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HIV/AIDS stigma manifestations during clinical interactions with MSM in Puerto Rico.

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Abstract

HIV/AIDS stigma can have detrimental effects on physician/patient interactions when manifested by health professionals. Unfortunately, HIV/AIDS stigma is usually manifested in an intersectional manner with other pre-existing stigmas, including stigma towards men who have sex

with men (MSM). Therefore, our study aimed to examine the behavioral manifestations of HIV/AIDS stigma among physicians in training during simulated clinical interactions with MSM, and explore the interrelation between HIV/AIDS stigma attitudes and behaviors. We implemented an experimental design using Standardized Patient simulations with a sample of 100 physicians in training in Puerto Rico. Results show a significant difference in the two groups' means ($p<.001$), with a higher number of stigma behaviors in the HIV MSM patient condition ($M=6.39$) than the common cold control condition ($M=5.20$). Results evidence that stigma manifestations towards MSM with HIV may continue to be an obstacle for public health in Puerto Rico, and that medical training to prevent stigma is still needed.

Keywords

HIV/AIDS; MSM; Stigma; Behaviors; Physicians

HIV/AIDS cases among Latinos/as evidence a worrisome health disparity (Kaiser, 2009; CDC, 2015). Puerto Ricans account for a large proportion of HIV/AIDS cases in the Caribbean region, which has been severely impacted by the epidemic (UNAIDS, 2015). In this larger context, men who have sex with men (MSM) in Puerto Rico have been historically impacted by HIV/AIDS. MSM account for 20% of the reported HIV cases on the Island, thus, representing the third most prevalent route of transmission of HIV (Department of Health, 2018). Unprotected sex between men is the principal mode of transmission (56.9%) among adults and adolescents between ages of 13 and 44 (Department of Health, 2016; Hernández, 2016). This situation has worsened as research in Puerto Rico has documented how social factors like stigma and homophobia continue to drive the HIV/AIDS epidemic among this sector of the population (Marzán, Rodríguez-Madera, & Varas-Díaz, 2013; Varas-Díaz, Malavé, Cintrón-Bou, 2008).

Due to the epidemic's growing impact on MSM in Puerto Rico, these men will need access to quality health care. Unfortunately, research evidences that HIV/AIDS stigma is a key barrier to addressing the epidemic that continues to be prevalent among physicians, who are often the first line of action in the pipeline of care (Parker & Aggleton, 2003; Rivera, Varas-Díaz, Reyes-Estrada, Suro, & Coriano, 2012). Research in Puerto Rico has documented that people living with HIV/AIDS can feel stigmatized during physician visits (Varas-Díaz, Malavé, Cintrón-Bou, 2008). This is worrisome as people who feel stigmatized during physician/patient interactions avoid health personnel and HIV testing, and have difficulties adhering to anti-retroviral treatments (Bofill et al., 2014; Link & Phelan, 2006). They may also have problems accessing quality healthcare, as services may be denied or provided in a substandard mode (Stutterheim et al., 2014). Health professionals who hold stigmatizing attitudes can manifest them in their routine clinical interactions (Nyblade, Stangl, Weiss, & Ashburn, 2009). However, most stigma research has focused on documenting these negative stigmatizing attitudes through self-report and third party accounts, neglecting to simultaneously document how stigma could be manifested behaviorally during clinical encounters (Zarei, Joulaei, Darabi, & Fararouei, 2015).

