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Size Matters: Community Size, HIV Stigma, & Gender Differences

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Abstract

Conclusions regarding HIV stigma in rural areas are hampered by lack of agreement about rural classification. This investigation examined perceptions of HIV stigma among males and females with HIV/AIDS in metropolitan, micropolitan, and rural areas. Two-hundred people with HIV/AIDS completed a measure of perceived HIV stigma. Their county or town of residence was used to classify community size. Results indicated that community size was related to one aspect of perceived stigma, disclosure concerns, differently for men and women. Rural women reported more disclosure concerns than did metropolitan and micropolitan women. They also reported more disclosure concerns than rural men. Men in micropolitan communities reported more disclosure concerns than men in rural areas and tended to report more disclosure concerns than men in metropolitan areas. Understanding the relationship of community size to HIV stigmatization requires acknowledging that many communities are neither urban nor rural, and it requires considering gender differences.

Keywords

HIV/AIDS; Stigma; Metropolitan; Micropolitan; Rural; Gender Differences

INTRODUCTION

In the United States, the human immunodeficiency virus (HIV) was initially found among white, gay and bisexual, middle class men in urban areas (Kelly and Murphy, 1992). HIV is now found among people of color, women, heterosexual men, and central to this study, those residing in non-urban centers (CDC, 2006; Karon et al., 2001; National Rural Health Association, 2004). Increases in the incidence and prevalence of HIV in non-urban or rural environments (CDC, 2006; Heckman et al., 1998; Lam and Liu, 1994; McKinney, 2002; Ruefli et al., 1992) are of particular interest from both a prevention and intervention perspective. People with HIV/AIDS in non-urban environments face numerous challenges, such as distance and lack of availability of HIV health care services, lack of transportation to services, limited financial resources, and community expressed stigma (Heckman et al., 1998; Reif et al., 1992).

One difficulty in studying rural populations is a lack of agreement about how to define rural and urban. Having an accurate definition of what is deemed "rural" is important for developing research and policies that may help improve care for people in rural areas (Hart

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et al., 2005). Researchers have used a variety of classification systems to define urban and rural communities (see Hart et al., 2005 for a review), including those used by the U.S. Census Bureau (Agee et al., 2006; Mohammed and Kissinger, 2006), others devised by states (Stewart et al., 2005), and unique systems devised in unspecified ways by researchers themselves (Reif et al., 1992; Cook et al., 2006; Oser et al., 2006; Brown and Hill, 2005).

This lack of consensus results in widely disparate classifications of rural areas and places a limitation on the ability to compare research outcomes. For example, Heckman and colleagues (2004) distinguished metropolitan from nonmetropolitan areas by designating as nonmetropolitan any community with 50,000 or fewer residents that is at least 20 miles from a city of 100,000 or more residents. Others have defined rural as towns and small cities with populations under 500,000 (Mohammed and Kissinger, 2006); counties with a population of less than 50,000 (Crosby et al., 2002); and as towns with a population of 10,000 people or less located at least 15 miles away from a larger city (Heckman et al., 1998). The current study defines community size according to guidelines included in the Core Based Statistical Areas (CBSA; Office of Management and Budget; OMB, 2002) based on county size. The CBSA classifies counties as metropolitan, micropolitan, and outside of the core-based areas, which we refer to as “rural.” Metropolitan areas are counties containing at least one urbanized area with a population greater than or equal to 50,000. Micropolitan areas are counties with at least one urbanized area with a population between 10,000 and 50,000 residents. Rural areas are counties outside core-based areas that have no population center greater than 10,000 people. One advantage of the CBSA system is that it provides a more nuanced approach to classification of areas. Other systems tend to group towns and cities of widely varying size together into metropolitan areas. The CBSA system tends to distinguish rural areas from areas that fail to meet the definition of metropolitan areas, but which nonetheless have relatively large and/or dense populations.

