RESEARCH PAPER

HIV-related stigma as perceived by HIV-positive individuals in Singapore

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Abstract

Introduction: This analysis of data from a historical cohort of newly-diagnosed HIV patients aimed to quantify illness-related stigma, using the HIV Stigma Scale. At present, there is no quantitative data on HIV-related stigma in the HIV population in Singapore. In order to facilitate future monitoring and evaluation of stigma in the local HIV population, it is important to describe the patterns of, and identify factors associated with HIV-related stigma.

Material and methods: The study utilized retrospective data that was collected from August 2010 to May 2013 at the Communicable Disease Centre (CDC) at Tan Tock Seng Hospital, Singapore. Responses to statements of the HIV Stigma Scale from 497 HIV-positive outpatients were analyzed.

Results: Results of analyses indicated that stigma scores did not differ significantly across gender or employment status. However, total stigma scores and stigma scores across the domains of personalized stigma, negative self-image, and public attitudes toward people living with HIV/AIDS, showed significant variation across race. Additionally, singles reported significantly more disclosure stigma than married individuals. In terms of sexual orientation and educational level, personalized stigma and disclosure stigma scores showed significant variations across the groups. In addition, increased age was significantly related to an increase in all stigma scores, except for disclosure stigma, which showed a significant corresponding decrease with the increase in age.

Conclusions: Findings of this study indicate the pervasive nature of HIV-related stigma and highlight certain groups in the population that could benefit more from future implementation of interventions.

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Key words: stigma, HIV/AIDS, HIV-related stigma, disclosure, negative self-image.

Introduction

Social stigma surrounding human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) has garnered considerable research interest in its impact on people living with HIV/AIDS (PLWHA). There is a general consensus that HIV-related stigma poses a major barrier to the control of the HIV pandemic. Fears of stigmatization heighten feelings of denial and the need for concealment [1-3]. These result in various social and medical repercussions, increase the complexity of managing the disease. Access to HIV screening services and early medical treatment is often delayed [4-7], and PLWHA's opportunities to social support networks and positive interactions with other individuals are limited [8, 9]. Moreover, stigma perceived by PLWHA often leads to social isolation and internalized shame, thereby increasing their vulnerability to psychopathology [2, 10-12], which may interfere with medication

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adherence and compromise their health status and quality of life [3, 13, 14].

In Singapore, more than 7,000 residents are living with HIV [15], and early detection of the disease as well as overcoming social stigma, remain key challenges [5, 16]. To facilitate early detection of HIV, local public hospitals have offered routine opt-out HIV screening for inpatients aged 21 years and above. However, a low acceptance rate of 20% was reported by Chua and colleagues [16], with the fear of being socially stigmatized cited as one of the primary reasons for declining HIV testing.

At present, there is no quantitative data on HIV-related stigma in the local HIV population. Given the cultural and socioeconomic differences, current international studies may not be generalizable to the local context. Therefore, this study aimed to describe the patterns of self-perceived stigma in a cohort of newly-diagnosed HIV patients, and to identify factors associated with stigma. This would facilitate future monitoring and evaluation of stigma in the local HIV population.

Table 1. Descriptive characteristics of the sample

Factor	*n*	%
Total	497	
Gender		
Male	459	92.4
Female	38	7.6
Marital status		
Single	391	78.7
Married	106	21.3
Employment status		
Employed	309	62.2
Unemployed	188	37.8
Race		
Chinese	360	72.4
Malay	83	16.7
Indian	30	6.0
Others	24	4.8
Sexual orientation		
Heterosexuals	193	38.8
Homosexuals/ Bisexuals	287	57.7
Unspecified	17	3.4
Educational level		
No formal	9	1.8
Primary	57	11.5
Secondary	143	28.8
Tertiary	285	57.3
Unspecified	3	0.6

Material and methods

Context, study design, and participants

The Communicable Disease Centre (CDC) at Tan Tock Seng Hospital is the main referral center for HIV treatment in Singapore. All newly-diagnosed HIV-positive outpatients at the CDC are invited to participate in the Psychological Wellness Programme (PWP), which looks into psychological needs of HIV-positive patients. Participation is voluntary and subject to a minimum score of 7 on the Abbreviated Mental Test (AMT), to exclude patients with significant cognitive impairment. Then, eligible patients complete a set of self-administered scales. Care coordinators would score the responses and arrange for referrals to other healthcare professionals as appropriate.