Understanding how stigma may be behaviorally manifested during clinical interactions remains a challenge for stigma research; particularly due to the methodological complexities it entails (Varas-Díaz et al., 2017). Furthermore, despite the documented interrelation of homophobia and HIV/AIDS stigmatizing attitudes among Puerto Rican health care workers, research has yet to address how these may interact and become manifested in the behaviors of physicians (Varas-Díaz, Malavé, & Cintrón-Bou, 2008). This is a vital issue to address in order to understand how stigmatizing attitudes related to HIV/AIDS and homosexuality may influence health care delivery for MSM living with the disease. Thus, our study aimed to: 1) examine the behavioral manifestations of HIV/AIDS stigma among physicians in training during simulated clinical interactions with MSM, and 2) explore the interrelation between HIV/AIDS stigma attitudes and behaviors. We hypothesized that stigma behaviors would be higher among physicians-in-training exposed to an MSM living with HIV/AIDS patient than to a control patient; specifically, a person with a common cold who did not self-report being an MSM or having HIV during the interaction. We also hypothesized that HIV/AIDS stigma behaviors would be positively associated with more stigmatizing attitudes and emotions regarding HIV/AIDS while homophobia behaviors would be positively associated with more negative attitudes and emotions towards MSM. We further expected that self-efficacy for treating HIV and MSM would be negatively associated with stigmatizing behaviors. These hypotheses were informed by recent research which suggests that the intersection of multiple stigmatized identities/behaviors can be linked to more stigmatizing experiences (Friedland et al., 2018; Watkins-Hayes, 2014). They were also informed by the interrelation of attitudes, behaviors and self-efficacy proposed in Social Cognitive Theory (Bandura, 1999).

Method

Design and participants

In order to achieve our study's objectives, we implemented an experimental design using Standardized Patient (SP) simulations, observational techniques, and quantitative questionnaires. The sample consisted of 100 physicians in training in Puerto Rico (See Table 1). Participants met the following eligibility criteria: 1) be adults of legal age to consent in Puerto Rico (21 years of age), and 2) had completed their fourth year of training as physicians. After IRB approval, we selected participants who had completed their fourth and last year of medical training, as they possessed enough medical knowledge, training, and experience related to basic infectious diseases and HIV transmission risks, and also had experience interacting with patients through SP and real clinical scenarios.

We engaged physicians in training in SP simulations with cases previously designed by our team and validated by PWHHA and the University of Puerto Rico's SP Program. SP simulations are successfully used globally for training physicians due to their realistic interactions under controlled conditions (Hauer et al., 2009). Each participant engaged in two SP simulation conditions: 1) HIV-transmitted through unprotected sexual contact between men and 2) the common cold. These conditions were randomly interspersed amidst other SP cases that participants had to complete during their 4th year of training. All patients reported a uniform health concern (i.e., symptoms of a common cold) as part of this

simulated encounter in order to reduce variance between the two conditions. Each encounter was video-recorded for posterior analysis.

Measures

After engaging in the simulations participants completed several measures using an Ipad, including: 1) a demographic data questionnaire (20 items), 2) the Stigma and HIV/AIDS Scale (Varas-Díaz & Neilands, 2009) [44 items, $\alpha = .85$, potential mean score range: 1 (no stigma) to 5 (more stigma)], 3) Homophobia Scale [14 items, $\alpha = .88$, potential mean score range: 1 (no stigma) to 5 (more stigma)] (Toro-Alfonso, 2017), 4) the Emotions Associated with AIDS Inventory [13 items, potential mean score range for emotions: 0 (no emotions) to 5 (more emotions)] (Varas-Díaz & Marzán-Rodríguez, 2007), and 5) the HIV/AIDS Skills and Self-efficacy Assessment Inventory [6 items, potential mean score range: 1 (no self-efficacy) to 5 (more self-efficacy)] (Varas-Díaz, 2005). All measures were developed as part of previous studies and have been developed and validated for use with Spanish speaking populations in Puerto Rico. All video recorded interactions were later coded by our team with the Behavioral Manifestations of HIV/AIDS Stigma Inventory (BMHASI) which includes 26 non-verbal and verbal behaviors identified by PWHAs as manifestations of HIV/AIDS stigma via focus groups (Table 2; Rivera-Díaz, Varas-Díaz, Reyes, Sánchez, & Suro, 2011). The inventory assesses behaviors applicable to both the experimental and control conditions (General Behaviors) and behaviors specific to the experimental simulation (MSM stigma). Behaviors are assessed using a three-point scale with the following values: manifested (2), unsure (1), and not manifested (0).

