

# Research Paper: Correlates of HIV-Related Self-stigma Among Female Sex Workers in Malaysia



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## ABSTRACT

**Background:** Not much is known about correlates of HIV-related self-stigma among female sex workers. Using the theory of planned behavior in the Malaysian context, this study investigated the relationships of HIV knowledge, attitudes towards HIV, attitudes towards people living with HIV, perceived social support, self-esteem, and age with HIV-related self-stigma, also how much of the variance in HIV-related self-stigma is explained by the variables.

**Methods:** Self-administered close-ended questionnaires were administered to 134 female sex workers, as a subgroup of HIV-at-risk individuals, selected using a combination of snowball and respondent-driven sampling methods.

**Results:** Self-administered close-ended questionnaires were administered to 134 female sex workers, as a subgroup of HIV-at-risk individuals, selected using a combination of snowball and respondent-driven sampling methods. Results: A majority of the respondents substantially stigmatized themselves, despite good HIV knowledge, high self-esteem, and favorable attitudes towards both HIV and people living with HIV. Attitudes towards HIV was more favorable than attitudes towards people living with HIV. The respondents received higher social supports from a special person, followed by friends, and family members. Age, attitudes towards HIV, and attitudes towards people living with HIV were significantly and negatively correlated with HIV-related self-stigma. Age, attitudes towards HIV, and attitudes towards people living with HIV collectively explained 18% of the variance in HIV-related self-stigma.

**Conclusion:** HIV knowledge, perceived social support and self-esteem did not enter the final model to explain variance in HIV-related self-stigma. This study advances our understanding by clarifying the relative contribution of age, attitudes towards HIV, and people living with HIV in the variance of HIV-related self-stigma among female sex workers at risk of HIV.

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## 1. Introduction

**S**tigma is a negative label or stereotype about a particular group or an individual who is discredited, isolated, abused, or discriminated against [1]. A person stigmatized with HIV is generally excluded or isolated from society because of the grave infectious disease that he or she has or is thought to have, but others do not [2]. At the community level, there are two types of stigma: public and self-stigma [3]. In Malaysia, HIV-related self-stigma (hereafter called HRSS) was reported prevalent [3]. Despite being a major problem and a strong need to reduce HIV-related stigma (both public and self-stigma), research on HRSS and its literature is limited and underdeveloped. Previous limited studies on HRSS have largely focused on People Living with HIV (PLWH) [4] and not much has been done among individuals at risk of HIV exposure, such as Female Sex Workers (FSWs). Because FSWs are more likely to become infected with the virus [5, 6], it is worth studying HRSS among them.

Considering the limited literature, not much is known about the correlates of HRSS among individuals at risk of HIV exposure, including FSWs. Past studies have suggested a link between HIV knowledge [4, 7, 8], attitudes towards HIV [9, 10], perceived social support [11, 12, 13], and self-esteem [14-16] with HRSS; but these findings are confined to PLWH. As though, understanding the correlates of HRSS among individuals at higher risk of HIV exposure remains unsatisfactory.

To determine the correlates of HRSS, the Theory of Planned Behavior (TPB) fits as the theoretical framework of the analysis. This is because TPB is a generic theory about human intention and behavior. The TPB proposes that behavioral intention is directly affected by attitudes, subjective norms, perceived behavioral control, and indirectly by background factors such as age and knowledge [17]. It is a well-established theory and has been applied in health communication research.

Based on the relevant past studies and informed by the TPB, we selected HIV knowledge, age, attitudes (towards HIV and people living with HIV), perceived social support, and self-esteem as the potential predictors of HRSS. Previous findings on the relationship between HIV knowledge and HIV-related stigma are mixed. While some studies [18, 19] found a negative relationship between HIV knowledge and HIV-related stigma, others [20] reported no significant relationship between HIV knowledge and HIV-related stigma. Still, some have found that an effort to increase HIV knowledge

increases fear that HIV kills. Therefore, it is remained unclear how HIV knowledge and HRSS are correlated.

While the number of HIV-infected people aged 50 years and over are growing and HIV infection among younger people is increasing [21], still past studies have not included age as a variable to examine its relationship with self-stigma. There are a few studies like [21] Steward and Herek [22] that found the negative correlation between age and HIV-related stigma but the finding remained inconclusive. As age presents specific challenges for prevention, intervention, and research on HIV [23], more studies are needed to clarify the relationship of age with HRSS, in particular for FSWs.

