants had secondary education, and 21% had completed primary education. However, 23.3% did not have any formal education. Thirty per cent of the respondents were gainfully employed, 26% were housewives, 25% were self-employed, and 19.6% were unemployed. The median household income was MYR 800. The majority (72.7%) of them lived with their partners (Table I).

HIV/AIDS-related knowledge and related information

The independent sample t testdid not show any gender differences in terms of the source of HIV infection, discussion on HIV/AIDS, media exposure on HIV/AIDS, and content of HIV/AIDS-related information (p>.05).

Table I: Gender-stratified percentage distribution of socio-demographic characteristics

Characteristics	Male (n = 450)		Female (n = 450)	
	n	%	n	%
Age in years				
Mean (SD) years	41.57 (13.4)		38.99 (13.1)	
Living Status	329	73.1	325	72.2
Living with partner	121	26.9	125	27.8
Living without partner				
Occupation	230	51.1	348	77.3
Unemployed	139	30.9	54	12.0
Private	43	9.6	29	6.4
Government	38	8.4	19	4.2
Self-employed				
Level of education	18	4.0	63	14.0
No formal education	58	12.9	71	15.8
Read and write	105	23.3	84	18.7
Primary school	233	51.8	199	44.2
Secondary school	36	8.0	33	7.3
Tertiary school				
Ethnicity	200	44.4	195	43.3
Iban	91	20.2	94	20.9
Orang Ulu	77	17.1	80	17.8
Malay	73	16.2	74	16.4
Bidayuh	9	2.0	7	1.6
Chinese				
Religion	313	69.6	316	70.2
Christian	106	23.6	109	24.2
Islam	27	6.0	25	5.6
No religion	4	0.9	0	0
Buddhism				
Monthly household income (MYR)	71	15.8	77	17.1
<500	248	55.1	276	61.3
500-1000	53	11.8	37	8.2
1001-1500	78	17.3	60	13.3
>1500				

However, the male respondents had significantly higher knowledge of HIV/AIDS transmission than the female counterpart (p<0.05) (Table II).

Table II: HIV/AIDS-related knowledge by gender (n=900)

HIV/AIDS-related variables	Male	Female	*p*-value
	Mean	Mean	
Knowledge of HIV transmission	10.49(4.0)	9.42(4.1)	p<0.001***
Sources of information	2.08(2.9)	2.09(3.1)	0.933
Discussion	1.58(2.8)	1.44(2.7)	0.455
Media exposure	2.18(3.9)	2.27(4.1)	0.731
Content of information	5.52(1.1)	5.46(1.2)	0.446

**p<.05; **p<.01; ***p<.001*
p-value reached from independent sample t test

Domain-wise stigma score

In all domains, males and females showed a statistically significant mean difference in stigma score (p<.05). Females had more stigma toward PWHA than males (Table III). However, the cohen-d indicated a small to moderate differences between male and females respondents.

Table III: Gender-stratified domain-wise mean distribution of HIV/AIDS-related stigma (n = 900)

Domains	*Gender*	*n*	*Mean*	*SD*	*p-value*	*Cohen's d*
Fear of casual transmission	Male	450	2.96	0.5	*.001****	*0.229[a]*
	Female	450	3.08	0.5		
Shame	Male	450	3.23	1.1	*.001****	*0.290[a]*
	Female	450	3.53	1.0		
Blame	Male	450	3.05	0.7	*.025***	*0.150[a]*
	Female	450	3.15	0.7		
Judgement	Male	450	2.99	0.9	*.001****	*0.218[a]*
	Female	450	3.19	0.9		
Mean score of stigma	Male	450	2.96	0.5	*.001****	*0.228[a]*
	Female	450	3.08	0.5		

**p<.05; **p<.01; ***p<.001*
p-value reached from independent sample t test
[a]Small effect (0.20); [b]Medium effect (0.50); [c]Large effect (0.80)

Factors affecting stigma towards people with HIV/AIDS

Our study identified several potential predictors for HIV/AIDS-related stigma such as age, ethnicity, income, occupation, acquaintances of HIV such as someone had HIV, HIV testing, and exposure to media and information on HIV/AIDS after multivariate linear regression analysis. The analysis revealed that not knowing someone who had HIV and Chinese ethnicity appeared to be common factors for both males and females models and their contribution in the models was high at 53.8% for male and 8.4% for female for the factor 'not knowing someone who had HIV', and 4.8% for male and 10.5% for female for the factor Chinese ethnicity, respectively. This means that those who did not know someone who had HIV expressed more HIV/AIDS-related stigma towards PWHA. Similarly, Chinese ethnicity expressed more HIV/AIDS-related stigma toward PWHA than other ethnic groups. However, the content of the discussion (p<.01), Iban (p<.01), Bidayuh (p<.01), age 30-39 years (p<.05), media exposure on HIV (p<.05) appeared to be potential predictors for the male group, while monthly income MYR <500 (p<.001), exposure to HIV information (p<.001), ever HIV test (p<.001), discussion (p<.01) and knowledge on HIV (p<.05), and non-gainful job for the female group (p<.05) (Table IV).