Data Analysis

One-way frequency tables described the sample and the percentage of each observed stigmatizing behavior. The sum of general stigma behaviors was compared for the common cold control condition with the MSM patient condition using a two-group repeated measures comparison of means estimated via restricted maximum likelihood (REML) with an unstructured covariance matrix in Stata 14 via the `-mixed-` command. MSM stigma behaviors were measured only in the MSM patient condition and their totals were correlated with each of the 11 HIV/AIDS stigma measure subscales. Statistically significant HIV/AIDS subscales scores were then included in a multiple linear regression analysis explaining MSM stigma. Additional correlates in this analysis included the homophobia attitudes scale, negative and positive emotions towards MSM, participant age and gender, importance placed on religion, self-efficacy for treating HIV, and social desirability. Due to modest amounts of missing data for the explanatory variables in the regression model, the regression model was estimated using full-information maximum likelihood (FIML) under the missing-at-random assumption with Stata 14's `-sem-` command. To protect against possible model assumption violations, inferences were based on robust Huber-White standard errors. For the regression analysis we report the unstandardized regression coefficient B , the 95% confidence interval for B , the Z -value and corresponding p -value associated with the test that B is zero in the population, and the standardized regression coefficient β .

Power Analyses

We used NCSS PASS 16 (Hintze, 2018) to estimate the minimum detectable effect size for our two primary analyses, the mixed models comparison of general stigma manifested across the two study conditions and the multiple linear regression analyses explaining MSM stigma via the above-mentioned correlates. Assuming $N = 100$, $\alpha = .05$, and power = .80, and a standard deviation of 2.23 based on the observed data, the minimum detectable raw mean within-subject difference in general behaviors between the MSM and control conditions is .60, which corresponds to a standardized difference $d = .28$, a small-medium effect size (Cohen, 1988). Assuming the same sample size, alpha, and power inputs as above plus a multiple correlation of .30 among eight correlates, the minimum detectable incremental R^2 for adding each additional explanatory variable is 6.8%, a small-medium effect size.

Results

Stigma Behaviors

Frequencies of behaviors across both conditions (General Behaviors) results show that participants had the necessary physical contact (95%) and offered specific recommendations to the patient (95%). However, results also show that 89.8% did not explore the existence of social support and that 85.9% manifested a condescending attitude (i.e. infantilizing style) towards the patients during the clinical interaction. The HIV/AIDS related behaviors results show that although 97% asked regarding HIV treatment adherence, 58% did not inform patients about the need to carry out blood tests to examine CD4 cells and 70% to examine their viral load. Furthermore, most participants did not inquire about social issues patients might be facing with only 3% asking patients about social factors that could be influencing his HIV condition and only 10% referring patients to social related services (i.e. psychological services).

Regarding MSM-related behaviors, results show that 70% of participants did not tell the patient he should not feel guilty for being gay even though all simulated patients were trained to mention this fact during the simulation. Only 5% explored the reasons for which the patient associated homosexuality with guilt and only 2% offered information related to support groups for MSM. A more detailed description of these behaviors is presented in Table 2.

Comparison of General Stigma Behaviors across the Two Target Conditions

The repeated measures analysis comparing the common cold control condition ($M=5.20$) to HIV MSM simulated patient condition ($M=6.39$) found a statistically significant difference in the two groups' means ($p<.001$), with a higher number of stigma behaviors being reported in the MSM patient condition.

Correlates of MSM Stigma Behaviors

Given the significantly higher amount of stigmatizing behaviors occurring with an MSM HIV simulated patient, we sought to identify whether stigma attitudes, self-efficacy, and emotions could explain MSM stigma behaviors while controlling for participants' age,

gender, and importance placed on religion. Initial Spearman correlations revealed a significant positive association between the one dimension of the Stigma and HIV/AIDS Scale (i.e. need to control PWHA) and stigmatizing behaviors expressed towards the MSM simulated patient ($r=.20$, $p<.05$); no other HIV/AIDS stigma dimensions of the scale were associated with MSM behavioral stigma (all $ps>.31$). As shown in Table 3, in the multivariable regression analysis none of these factors were associated with HIV-related stigmatizing behaviors (all $ps > .12$) while the need to control PWHA stigma dimension remained significantly positively associated with behavioral manifestations of MSM stigma ($B=.54$, $p=.028$; $\beta=.20$).