The current study was an analysis of data from a cohort of patients screened from August 2010 to May 2013 as a part of the aforementioned PWP. The use of retrospective data for purposes of this study received approval from the National Healthcare Group Institutional Review Board.

Measures and scoring

Demographic characteristics such as age, gender, race, sexual orientation, marital status, employment status, and educational level were recorded. Thereafter, patients were assessed for perceptions of HIV-related stigma using the Berger HIV Stigma Scale [17]. This self-reported scale measures four dimensions of stigma: personalized stigma (PS; 18 items), disclosure concerns (DS; 10 items), negative self-image (NSI; 13 items), and public attitudes towards PLWHA (PA; 20 items). Each item is scored on a 4-point Likert scale (1 = strongly disagree, 4 = strongly agree). As items overlap across domains, there are a total of 40 items in this scale. Items relating to the respective domains of stigma are summed to give a complex score of each subscale, and the total stigma score (TSS) is represented by the sum of these 40 items. Higher scores represent higher levels of stigma.

Statistical analyses

Basic descriptive statistics were derived to characterize the sample. Correlations, independent *t*-tests, and one-way between-subjects ANOVA with post-hoc analyses were conducted. All analyses were run with a significance threshold of 0.05.

Results

A total of 803 HIV-positive outpatients were approached for screening, and 506 (63.0%) consented to be enrolled in the PWP. However, six participants obtained AMT scores that were less than 7, and three did not complete the stigma scale. They were excluded from analyses, leaving a final sample of 497 participants. Participants in the final sample

Table 2. Mean stigma scores for the sample

Factor		Personalized stigma (PS)					Disclosure stigma (DS)					Negative self-image (NSI)					Public attitudes toward PLWHA (PA)					Total stigma score (TSS)				
	n	M	SD	*t*	df	*p*	M	SD	*t*	df	*p*	M	SD	*t*	df	*p*	M	SD	*t*	df	*p*	M	SD	*t*	df	*p*
Total	497	42.7	11.0				30.2	4.50				32.0	7.18				52.2	10.7				104.1	19.1			
Gender																										
Male	459	42.6	10.9	-0.91	495	0.37	30.2	4.53	0.54	495	0.59	31.9	7.19	-0.78	495	0.44	52.1	10.6	-0.45	495	0.65	104.0	19.0	-0.57	495	0.57
Female	38	44.2	12.8				29.8	4.11				32.8	7.07				52.9	11.8				105.8	20.4			
Marital status																										
Single	391	42.4	10.9	-1.01	495	0.32	30.7	4.36	4.88	495	< 0.001*	32.1	7.27	0.71	495	0.48	52.5	10.4	1.16	495	0.25	104.7	18.8	1.36	495	0.17
Married	106	43.6	11.4				28.3	4.53				31.5	6.84				51.1	11.6				101.9	20.3			
Employment status																										
Employed	309	42.4	11.2	-0.74	495	0.46	30.2	4.62	-0.05	495	0.96	31.7	7.01	-1.09	495	0.28	51.9	10.9	-0.88	495	0.38	103.6	19.3	-0.70	495	0.49
Unemployed	188	43.1	10.6				30.2	4.30				32.4	7.44				52.7	10.3				104.9	18.9			
	n	M	SD	*F*	df	*p*	M	SD	*F*	df	*p*	M	SD	*F*	df	*p*	M	SD	*F*	df	*p*	M	SD	*F*	df	*p*
Race																										
Chinese	360	43.4	10.8	4.52	3. 493	0.004*	30.3	4.50	1.57	3.493	0.20	32.4	7.12	3.27	3.493	0.02*	52.9	10.4	4.02	3.493	0.01*	105.4	18.9	4.25	3.493	0.01*
Malay	83	42.0	11.0				30.4	4.26				32.0	7.21				51.8	10.7				103.4	18.8			
Indian	30	41.2	12.1				29.1	4.94				29.9	7.20				49.3	12.3				99.5	20.8			
Others	24	35.3	10.6				28.7	4.58				28.4	6.95				46.1	10.5				92.4	18.0			
Sexual orientation																										
Heterosexual	193	44.3	10.6	3.66	2.494	0.03*	28.9	4.14	14.6	2.494	< 0.001*	32.6	6.84	1.94	2.494	0.15	52.6	10.4	0.53	2.494	0.59	104.5	18.6	0.55	2.494	0.58
Homosexual/ Bisexual	287	41.6	11.1				31.1	4.49				31.7	7.39				52.0	10.7				104.1	19.5			
Unspecified	17	41.9	12.5				29.4	5.10				29.7	6.98				49.9	12.2				99.4	20.4			
Educational level																										
No formal	9	45.1	12.0	4.56	4.492	0.001*	26.6	4.56	6.40	4.492	< 0.001*	30.8	8.39	1.47	4.492	0.21	50.9	11.1	1.16	4.492	0.33	100.7	21.8	0.90	4.492	0.47
Primary	57	45.5	8.84				28.4	3.96				33.6	5.72				53.0	9.74				105.7	16.5			
Secondary	143	44.9	12.0				29.7	4.47				32.5	7.70				53.4	11.6				106.0	20.5			
Tertiary	285	40.9	10.6				30.9	4.46				31.4	7.12				51.5	10.3				103.0	18.9			
Unspecified	3	40.3	2.31				28.0	2.65				29.3	4.73				45.7	3.51				95.3	8.33			