Attitudes guide human behaviors [24]. Negative attitudes towards HIV may lead to behaviors such as giving up all hopes and committing suicide. Ostracizing family members who are HIV-infected is a manifestation of negative attitudes towards PLWH [25]. Both attitudes towards HIV and PLWH could have a significant role in HIV-related stigma. Various studies [9, 10, 25, 26] reported that negative attitudes towards HIV and PLWH increase the likelihood of HRSS. But the past finding is silent whether the relationship holds across different types of individual at-risk of HIV exposure, such as FSWs.

As a protective factor to deal with self-stigma attached to HIV, the perception of social support plays a critical role [27]. It is argued that the perception of social support is an important mechanism that can impact HRSS [28, 29]. In line with this statement, Li, Lee [27] found a significant negative relationship between perceived social support and HRSS among HIV-infected people. In other words, people living with HIV who stigmatized themselves are more likely to report a decline in their social support. Smith, Rossetto [30] also found a negative relationship between social support and HIV-related stigma. Although these studies found the nature of the correlation between social support and self-stigma, again, the gap in the literature is that past studies did not pay enough attention to individuals at risk of HIV exposure, and few existing findings are not disaggregated by types of the individuals at risk of HIV exposure. In other words, the relationship of perceived social support and HRSS among FSWs has remained uncertain.

Besides, to perceive social support from others such as friends and family members, self-esteem matters to cope with self-stigma attached to HIV. Self-esteem means a person's belief and confidence in his abilities and values. It is argued that self-esteem and self-stigma could be correlated [31]. Previous studies [14] have found a sig-

nificant and negative relationship between self-esteem and HRSS, suggesting FSWs with lower self-esteem are more likely to experience HRSS.

Drawing on the literature reviewed and informed by the TPB, we proposed the following hypotheses:

H1: There is a significant negative relationship between HIV knowledge and HRSS.

H2: There is a significant negative relationship between age and HRSS.

H3: There is a significant negative relationship between attitudes towards HIV and HRSS.

H4: There is a significant negative relationship between attitudes towards PLWH and HRSS.

H5: There is a significant negative relationship between perceived social support and HRSS.

H6: There is a significant negative relationship between self-esteem and HRSS.

In addition to testing the hypothesized relationships, this study aims to find out how much variance in the HRSS is explained by HIV knowledge, age, attitudes towards HIV, attitudes towards PLWH, perceived social support, and self-esteem.

## 2. Methods

A cross-sectional survey using a self-administered questionnaire was employed. Each questionnaire, written in Bahasa Malaysia (national language in Malaysia), took 15 to 20 minutes to be filled out. A total of 134 FSWs (aged 18-49 years, Mean±SD 31.83±8.27) in Klang Valley, Malaysia participated in the survey. Ninety-five percent of the respondents stated that they were not at HIV risk, while 39 FSWs accepted they were at risk and 35 tested for HIV. They were recruited using a combination of snowball and respondent-driven sampling methods. The first step in sampling was collaborating with NGOs working with FSWs to recruit initial participants known as seeds.

They were selected based on their potential to recruit at least two other peers to participate in the study. After completing the questionnaire, the seeds were given a small sum of money as an incentive for the time spent on the questionnaire. They were also given coupons to encourage them to suggest two other potential participants for inclusion in the study. Each seed was limited to two

coupons so that a wide group of subjects could be recruited. The seeds received an additional payment for each recruited participant who completed the questionnaire. Data collection took place between March to September 2013. Ethical clearance was secured from the Medical Research Ethics Committee of Faculty of Medicine and Health Science, Universiti Putra Malaysia for the survey.

## Study measures

HIV knowledge was assessed with 22 items adopted from Maimaiti, Shamsuddin [9], Savaser [25], and Nacheha, Lehman [32]. The response options were “Yes” and “No”, with the correct response given a score of 1 and incorrect a score of 0. The scores were added to yield a single aggregated knowledge score. A higher score indicates a better understanding of HIV.