Conclusion

The results of our study have important implications for public health in Puerto Rico and the role of medical schools in the ongoing HIV/AIDS epidemic. First, MSM continue to be impacted by the epidemic on the Island as the number of cases has consistently grown during the past years (Department of Health, 2018). This is mainly due to lack of government efforts to prevent new infections among this marginalized sector of the population, particularly among a new generation of young MSM who did not experience the early years of the epidemic. Issues related to sexuality among men, although more salient in recent years, continue to be looked at with shame and disdain in a very conservative society (Marzán, Rodríguez-Madera, & Varas-Díaz, 2013; Varas-Díaz, Malavé, Cintrón-Bou, 2008). MSM will need access to health-related services in which they do not feel devalued for living with HIV/AIDS or their sexual practices. Our results show that medical students manifested more stigma related behaviors with our experimental case (HIV-transmitted through unprotected sexual contact between men) than with our control scenario (common cold). If this phenomenon is replicated in real-world scenarios, it means that MSM will potentially continue to face stigma related attitudes and behaviors from physicians when accessing services. This scenario is worrisome as it can hinder access to quality health care and may prevent MSM from having open discussions about their concerns and needs with physicians.

Second, our results pose an important challenge for medical schools in Puerto Rico. The stigma related behaviors among our sample of medical students is concerning because they had completed their formal training and were ready to engage in the community as part of their residency programs. Although medical education research has emphasized the need for cultural and minority health competencies (Muntinga, Krajenbrink, Peerdeman, Croiset, & Verdink, 2015; Powell, 2012; Sitkin et al., 2018), it is possible that medical schools' curriculum need to further address this issue. For example, medical school training on these subjects usually focuses on increasing knowledge about minority health, and may need further assistance in teaching future physicians specific skills to effectively provide services to individuals from stigmatized groups. Medical schools may not be doing enough to address stigma attitudes and behaviors that medical students can manifest during clinical interactions. Therefore, they need to address stigma associated with HIV/AIDS and MSM as major factors in the training of future health professionals. This stigma related training should not be supplemental to their usual curricula, but rather as a central aspect of physician/patient interaction training which is required of medical schools (Calabrese et al.,

2018; Varas-Díaz et al., 2017). The ongoing HIV/AIDS epidemic among MSM, and the concerns over stigma manifestations during clinical interactions, highlight the importance of medical schools as important scenarios for stigma reduction training.

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Table 1.

Sample Characteristics

Variable	N	%
Age		
23	1	1.0
24	3	3.0
25	31	31.0
26	25	25.0
27	12	12.0
28	9	9.0
29	3	3.0
30	6	6.0
31	3	3.0
32	2	2.0
33	1	1.0
38	1	1.0
39	1	1.0
43	1	1.0
Gender		
Male	46	46.5
Female	53	53.5
National origin		
Puerto Rican	100	99.0
Other	1	1.0
Racial origin		
White	60	60.6
African-American	4	4.0
Native American	1	1.0
More than one race	34	34.3
Civil status		
Married	11	11.0
Single	78	78.0
Divorced	1	1.0
Living with a partner	8	8.0
Other	2	2.0
Religious affiliation		
Catholic	44	44.4
Protestant	13	13.1
Jehovah Witness	1	1.0
Episcopal	1	1.0
None	34	34.3
Other	6	6.1

Variable	N	%
Religion importance		
Not important	29	29.3
Somewhat important	29	29.3
Important	22	22.2
Very important	19	19.2
Religious activities		
Do not participate	57	57.6
Weekly	12	12.1
Several times a month	9	9.1
Several times a year	21	21.2
Annual income		
< \$ 10,000	25	25.0
\$10,001 - \$20,000	6	6.0
\$20,001 - \$30,000	7	7.0
\$30,001 - \$40,000	9	9.0
\$40,001 - \$50,000	10	10.0
\$50,001 - \$60,000	9	9.0
>\$60,000	34	34.0
Employment status		
Employed (Part-time)	1	1.0
Employed (Full-time)	4	4.0
Not employed	95	95.0
Ever tested for HIV		
Yes	47	71.2
No	14	21.2
Knew someone with HIV		
0	49	49.0
1	2	2.0
2	1	1.0
3	1	1.0
4	1	4.0
5	2	2.0
> 5	44	44.0
Taken a class where HIV was discussed		
Yes	100	100.0
No	0	0.0
Approximated hours of HIV training *		
1-10	55	58.7
11-20	15	16.0
21-30	8	8.6
31-40	5	5.3
41-50	4	4.3

Variable	N	%
>50	7	7.5

Note: Percentages and N's will not always sum 100% due to small amounts of missing data.