**p < 0.05.*

Table 3. Correlation coefficients for age and stigma

	Entire sample (n = 497)	
	Age	*p-value*
Personalized stigma (PS)	0.214	< 0.001*
Disclosure stigma (DS)	–0.163	< 0.001*
Negative self-image (NSI)	0.124	0.006*
Public attitudes toward PLWHA (PA)	0.122	0.006*
Total stigma score (TSS)	0.103	0.022*

*$p < 0.05$.

were aged 17 to 72 years (M = 38.9 years, SD = 12.4 years). A description of the current sample is presented in Table 1. Table 2 displays the mean stigma scores categorized by demographic variables, and the respective statistical test values.

Stigma and gender

Females had higher stigma ratings across all domains compared to males, with the exception of DS. Likewise, females had higher TSS than males. However, these differences in stigma scores were non-significant.

Stigma and marital status

Patients who were single reported significantly higher levels of DS compared to married patients, whilst the differences in PS, NSI, PA, and TSS were non-significant. However, as same-sex marriage is illegal in Singapore, we conducted separate analyses on data provided by only heterosexual individuals to rule out potential confounding effects of sexual orientation. These analyses showed that single heterosexual patients (n = 103) reported higher stigma scores within all domains, as well as TSS, compared to those who were married (n = 90). However, these differences were non-significant ($t_{PS(191)} = 1.12$, $t_{DS(191)} = 1.79$, $t_{PA(191)} = 1.78$, $t_{TSS(191)} = 1.97$; $p > 0.05$), with the exception of NSI. Single patients reported significantly higher NSI scores (M = 33.6, SD = 6.65) than those who were married (M = 31.6, SD = 6.93; $p = 0.043$).

Stigma and employment status

Unemployed individuals reported greater stigma across the various domains when compared to those who were employed. Unemployed participants also reported greater TSS than those who were employed. However, these differences in stigma scores were non-significant.

Stigma and race

Chinese reported the highest levels of stigma, followed by Malays, Indians, and patients of other races, hereinafter referred to as Others. PS, NSI, and PA differed significantly across race. TSS also differed significantly across race. Chinese reported significantly higher levels of PS ($p = 0.002$), NSI ($p = 0.038$), PA ($p = 0.012$), and TSS ($p = 0.007$) than Others. Additionally, Malays reported significantly higher levels of PS compared to Others ($p = 0.040$). Race did not appear to have a significant effect on DS.

Stigma and sexual orientation

Sexual orientation had a significant effect on PS and DS, but not on PA and NSI. Heterosexuals reported significantly higher PS ($p = 0.020$) and significantly lower DS ($p < 0.001$) than homosexuals/bisexuals. Sexual orientation did not appear to have a significant effect on TSS.

Stigma and educational level

The educational level of patients had a significant effect on PS and DS, but not on NSI and PA. Patients with a tertiary education reported significantly less PS than those with primary ($p = 0.028$) or secondary education ($p = 0.003$), and significantly more DS than those who received no formal education ($p = 0.030$) or primary education ($p = 0.001$). Total stigma score did not appear to vary significantly between patients with different educational levels.

Stigma and age

Table 3 outlines the correlation coefficients for age and stigma. Stigma scores across all domains, as well as TSS, were significantly related to age. All the stigma scores increased with age, with the exception of DS.

