• BRIEF REPORTS •

The Role of Gender on HIV/AIDS Stigma among Medical Students in Puerto Rico: Implications for Training and Service Delivery

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Objective: This study aimed to assess the role of gender on HIV/AIDS stigma among 507 medical students in Puerto Rico.

Methods: A secondary data analysis was performed with baseline measurements of a controlled randomized study.

Results: Unadjusted analyses showed that the overall multivariate test for gender was significant [$\chi^2(11) = 38.79$, p = .0001]. Males evidenced higher stigma levels on multiple dimensions of HIV/AIDS stigma.

Conclusion: Findings suggest that gender needs to be taken into consideration when engaging in stigma research and when developing stigma reduction interventions as part of medical students training. [P R Health Sci J 2012;4:220-222]

Key words: HIV/AIDS, Stigma, Gender, Latino

The HIV/AIDS epidemic continues to impact the Latino community disproportionately, with more than 200,000 cases (1). According to the CDC, Latinos' HIV infection disparity may be growing (2). Puerto Ricans exemplify this health burden with more than 32,000 reported cases of HIV/AIDS [1% of Puerto Rico's population] (3).

Previous research with Puerto Ricans living with HIV, has documented the social stigma related to HIV/AIDS(4). Moreover, this stigma is mirrored among health professionals in the Island (5, 6). When health professionals manifest HIV/AIDS stigma it can negatively impact people with HIV/AIDS's (PWHA) access to quality treatment (7-9). PWHA in Puerto Rico have reported avoiding treatment and self-medicating when faced with stigma in health care scenarios (4).

Social stigma researchers have noted that HIV/AIDS stigma is frequently embedded in other sources of stigma including race, social class, and gender (10). The role of gender on HIV/AIDS stigma has received some attention from the perspective of the targets of stigma; for example, documenting how females confront gender specific experiences when faced with HIV/AIDS stigma (11, 12). However, the role of gender on HIV/AIDS stigma from the perspective of the source has received less attention. Among health profession students in Puerto Rico adherence to traditional gender roles (i.e. sexism) is correlated with HIV/AIDS stigma attitudes (6). Still, the role of the source's gender on HIV/AIDS stigma among health professionals needs more attention due to its potential role on service delivery to people with HIV/AIDS (PWHA) and the training of future health professionals. Our study aimed to document the role of gender on HIV/AIDS stigma, and its multiple underlying dimensions, among medical students in Puerto Rico.

Methods

The sample was 507 medical students recruited from the four largest medical schools in Puerto Rico (Table 1). Participants were part of a longitudinal efficacy trial of a stigma reduction intervention which was evaluated and approved by the University of Puerto Rico's (Río Piedras Campus) Committee for the Protection of Human Subjects in Research (IRB). Participants from all schools were invited through open letters describing our study, which were generated by our team in collaboration with their academic institutions. A secondary data analysis was performed with baseline measurements gathered before randomization. Participants completed a self-administered questionnaire that included the Spanish HIV/AIDS Stigma Scale (SHASS) (13). The SHASS is a culturally appropriate scale previously developed in Puerto Rico, which measures 11 dimensions of HIV/AIDS stigma present in Puerto Rico: 1) restriction of PWHA's rights, 2) PWHA obliged to reveal HIV status, 3) responsibility of PWHA for their HIV infection, 4) lack of productivity of PWHA, 5)

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personal characteristics of PWHA, 6) fear of infection, 7) emotions associated with HIV/AIDS, 8) closeness to death, 9) need to control PWHA, 10) PWHA as vectors of infection, and 11) body signs of HIV/AIDS. All items are measured through a 5 point Likert-type scale ranging from strongly agree [5] to strongly disagree [1] (7).

Table 1. Demographic Data

Variable	Males		Females	
	N	%	N	%
Sexual orientation				
Heterosexual	226	97.4	271	98.9
Homosexual	6	2.6	0	0
Bisexual	0	0	3	1.1
Civil status				
Married	20	8.6	26	9.5
Single	198	85.3	238	86.5
Divorced	2	.9	2	.7
Living with a partner	10	4.3	8	2.9
HIV training in school	196	84.5	239	87.2
Knew at least one PWHA	52	23.1	88	32.8

The sample was described with one-way frequency tables and measures of central tendency (e.g., mean, median) for continuous variables. To explore gender differences on the 11 HIV/AIDS stigma dimensions, we performed a one-way (unadjusted) multivariate analysis of variance (MANOVA) using the multivariate modeling program Mplus. Adjusted analyses added age in years, whether the participant knew anyone infected with HIV (yes vs. no) and whether the participant had taken a medical school course in which HIV was discussed (yes vs. no) as control variables. Mean differences were tabled in raw score units and, for significant effects, presented in standard deviation units (SD change) in the text.