Measures for attitudes towards HIV (5 statements) were adopted from Muturi and An [19] and attitudes towards PLWH (15 statements) were adopted from Green [33] and Paruk, Mohamed [34]. Attitudes towards HIV had a higher Cronbach alpha ( $\alpha=0.95$ ) than attitudes towards PLWH ( $\alpha=0.76$ ). The perception of social support was measured using the multidimensional scale of perceived social support [35]. The scale assesses the perceived availability of social support across family members, friends, and a special person. To avoid double-barrelled questions, the items of “I have friends with whom I can share my joys and sorrows” and “There is a special person with whom I can share joys and sorrows” were broken into four items:

“I have friends with whom I can share my joys”, “I have friends with whom I can share my sorrows”, “There is a special person with whom I can share my joys”, and “There is a special person with whom I can share my sorrows”. The items were modified because “joys” and “sorrows” are two opposite concepts and this may mislead the respondents. Therefore, 14 items were derived from the original 12 items. The Cronbach alpha for the perceived social support scale was 0.93. Self-esteem was measured with 10 items adopted from the Rosenberg self-esteem scale [36]. The self-esteem Cronbach alpha value was 0.71. To measure HRSS, we adopted Wright’s validated and shortened 10-item HIV stigma scale [37].

The Cronbach alpha for the HRSS scale was 0.90. Attitudes towards both HIV and PLWH, social support, self-esteem, and self-stigma were rated on a 7-point scale, in which the respondents were asked to indicate their level of agreement/disagreement with the items. The response options range from 1. strongly disagree; to 7. strongly

agree. The mean scores of these variables were computed by dividing the total scores by the number of items of the respective variables. All data were gathered and analyzed in SPSS V. 19 for both descriptive and inferential statistics.

### 3. Results

**Table 1** provides descriptive statistics of the independent and dependent variables. The respondents had good knowledge of HIV (Mean±SD 19.91±2.62), such as HIV etiology, transmission, prevention, and the difference between HIV and AIDS. Regarding the attitudes towards HIV and PLWH scale, we found favorable attitudes towards HIV (Mean±SD 4.50±1.46) than that of attitudes towards PLWH (Mean±SD 4.19±0.64), suggesting that attitudes towards PLWH are less favorable than attitudes towards HIV itself. The respondents also received higher social supports from a “special person”.

A higher mean of perceived support from a “special person” (Mean±SD 5.23±1.03) compared with that of support from friends (Mean±SD 4.93±1.03) and family members (Mean±SD 4.26±1.54), suggests that perceived social supports was greater from a “special person” compared with friends and family members. As evident is the mean scores (Mean±SD 4.53±0.84), the respondents also had fairly high self-esteem. As for the dependent variable, the results show that the respondents had high mean scores of HIV-related self-stigma (Mean±SD 5.27±1.16).

**Table 2** presents the results of hypothesis testing. The analysis supported three (H2, H3, and H4) of the six hypotheses tested. The correlation value of attitudes towards HIV was larger ( $r=-0.42$ ,  $P=0.00$ ) than for attitudes towards PLWH ( $r=-0.22$ ,  $P=0.00$ ) and age ( $r=-0.21$ ,  $P=0.01$ ), suggesting that attitudes towards HIV is more strongly correlated with HIV-related self-stigma (HRSS) than that of attitudes towards PLWH and age.

**Table 1.** Mean±SD of key variables among female sex workers (N=134)

Variables	Min-Max	Mean±SD
HIV knowledge*	7-20	15.9±2.62
Attitude to HIV**	1-7	4.50±1.46
Attitude to PLWH**	2.3-6	4.19±0.64
Perceived support from family members**	1-7	4.26±1.54
Perceived support from friends**	1-7	4.93±1.03
Perceived support from a special person**	1-7	5.23±1.17
Self-esteem**	2.4-5.9	4.53±0.84
Self-stigma**	1-7	5.27±1.16



\*HIV knowledge assessed with 22 items yielded an aggregated scores from 0 to 22 that higher mean indicates more HIV knowledgeable;

\*\*All variables measured on a 7-point scale that higher mean scores indicate favorable attitudes, higher perceived social support, self-esteem, and self-stigma.