Discussion

To our knowledge, this is the first study to shed light on HIV-related stigma in the Singapore HIV population. From our findings, HIV-related stigma appears to be a concern in the Singapore population, with mean HIV-stigma scores across the various domains being generally higher than that reported by PLWHA in Sweden [18] and India [19]. In addition, TSS levels in the current study were higher than that reported by PLWHA in India and comparable to that reported by PLWHA in China [20].

Furthermore, HIV-related stigma does not appear to be restricted to only certain demographic groups within the Singapore community. PLWHA across the society continue to perceive stigma against them, ranging from fears of being discredited by others because of them being or disclosing that they are HIV-positive (PS, DS, PA), to shame and guilt (NSI). These indicate that current measures, such as those by the Health Promotion Board, Singapore, including public education about the illness, as well as community campaigns to raise awareness of HIV transmission pathways and correct misconceptions, are insufficient in addressing HIV-related stigma in Singapore. These also corroborate

a recent report, which stated that PLWHA in various countries remain highly stigmatized, and emphasized the need to intensify global action to reduce HIV-related stigma and discrimination [21].

Stigma and gender

In the current study, females perceived higher levels of PS, NSI, PA, and TSS, and lower levels of DS than males but these were non-significant, suggesting little or no involvement of gender differences in HIV-related stigma. This is inconsistent with studies conducted in Nigeria and Canada, which found that women experience significantly higher levels of HIV-related stigma than men [22, 23]. It is proposed that the small number of females in the current sample could have accounted for these findings.

Stigma and marital status

Results of the current study indicate that single PLWHA perceive significantly more DS than married PLWHA, but the same does not apply to PS, NSI, PA, and TSS. Nonetheless, these findings should be interpreted with caution, as sexual orientation could be a confounder. When separate analyses were conducted on data provided by only heterosexual individuals, NSI scores differed significantly between single and married patients, but DS scores no longer did so. The loss in significant difference between single and married PLWHA for DS is not unexpected. There is an evidence suggesting that disclosure concerns are inevitable for individuals suffering from chronic illness and PLWHA, whether single or married, are no exception [7, 21]. Disclosure is necessary to obtain social support [24], and each new disclosure would risk a stigmatizing response, regardless of how well past disclosure experiences have been [17].

Stigma and employment status

In the current sample, stigma scores did not differ significantly with employment status. This finding is inconsistent with that of the study conducted by Vanable *et al.* [3], which found that HIV-related stigma was significantly higher among unemployed participants. A plausible explanation for this could be that seropositive individuals, even while employed, might not perceive job security or be meaningfully engaged in their work. A brief evidence has outlined how HIV-related stigma remains an obstacle to PLWHA in terms of not only securing, but retaining employment and procuring advancement opportunities at work [25]. Further, PLWHA in Singapore have expressed the fear of discrimination and loss of employment if their employers were to know of their seropositive status [26] with only one out of 82 PLWHA in Singapore informing their employers about their medical condition.

Although the Singapore National Employers Federation have called for fair employment practices and discourage employers against termination of an employee's services simply because of their seropositive status, Singapore has yet to implement a specific employment legislation regarding HIV/AIDS at the workplace [26]. Employers can still opt to dismiss an employee without having to provide a reason, as long as they serve adequate notice. Hence, as much as unemployed PLWHA in Singapore may have difficulties securing employment as they are worried that they would be required to undergo comprehensive health screening or declare their health status prior to employment, employed PLWHA may also feel that their condition limits their opportunities at work and therefore perceive similar levels of HIV-related stigma.

Stigma and race

In the present study, race appeared to have a significant impact on stigma, in that Chinese had reported perceiving significantly higher PS, NSI, PA, and TSS than Others, and Malays had reported significantly higher PS than Others. These results are similar to that of other studies. In a study conducted among PLWHA in Canada, Asians have been found to experience higher levels of HIV-related stigma compared to Caucasian individuals [23]. Taken together, these findings could be indicative of ethnic and cultural differences that influence HIV-related stigma.

Stigma and sexual orientation

Results of the present study indicate that homosexuals/bisexuals appear to suffer from significantly less PS than heterosexuals. A possible explanation could be that homosexuals/bisexuals have access to a larger network of like-minded individuals with similar experiences, who provide support and understanding [2].

In addition, heterosexuals in the current study perceive significantly less DS than homosexuals/bisexuals. As HIV is associated with sexual behavior, which is often linked with strong religious or cultural influence, PLWHA are frequently stigmatized as a result of their sexual preferences [12], and experience judgment to have engaged in behavior that their community might perceive as inappropriate. Therefore, homosexuals/bisexuals may face more fears of disclosure than heterosexuals as they not only have to worry about the disclosure of their serostatus, but also their sexual orientation, which they might have kept hidden [2, 11]. This could be particularly relevant in Singapore, which remains largely conservative and not entirely tolerant of homosexual/bisexual orientation [27], since same-sex marriage and homosexual sex are still legally prohibited.