Table IV: Predictors of stigma towards PWHA: Stepwise multiple regression analysis

Variables	*Male*			*Female*		
	β	*95% CI*	*%*	β	*95% CI*	*%*
Do not know someone have HIV	1.726***	1.315, 2.137	53.8	1.437**	0.471, 2.403	8.4
Chinese	0.199*	0.022, 0.376	4.8	0.236**	0.093, 0.373	10.5
Content of discussion on HIV	-0.052**	-0.082, -0.022	11.6	NI		
Iban	-0.178**	-0.328, -0.028	7.2	NI		
Bidayuh	0.256**	0.067, 0.444	6.9	NI		
30-39 years	0.173*	0.032, 0.315	5.7	NI		
Media exposure on HIV	0.039*	0.005, 0.074	5.0	NI		
MYR <500	NI			-0.311***	-0.454, -0.168	18.1
Exposure to HIV Information	NI			-0.052***	-0.077, -0.027	16.6
Ever HIV test	NI			-0.252***	-0.379, -0.129	15.8
Discussion on HIV	NI			0.078**	0.024, 0.132	8.0
Knowledge of HIV	NI			-0.019*	-0.034, -0.005	6.0
Non-Gainful job	NI			0.186*	0.034, 0.338	5.7
Intercept	1.669	1.251, 2.086		2.049	1.008, 3.090	
Adj R^2	0.240			0.279		
F(df)	16.667(7, 347) ***			11.716(12, 332) ***		
n	348			333		

AdjR^2 = Adjusted R squared
95% CI = Confidence interval, NI = Not included (not significant)
% = Percentage contribution factor to dependent variable
**p<0.05; **p<0.01; ***p<0.001*

DISCUSSION

Our analysis revealed that the females had more stigmatisation toward PWHA than males. This finding is consistent with past studies in Nigeria (35) and South Africa (36). In Malaysia, a national telephone survey conducted by Wong (8) found that awareness of HIV/AIDS was low among females compared to males. Thus, females have more stigma toward PWHA compared to males. However, this contrasts with other studies in Eastern Cape, South Africa (36), whereby males have more stigma toward PWHA than females, supposedly because women are the principal caregivers.

Socio-demographic factors such as age, ethnicity, income, and occupation contributed significantly to HIV/AIDS-related stigma. These findings were consistent with the results of previous studies (8, 11, 12, 37, 38). We found that males in the age group of 30 to 39 were more stigmatising than other age groups. However, age was not a significant predictor of HIV/AIDS-related stigma among female respondents. This finding is consistent with past studies (11, 24, 37, 39). However, it contradicts the findings from Kenya (12) and Malaysia (8). In Kenya, Hamra et al. (12) reported that younger respondents were significantly more stigmatising than older respondents. A possible explanation might be that younger respondents perceived less stigma in Malaysia (8) because they benefited from educational programmes like Healthy Programme Without AIDS for Youth (PROSTAR) or Doctor Muda (Young doctor) that has been introduced in schools. They might also be exposed to mass media (40). Ethnicity was also found to be one of the factors that contributed to a stigmatising attitude toward PWHA among male and female respondents. This finding is consistent with Wong (8). The previous study found that Bidayuh and Chinese males were prone to express stigmatising attitudes towards PWHA, while Iban males were less prone to express stigmatisation. Chinese females were also prone to express a stigmatising attitude toward PWHA. This finding is supported by Wong (8), who found that ethnicity was the most influential factor that contributes to stigma towards PWHA. A possible explanation for Chinese females having a more stigmatised attitude toward PWHA might be that they fear contagion and are associated with disease and culturally based on moral judgment (41). However, this finding contrasts with Chew and Cheong (38), who found no association between ethnicity and HIV/AIDS-related stigma toward PWHA. This might have been due to their study subjects being medical students.

Further studies are needed to explain in-depth the relationship between diverse cultures and society and stigma towards PWHA in Sarawak. In our study, unemployed or not engaged in any gainful job, females expressed a more stigmatising attitude toward PWHA than those employed. This finding is consistent with past studies in Nigeria (42). This may be because unemployed people might be less exposed to media and knowledge related to HIV/AIDs, thus leading to stigma (43, 44). The household income among females was negatively associated with stigma toward PWHA by the community in Sarawak. The study found that low household income was significantly associated with higher stigma than high household income. Similar findings were reported by Liu et al. (45) in China. This could be due to people from lower household per capita income might view PWHA as a financial burden and form more negative judgment toward PWHA (45). Apart from that, household income could serve as a proxy for the quality of education. The young adult may have received a better education, leading to a lower stigma toward PWHA (45).

We found that the low knowledge of HIV/AIDS transmission among female participants contributed to a high stigma toward PWHA. This is supported by several previous studies (37, 46, 47). This might be because a lack of knowledge on transmission and fear of contracting HIV/AIDS might contribute to stigma toward PWHA and the effect of physical contact with PWHA (44, 47). Previous studies found that communities who misunderstood and had insufficient knowledge of HIV transmission overestimated the risk of casual contact and expressed a negative attitude toward PWHA (47, 48).