Scientific inquiries addressing urban-rural differences regarding the experience of living with HIV/AIDS are limited. We are aware of only two studies that have examined urban-rural differences specifically regarding HIV/AIDS stigma and other difficulties experienced by this vulnerable population (Heckman et al., 1998; Reif et al., 2005). Heckman and colleagues (1998) found that people with HIV/AIDS in non-urban areas report more barriers to care, difficulties coping with HIV/AIDS, loneliness, and AIDS-related stigma than those in urban centers. Similarly, Reif and colleagues (2005) found that rural HIV/AIDS case managers report HIV stigma, long travel distances, lack of transportation, lack of trained HIV health care professionals, and lack of substance abuse facilities willing to work with HIV positive clients as ‘major problems’ more so than their urban counterparts. What is it about rural areas that perpetuate these difficulties? First, retaining anonymity and privacy is a struggle in non-urban areas (Morrisette, 2002). Many people in small communities are likely to know one another; thus, living in non-urban areas may reduce privacy. For example, it may be socially challenging for an individual with HIV/AIDS to go to the only store in town to buy condoms. Second, non-urban community members are thought to have conservative values and strong religious beliefs that make these areas less tolerant of non-conventional living (Tiemann, 2006), such as being gay and injecting illegal drugs. Lack of privacy and conservative values may make HIV stigma more prevalent in rural than in urban areas.

The core feature of stigma is having an attribute that conveys a devalued social identity within a particular context (Crocker et al., 1988). HIV stigma is thought to have originated from the dislike of already marginalized groups (e.g., gay/bisexual men; intravenous drug users) who were among the first in the U.S. to contract HIV (Herek and Glunt, 1988). HIV is also stigmatizing because of its association with having multiple sex partners and death (Swendeman et al., 2006; Weibust, 2007).

HIV stigma has several components (Berger et al., 2001). People with HIV may experience stigma related to direct incidents of discrimination or social isolation because of their HIV status (enacted stigma). HIV stigma may result from the anticipation or expectation of negative reactions by others if one's HIV status is disclosed (disclosure concerns). Another form of HIV stigma involves being preoccupied with how others may negatively view people with HIV (concern with public attitudes). HIV stigma can also include the harboring of negative self attributes regarding one's positive HIV status (negative self-image; Berger et al., 2001; Sandelowski et al., 2004).

HIV stigma may be of special concern for women. In a metasynthesis of qualitative reports, Sandelowski and colleagues (2004) found that women with HIV/AIDS reported intense stigma. In quantitative studies, women with HIV/AIDS have reported more social rejection, shame, discrimination, violence, overall perceived HIV stigma and fear of being stigmatized than men with HIV/AIDS (Swendeman et al., 2006; Sandelowski et al., 2004). As was mentioned above, people associate HIV/AIDS with marginalized groups. Men with HIV/AIDS may be perceived as being gay or as an intravenous (IV) drug user Herek & Capitanio, 1999; Pryor, Reeder, Landau, 1999; Herek & Glunt, 1988; Crandall, 1991). Women with HIV/AIDS also are often perceived as IV drug users, but they also are perceived as prostitutes and as having multiple sex partners (Bunting, 1996). These perceptions may make HIV stigma particularly problematic for women with HIV/AIDS in rural areas, where the community may be especially intolerant of non-conventional behaviors.

The objective of the present study was two-fold, (1) to document the importance of distinguishing metropolitan, micropolitan, and rural areas from each other, and (2) to extend past work (Heckman et al., 1998; Reif et al., 2005) by examining the relationship between community size (metropolitan, micropolitan and rural), gender, and HIV stigma. Based on previous findings we hypothesized that people with HIV/AIDS in metropolitan areas would report lower levels of HIV stigma compared to those living in micropolitan and rural areas, and that people with HIV/AIDS in micropolitan areas would report lower levels of stigma than those living in rural areas. We also hypothesized that women with HIV/AIDS would report more stigma than males, and that rural women in particular would report high levels of stigma relative to men.