**Table 2.** The Pearson correlation coefficient of the independent variables with HIV-related self-stigma among female sex workers (N=134)

Variables	HIV-related Self-stigma	
	R	P
HIV Knowledge	-0.12	0.13
Age	-0.21	0.01
Attitude towards HIV	-0.42	0.00
Attitude towards people living with HIV	-0.22	0.00
Perceived social support	-0.01	0.90
Self-esteem	0.09	0.29



**Table 3.** Stepwise Multiple Regression Model for HRSS among Female Sex Workers (N =134)

Model	B	Beta-coefficient	R-square	R-change	t	P
(Constant)	66.42					
Age	-0.40	-0.33	0.11	0.11	-6.78	0.00
Attitude towards PLWH	-0.23	-0.23	0.17	0.06	-5.27	0.00
Attitude towards HIV	-0.13	-0.10	0.18	0.01	-2.21	0.02

Predictors: (Constant), age, attitude towards people living with HIV (PLWH), attitude towards HIV;

dependent variable: HRSS (HIV-related self-stigma).

Contrary to our expectation, HIV knowledge ( $r=-0.12$ ,  $P=0.31$ ), perceived social support ( $r=-.01$ ,  $P=0.90$ ), and self-esteem ( $r=0.09$ ,  $P=0.29$ ) were not significantly correlated with HRSS.

Stepwise multiple regression was conducted to determine how much of the variance in HIV-related self-stigma is explained by the three significant predictors: age, attitudes towards HIV, and attitudes towards people living with HIV. As shown in Table 3, of the three variables, age was the best predictor, having a moderate coefficient of determination ( $R^2$  change= 0.11,  $t=-6.78$ ,  $P=0.00$ ). Age significantly explained 11% of the variance in HRSS. The addition of attitudes towards PLWH into the model increased the percentage of variance explained to 17%. Attitudes towards PLWH alone explained 6% of the variance in HRSS ( $R^2$  change= 0.06,  $t=-5.27$ ,  $P=0.00$ ). Addition of attitudes towards HIV only adds 1% increase in the variance explained ( $R^2$  change= 0.01,  $t=-2.21$ ,  $P=0.02$ ). Collectively, the three variables predict 18% of the variance in HRSS. The results suggest that age has a greater influence on HRSS than attitudes towards PLWH, with attitudes towards HIV having the least influence.

#### 4. Discussion

Our purpose was to examine the correlates of HIV-related self-stigma among FSWs in Malaysia, a collectivistic country. By examining the correlates of HRSS, our research made some important theoretical and practical contributions. We found that HRSS is pervasive among the FSWs surveyed. They are knowledgeable about HIV causes, transmission, prevention, and the difference between HIV and AIDS. Being HIV knowledgeable implies that non-governmental and governmental organizations reaped the benefits of various efforts done to increase HIV knowledge among FSWs. They also have positive attitudes towards both HIV and PLWH.

Having good knowledge of HIV probably explains the positive attitudes towards HIV and PLWH. The findings are contradictory to the findings of previous studies [38] that found a negative attitude towards HIV among Indian FSWs. A possible explanation may be related to incorrect HIV knowledge among Indian FSWs. The positive findings of the present study could mean a shift or improvement in attitudes towards HIV and attitudes towards PLWH in the country. The findings could also mean that FSWs are not segregated or left out from awareness campaigns. Despite this achievement, more efforts need to be made to improve the attitudes of the FSWs, particularly their attitudes towards PLWH.

In addition to favorable attitudes towards HIV and PLWH, the respondents received social supports from a “special person”. It appears that there is more support from individuals they considered a “special person” compared with friends and family members. However, we could not ascertain who this “special person” is. We should have asked the respondents to identify to us who this “special person” is. In a sense, this is a weakness in the measurement of perceived social support. Identifying this “special person” in future studies may provide valuable insights that could inform future strategies and campaigns in reducing HIV-related self-stigma. A relatively weaker social support from family members and friends is worth noting. Weaker social support from family members and friends could mean that these people remain intolerance towards those who work as a sex worker, and hence are less supportive towards FSWs.

The finding that the respondents have relatively high self-esteem is also worth noting. Being young, financially independent, and able to provide financial support to their family probably explain for their high regard of themselves. Despite high self-esteem, the variable was neither a significant predictor of nor significantly correlated with HRSS. It perhaps meant that self-esteem is not an independent predictor and its relationship is mediated by other variables.