Table 2. HIV-Stigma Means, Standard Deviations, and Differences by Gender.

Outcome	Male		Female		Difference (SE)	z	p
	N	Mean (SD)	N	Mean (SD)			
Productivity	231	2.54 (0.85)	274	2.45 (0.83)	.089 (.075)	1.19	.234
Visibility	231	2.60 (0.61)	273	2.47 (0.65)	.135 (.056)	2.40	.016
Reveal Serostatus	232	4.07 (0.76)	275	4.17 (0.75)	-.094 (.067)	-1.40	.162
Vectors of Infection	230	2.34 (0.77)	274	2.08 (0.71)	.257 (.066)	3.90	<.001
Characteristics	232	2.05 (0.78)	275	1.95 (0.76)	.102 (.068)	1.49	.137
Emotions	231	3.91 (0.87)	274	4.05 (0.85)	-.147 (.077)	-1.91	.056
Associations with Death	231	3.00 (0.74)	275	2.97 (0.81)	.033 (.069)	0.47	.635
Control	230	2.45 (0.71)	274	2.38 (0.77)	.062 (.066)	0.94	.349
Rights of PWHA	232	3.01 (0.84)	275	2.92 (0.78)	.090 (.072)	1.25	.211
Fear of Infection	231	2.62 (1.02)	275	2.35 (1.01)	.270 (.090)	2.99	.003
Responsibility for Infection	232	3.07 (0.77)	274	2.87 (0.78)	.199 (.069)	2.89	.004

Notes: N = 232 males; N = 275 females. Differences, standard errors, Z-values, and p-values were computed using full information maximum-likelihood in Mplus 6 with robust standard errors and test statistics (Mplus estimator MLR). Differences are expressed as raw (i.e., unstandardized) differences between stigma scale score means by gender. Z = Difference / SE; p = p-value associated with the Z-test that the difference is zero in the population from which the data were sampled.

Results

The sample was predominantly heterosexual, single, and young (mean age = 25 years; median = 25, SD = 2.18; range = 21-39). Unadjusted analyses showed that the overall multivariate test for gender was significant [$\chi^2(11) = 38.79$, p = .0001]. Males evidenced higher stigma levels on the following dimensions: visibility of infection (SD change = .21), PWHA as vectors of infection (SD change = .35), fear of infection (SD change = .27), and responsibility of PWHA for their HIV infection (SD change = .26). A trend was found for females having mean higher stigma than males for the emotions dimension (p = .056; SD change = -.17). Adjusted analyses reached identical substantive conclusions to unadjusted analyses; thus, for clarity, unadjusted results are presented in Table 2.

Discussion

Our study is limited by a convenience sample and a cross-sectional design that limits generalizability and establishing causal order. However, the large size of our sample and the unique cultural context in which the study was carried out provide important data to inform future studies addressing HIV/AIDS stigma among medical students in Puerto Rico.

Identifying gender differences on multiple HIV/AIDS stigma dimensions is an important step for research in the field of stigma and health. Further research is needed to explain the causal factors for such differences, which could include gender socialization in Puerto Rico (14). For example, male socialization emphasizes fear of and superiority over other stigmatized populations including gay men and lesbians. Considering that the HIV/AIDS epidemic has been linked to these groups, male views of these communities should be explored further as part of a research agenda on HIV/AIDS stigma.

Our results have multiple implications for HIV/AIDS stigma research and medical student training. First, research documenting stigma from the perspective of health professionals in training should consider that gender could influence HIV/AIDS stigma levels, which in turn could impact service delivery and interactions with patients. Second, research documenting HIV/AIDS stigma from the perspective of patients needs to document if felt stigma varies in accordance to the source's gender. Even when males seem to hold more stigmatizing attitudes towards PWHA, researchers need to document if patients perceive those

differences and how that might influence their evaluation of received services. Finally, training efforts in medical schools need to integrate a gender perspective into courses and seminars in recognition of gender variations in HIV/AIDS stigma.

Resumen

Objetivo: Este estudio tuvo como objetivo evaluar el rol del género en el estigma hacia el VIH/SIDA entre 507 estudiantes de medicina en Puerto Rico. Métodos: Se llevo a cabo un análisis secundario de datos proveniente de los datos iniciales de un estudio longitudinal aleatorizado. Resultados: Análisis multivariados mostraron una diferencia estadísticamente significativa en las dimensiones de estigma por género $[\chi^2(11) = 38.79, p = .0001]$. Los hombres mostraron tener mayores niveles de estigma hacia el VIH/SIDA que las mujeres. Conclusión: Los resultados sugieren que los asuntos de género deben ser considerados en los estudios sobre estigma y en el desarrollo de intervenciones para su reducción en estudiantes de medicina.

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