METHODS

Participants

Participants included 203 persons with HIV/AIDS recruited as part of a larger study that is testing a theoretical model addressing the physical (e.g., distance to services) and social (e.g., perception of stigma) ecology in which people with HIV/AIDS live, in the prediction of risky sexual behavior (e.g., unprotected sex). Participants were recruited through AIDS Service Organizations (ASO's), medical clinics treating patients with HIV/AIDS, advertisements in local newspapers, and word of mouth in Vermont, New Hampshire, and areas of Massachusetts and Maine. Eligibility requirements included being at least 18 years of age and reporting a positive HIV status. Three participants were not included in the present study due to data collection errors.

Procedures

Upon arrival to the University of Vermont, participants were greeted by a research assistant and informed about the study. After consenting to participate, participants were brought to a separate room to complete the computerized protocol (Jarvis, 2004). Participants then engaged in an interview with the research assistant regarding their experience of living with

HIV. If participants were unable to come into the lab due to health or traveling complications, research assistants traveled to a mutually agreed upon location (i.e., hospital or ASO) to allow for their participation. All participants were compensated \$50 for participating in the study and any travel expenses they incurred. This study was approved by the internal review board of the University of Vermont.

Measures

Demographics—Participants reported their age, gender, sexual orientation, race/ethnicity, and annual income bracket. They indicated their gender as male, female, or transgender and reported sexual orientation on a scale ranging from 1 (*Exclusively Heterosexual*) to 7 (*Exclusively Homosexual*), with a rating of 4 being “*Bisexual*.”

HIV Stigma Scale—Stigma was measured using a modification (Bunn et al., 2007) of the HIV Stigma Scale (Berger, 2001) which is composed of 32 items asking about the participants’ perception of stigma in four areas: enacted stigma, disclosure concerns, negative self-image, and concern with public attitudes. The enacted stigma sub-scale is composed of 11 items and measures perceptions about actual experiences of stereotyping, discrimination or rejection due to others’ knowledge of the respondent’s HIV status (e.g., “*Some people who know that I have HIV/AIDS have grown more distant.*”). The disclosure concerns sub-scale contains eight items and measures perceptions about anticipated or expected negative consequences that might result if others knew the respondent’s HIV status (e.g., “*Telling someone I have HIV/AIDS is risky.*”). The sub-scale labeled negative self-image is composed of seven items that address the expression of guilt, shame, and feelings of insufficiency due to having HIV (e.g., “*Having HIV/AIDS makes me feel that I’m a bad person.*”). The concern with public attitudes sub-scale contains six items and measures perceptions of what others think about people with HIV (e.g., “*Most people believe a person who has HIV/AIDS is dirty.*”). Responses ranged from 1 (strongly disagree) to 4 (strongly agree). Scores on the individual sub-scales were computed by taking the mean of the responses for each item, with higher scores indicating a greater perception of stigma. The individual sub-scales have good internal consistency with Chronbach’s alpha ranging from 0.88 to 0.95.

Community Size—Participants’ community size was classified using CBSA (OMB, 2002). According to these guidelines, participants’ county of residence was categorized as metropolitan, micropolitan or “Outside CBSA”, which we labeled rural. Metropolitan areas are defined as those counties containing at least one urbanized area with a population greater than or equal to 50,000; micropolitan areas are counties with at least one urbanized area with a population of at least 10,000, but less than 50,000; and, the remaining counties are classified as rural. The CBSA classification has been previously used to describe the relationships between community size and social and economic indicators (Brown et al., 2004).

Statistical Analyses

Descriptive statistics, a *t*-test, and one-way Analysis of Variance (ANOVA) were used to examine demographic characteristics of the sample. Community size and gender were analyzed with a two-way ANOVA with gender and community size as grouping variables, along with the gender by community size interaction, and age as a continuous control variable. Results were interpreted as significant at the traditional $p < 0.05$ level. Significant interaction effects were followed by an *F*-test for simple effects to examine community size differences within gender or post hoc *t*-tests to examine gender difference within community size. All analyses were conducted with SAS Version 8.1 (SAS, 2000).