We found that HIV knowledge is not correlated with HRSS, and inconsistent with previous studies [18, 19]. A failure to find support for the hypothesized relationship means no relationship; probably the study could not detect it. One possible explanation could be that HIV knowledge requires time to impact on HRSS [20]. Additionally, other variables could mediate or moderate the expected link. In the present analysis, we also did not find a significant relationship between perceived social support and HRSS. This finding is not in line with some past studies [13, 39] that found a negative relationship between perceived social support and HRSS. This inconsistency could be explained by differences in the sample of studies. These two past studies [13, 39] were conducted among people living with HIV, but our study involved people who are at risk of HIV exposure.

In contrast to earlier findings [40, 41], no evidence of a significant relationship between self-esteem and self-stigma was detected in this study, suggesting that HIV-related self-stigma among FSWs is not correlated with self-esteem. Though there is no signal to suggest a relationship between self-esteem and HRSS among FSWs, probably there is some relationship, as it was hypothesized, that the study failed to detect.

In this study, we found a negative relationship between age, attitudes towards HIV, and attitudes towards PLWH with HRSS. The negative association of age with HRSS is in line with previous studies that found age was negatively associated with felt, normative, enacted, and self-stigma [22]. Likewise, Emler [21] also reported HIV-related stigma is higher in younger subjects than older ones. The reason for this support is that we assume that as people get older they can cope better with various challenges such as HRSS.

Both attitudes towards HIV and PLWH are negatively correlated with HRSS. Making a distinction between attitudes towards HIV and attitudes towards PLWH shows that attitudes towards HIV correlated stronger than attitudes towards PLWH with HRSS. The findings are consistent with past studies that unfavorable attitudes towards HIV [9, 25, 42] and attitudes towards PLWH [7, 43] would more likely to lead to some level of stigma (both public and self-stigma).

Age, attitudes towards HIV, and attitudes towards PLWH only explained 18% of the variance in HRSS. The exclusion of HIV knowledge, perceived social support, and self-esteem from the hypothesized model in predicting HRSS suggests that these variables are not decisive independent factors in reducing HRSS. Therefore,

HIV campaigns should not only put too much emphasis on increasing HIV knowledge, perceived social support, and self-esteem as the strategy to address HRSS.

On the whole, while the findings of the study are important, the analyses reveal that much variance in the HRSS has remained unexplained. Since only one-fifth of the variance in HRSS was explained, more studies should be carried out to identify critical determinants of HRSS. These potential determinants may be found in socio-cultural factors, as Earnshaw and Kalichman [44] and Yebey, Fortenberry [45] argued. The present study has provided valuable insights into the status of HRSS among FSWs. The study shows that HRSS is very prevalent and alarming among FSWs in the country. This finding suggests that, despite passing more than thirty years after the first reported cases of HIV, efforts to mitigate stigma have not made success.

Although we could reach FSWs (difficult-to-reach subjects for the study), one important issue that has to be addressed in future studies is the use of the self-report measure. We did not incorporate the social desirability measure in the questionnaire. Had we included a social desirability measure, the sample could be clean of social desirability bias in the samples. Thus, future studies of similar nature must include social desirability measures. Additionally, this study was cross-sectional, and thus no causal claims can be made. Longitudinal studies would allow for such causal claims. Finally, it would be valuable to compare HRSS status among different subgroups of individuals at higher risk of HIV exposure such as injecting drug users, men who have sex with men, and transgender individuals.

The datasets used and or analyzed during this study is available from the corresponding author on reasonable request.

## Ethical Considerations

### Compliance with ethical guidelines

All authors hereby declare that this study was approved by the Research Ethics Committee of the Universiti Putra Malaysia (ref.:upm/fpsk/100-9/2-jkeupm(fbmk\_nov(12)21).

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### Authors' contributions

Design, data collection, data analysis, and writing – original draft: Davood Mehrabi; Reading and revision of the Manuscript: Ezhar Tamam, Somayeh Mortazavi Ganji Ketab; Final approve: All authors.

### Conflict of interest

The authors declared no conflict of interests.

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