Stigma and educational level

In the present study, patients with a tertiary education reported significantly less PS than patients with only a primary or secondary education. Additionally, seropositive individuals in Singapore who were more highly educated, reported significantly higher levels of DS. These results show mixed

support for previous research, which found that those with more education perceived lower levels of stigma [23, 28]. Results obtained for PS are in keeping with previous studies, and suggest that the more highly-educated PLWHA show better understanding of their condition. However, our study shows that DS scores were not lower among those with higher levels of education and were directly proportional to educational level. There may be several reasons for this, including higher expectations by the more highly-educated and their peer groups that they should have been more aware of potential risks of transmission of HIV, as well as higher perceived stakes and societal pressures when considering disclosure of their seropositive status. A separate study conducted in China, utilizing the same HIV-related stigma scale, shows support for these findings, in that individuals with a higher education level who were infected with HIV through a route other than blood transfusions, reported higher levels of perceived HIV-related stigma [20].

Stigma and age

Older PLWHA in the current study perceive higher levels of PS, NSI, PA, and TSS than younger PLWHA. This is largely in line with existing research, which has found that older PLWHA experience increased levels of stigma as opposed to their younger counterparts, due to reasons like ageism that add to and exacerbate HIV-related stigma [29].

Age was found to be consistently related to disclosure concerns, in that increasing age was correlated with lower disclosure concerns. This could be due to more internal resources being available with increased age, such as better coping methods and higher income or job stability [30]. In addition, findings of the current study could be due to the demographic characteristics of the population. Older males and females in Singapore were mostly infected with HIV via the heterosexual route of transmission as compared to homosexual/bisexual, or other forms of transmission from 2010 to 2013 [31]. Another study conducted over the span of 2006 and 2011 also found that younger HIV patients at the CDC in Singapore were mostly homosexual, whilst the older HIV patients were mostly heterosexual [32]. Since older PLWHA mostly comprise of heterosexuals, and prior findings of the current study indicate that heterosexuals report lower levels of DS, these could have explained the finding that the older PLWHA had less disclosure concerns.

Limitations of study and concluding comments

Participation in the PWP was optional. Patients who declined participation might have encountered more negative experiences of stigmatization, thus introducing the possibility of selection bias to the study. However, it was not possible to analyze these potential differences as data was not collected from patients who declined participation in the PWP. Further, as there has yet to be a clear and consistent definition of HIV-related stigma across literature, the current measure of HIV-related stigma suffers from limited clinical utility.

Nevertheless, the authors believe that the study sample is relatively extensive and closely corresponds to the local HIV population in terms of gender and ethnic composition [16, 31], espousing generalizability of the findings, at least in the local context. Additionally, this paper is a noteworthy contribution to the body of empirical research exploring perceived stigma by PLWHA. It bridges the knowledge gap by quantifying HIV-related stigma using the HIV stigma scale, offering a more objective profile of perceived stigma. The resulting data opens up important avenues for future research, and aids the development of more meaningful strategies to overcome HIV-related stigma. Subsequent studies should be taken to delineate the trajectory of perceived stigma over time, to understand how HIV-related stigma could affect the progression of the illness, as well as clinical data such as treatment adherence in Singapore. Future studies could also explore if there are confounding variables such as psychiatric or medical comorbidity, as well as patients' reasons for seeking a HIV test [33], to provide a more comprehensive understanding of HIV-related stigma.

Considering the negative impact of HIV-related stigma outlined in literature, the findings of this study clearly highlight the need to improve the wellbeing of patients by trying to not only reduce the occurrence of HIV-related stigma within society, but also to tailor interventions to help patients to cope with this stigma. More importantly, HIV-related stigma in Singapore is relatively higher than in other countries. Given that such high levels of HIV-related stigma were reported by individuals sampled from a treatment-seeking population, nation-wide interventions should also be implemented to reach out to individuals who may experience even more negative experiences of stigmatization, and thus opt to default treatment. In conclusion, HIV-related stigma remains a concern in Singapore and more efforts and resources should be channeled into mitigating the levels of this stigma.

Conflict of interest

The author's declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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