Furthermore, despite having adequate knowledge and non-discriminatory attitudes, most of the respondents still experienced the fear of the deadly nature of HIV infection and the fear of contagiousness of HIV/AIDS (8). Communication on HIV/AIDS was divided into the discussion on HIV/AIDS and mass media exposure. Discussion on HIV/AIDS in the community was one of the crucial factors that were significantly related to HIV/AIDS stigma. This study found that those who never or talked less about HIV/AIDS (health communication) in their community reported a high level of stigmatising attitude toward PWHA compared to those who had the discussion on HIV/AIDS in their community. This finding is consistent with Ragimana (29) in South Africa. A possible explanation was health communication could play an important role in raising awareness among the community about their risk for getting HIV, mode of transmission of HIV, and influencing stigmatising attitudes and behaviours toward PWHA (49). Apart from that, our study found that there was inadequate mass media exposure, and it also influenced HIV/AIDS-related stigma toward PWHA by the community. This finding is consistent with Bekalu et al. (50) in sub-Saharan Africa. The possible explanation might be that mass media exposure positively impacted awareness or knowledge on sexually transmitted diseases, including HIV/AIDS, usage of condoms, compared to those who have less or no exposure to mass media (51). However, if mass media exposure is inappropriately used, it can increase HIV/AIDS-related stigma toward PWHA (52).

Li et al. (28) showed that multiple exposures to HIV information in the community were associated with less HIV/AIDS-related stigma among the community in China. Multiple exposures to HIV information improve knowledge and awareness on HIV/AIDS, thus reducing stigma toward PWHA by the community. Our study found that the content of discussion on HIV/AIDS appeared to be a significant predictor for HIV/AIDS-related stigma toward PWHA, in which poor content of discussion may predict higher HIV/AIDS-related stigma toward PWHA. Mckee et al. (52) posited that all HIV/AIDS messages should be carefully expressed so as not to create stigma.

Acquaintance with people having HIV/AIDS appeared to be a predictor of stigma toward HIV/AIDS. Those who did not know someone who had HIV had a more stigmatising attitude toward PWHA than the respondents who claimed that they knew PWHA. A similar result was reported by Bekalu et al. (50), Chiao et al. (53), Pharris et al. (54), and Ragimana (29). These results should be considered when assessing the stigma-reducing programs in which PWHA 'go public' and community education (54). The female respondents who had never been tested for HIV status had stigmatising beliefs toward PWHA compared to those who had ever undergone testing. This indicated that the female had a negative perception toward PWHA, and they felt that people with HIV/AIDS should be blamed and feel ashamed and guilty. This finding is similar to Hutchinson and Mahlalela (36) and Genberg et al. (37). However, Ragimana (29) found that people who ever-tested for HIV expressed a more stigmatising attitude toward PWHA.

Our study provides baseline information regarding the HIV/AIDS-related stigma among the rural communities in Sarawak. Thus, findings from our study reported that HIV/AIDS-related stigma existed among the communities in Sarawak. Therefore, the vision for Malaysia to achieve zero new infection, zero discrimination, and zero AIDS-related death by 2030 is still far from the target. We urge public health professionals to collaborate with people from other agencies to reduce HIV/AIDS-related stigma and discrimination among the general population in Sarawak. This collaboration might include education and communication on HIV/AIDS to improve knowledge on HIV transmission and de-stigmatisation of the HIV/AIDS programme. Besides, research is an important component in contributing new knowledge or similar findings supporting existing research to benefit the local and international community. In Malaysia, especially in Sarawak, there is limited research regarding HIV/AIDS issues, including HIV/AIDS-related stigma by the general community. Therefore, this current study can be a benchmark for the study on HIV/AIDS-related stigma by the general community in Sarawak.

Our study had several limitations. Firstly, we focused on respondents' subjective attitudes and perceptions toward PWHA; we did not account for their actual behaviour. Secondly, we collected data from rural populations because another study from Peninsular Malaysia reported that HIV/AIDS related stigma was stronger among the community in a rural setting (55). It might not represent the population with similar backgrounds in the urban setting in Sarawak. Therefore, generalisability could not be assured. Thirdly, our study might be limited by a tendency of respondents to give socially acceptable responses, resulting in response bias.

CONCLUSION

HIV/AIDS-related stigma toward PWHA exists in Sarawak communities, and this calls for public health intervention. Knowledge of HIV/AIDS transmission and communication on HIV/AIDS play an important role in reducing stigma attitudes toward PWHA. Factors such as not knowing someone with HIV and Chinese ethnicity were common predictors for stigma attitudes toward PWHA for both gender. However, females reported a more stigma attitude toward PWHA compared to males. Females who gained less than MYR 500 per month and no-gainful jobs expressed more stigma. Nevertheless, females exposed to HIV information, who did HIV tests, and had knowledge of HIV, expressed less stigma toward PWHA. Therefore, future stigma reduction prevention and intervention programs among females in the rural community should target those who do not know someone with HIV, Chinese ethnicity, have gained less than MYR 500 per month, and have a no-gainful job.

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