* The large range of reported hours may be related to participant recollection of HIV related hours covered in the curricula, or to variations in the intensity of HIV related content provided to one particular group over others during classes. We provide the information for descriptive purposes only.

Table 2:**Physician/Patient Interaction Behaviors**

Variable	Not Manifested		Manifested	
	N	%	N	%
General behaviors				
Did not answer patient's questions.	194	99.5	1	0.5
Showed a condescending attitude (i.e. childish).	28	14.1	171	85.9
Showed a condescending attitude (i.e. dictatorial style).	169	85.4	24	12.1
Use complex medical terms to explain the condition or treatment.	149	74.9	50	25.1
Explained the purpose of the procedure (i.e. physical examination).	39	19.5	160	80.0
Offered the patients specific treatment recommendations.	9	4.5	189	95.0
Explored the patient's social support sources.	176	89.8	20	10.2
Had the necessary physical contact.	8	4.0	189	95.0
Had little visual contact.	195	97.5	4	2.0
Shook the patient's hand to introduce.	91	45.5	108	54.0
HIV/AIDS related behaviors				
Held the patient responsible for his infection.	85	85.0	14	14.0
Confused HIV and AIDS concepts.	97	97.0	3	3.0
Asked for HIV treatment adherence.	3	3.0	97	97.0
Informed about potential interactions between HIV medications and current treatment.	100	100.0	0	0.0
Informed about the need to carry out blood tests to examine viral load.	70	70.0	30	30.0
Informed about the need to carry out blood tests to examine CD4 cells.	58	58.0	42	42.0
Told the patient it was his responsibility to avoid infecting others.	39	39.0	61	61.0
Talked about social issues that could influence his condition.	97	97.0	3	3.0
Referred the patient to social services (i.e. government help, psychological services).	89	89.0	10	10.0
MSM related behaviors				
Mentioned to the patient he should not feel guilty about being gay.	70	70.0	29	29.0
Explored the patient's interest for being referred to support groups for MSM.	97	97.0	3	3.0
Asked if he used condoms during his sexual encounters.	17	17.0	83	83.0
Assumed the patient was heterosexual (asked how many women has he been with, ask if his wife knows, etc.).	95	95.0	4	4.0
Offered information to the patient about support groups for MSM.	98	98.0	2	2.0
Explored the patient's reasons for feeling guilty.	95	95.0	5	5.0

Note: N's in the HIV/AIDS and MSM behaviors will not sum 200 as they were experimental conditions, thus only half of the sample (n=100) was exposed.

Table 3.Multiple linear regression explaining MSM-related stigma behaviors ($N=98$)

Independent Variable	<i>B</i>	(95% CI)	<i>Z</i>	<i>p</i>	β
HIV Stigma (Control)	0.54	(0.06, 1.03)	2.20	.03	0.20
Homophobia	0.05	(−0.54, 0.64)	0.17	.86	0.02
Negative Emotions	0.09	(−0.51, 0.69)	0.30	.77	0.04
Positive Emotions	0.05	(−0.36, 0.46)	0.24	.81	0.03
Social Desirability	0.75	(−0.94, 2.43)	0.87	.39	0.10
Self-Efficacy	−0.24	(−1.68, 1.19)	−0.33	.74	−0.04
Religion Importance	0.14	(−0.17, 0.44)	0.88	.38	0.10
Age (years)	−0.06	(−0.18, 0.06)	−1.02	.31	−0.10
Gender	0.15	(−0.42, 0.73)	0.52	.60	0.05
Constant	7.07	(−0.57, 14.72)	1.81	.07	4.77

B is the unstandardized regression coefficient; β is the standardized regression coefficient. Gender is coded 1=male; 2=female.