RESULTS

Sample Characteristics

As seen in Table I, the majority of the 200 participants were male (72.5%) and most reported being Caucasian. Although just over half of the participants had a college or technical degree, more than two-thirds of them were unemployed. Males and females did not differ with respect to age ($t(1, 198) = -1.52, p = 0.13$) or the amount of time since their HIV diagnosis ($t(1, 182) = 0.55, p = 0.59$). Participants in metropolitan, micropolitan, and rural areas also did not differ by age ($F(2, 197) = 0.01, p = 0.99$) or amount of time since HIV diagnosis ($F(2, 181) = 0.55, p = 0.58$).

Levels of Reported HIV Stigma and Relation to Age

The mean level of disclosure concerns was 2.87 ± 0.72 ($M \pm SD$), somewhat higher than the logical scale midpoint of 2.5. Concern with public attitudes was also slightly above the midpoint of the scale at 2.59 ± 0.60 . On the other hand, the means for enacted stigma (2.37 ± 0.77) and negative self-image (2.20 ± 0.77) were both below the scale midpoint, indicating a greater level of disagreement than agreement with the scale items. Disclosure concerns and negative self-image both decreased with increasing age ($F(1, 193) = 5.82, p = 0.02$ and $F(1, 193) = 11.76, p < 0.01$, respectively), but age was not related to enacted stigma or concern with public attitudes ($F(1, 193) = 0.03, p = 0.85$ and $F(1, 193) = 1.96, p = 0.16$, respectively).

Community Size, Gender, & HIV Stigma

Disclosure Concerns—While the main effects for gender ($F(1, 193) = 2.06, p = 0.15$) and community size ($F(2, 193) = 1.00, p = 0.37$) were not significant, there was a significant gender by community size interaction ($F(2, 193) = 4.04, p = 0.02$). Results of the post hoc tests suggest that levels of disclosure concerns differed by gender only in rural areas (Figure 1) with rural females reporting more disclosure concerns than rural males (3.39 ± 0.58 and 2.64 ± 0.75 , respectively; $p = 0.01$). Males in micropolitan areas reported experiencing *more* disclosure concerns (3.01 ± 0.64) than males in rural areas ($2.64 \pm 0.75, p = 0.02$) and tended to experience *more* disclosure concerns than males in metropolitan areas ($2.79 \pm 0.65, p = 0.07$), with no difference between those living in the latter two types of communities ($p = 0.39$). In contrast, females in rural areas reported *greater* disclosure concerns (3.39 ± 0.58) than females in micropolitan areas ($2.81 \pm 0.83, p = 0.05$) and tended to experience *greater* disclosure concerns than women in metropolitan areas ($2.85 \pm 0.83, p = 0.06$). There were no differences in disclosure concerns between females living in micropolitan and metropolitan areas ($p = 0.93$).

Concern with Public Attitudes—While community size was not related to concern with public attitudes ($F(2, 193) = 0.46, p = 0.63$), there was a significant main effect for gender ($F(1, 193) = 6.39, p = 0.01$; see Figure 1), with females, regardless of community size, reporting greater concerns with public attitudes (2.74 ± 0.61) than males did (2.53 ± 0.59). The gender by community size interaction was not significant ($F(2, 193) = 1.46, p = 0.24$).

Enacted Stigma and Negative Self Image—Levels of enacted stigma did not differ by community size ($F(2, 193) = 0.10, p = 0.90$), or by gender ($F(1, 193) = 1.90, p = 0.17$). The community size by gender interaction was also not significant ($F(2, 193) = 1.73, p = 0.18$; see Figure 1). Similarly, negative self-image did not differ by community size ($F(2, 193) = 0.38, p = 0.68$) or by gender ($F(1, 193) = 3.19, p = 0.08$) and the gender by community size interaction also was not significant ($F(2, 193) = 2.23, p = 0.11$).

DISCUSSION

This study is one of the few that compares rural and non-rural people with HIV/AIDS on the level of stigmatization they report. It also is the first to distinguish non-urban areas from population centers that are too small to be considered metropolitan, but which have a large enough population center that they probably differ in important ways from areas that are truly rural. Results indicated that community size does matter for HIV/AIDS stigmatization, but it does so in a surprising way and it matters differently for men and women.

Community Size and Gender: Overall Effects

Contrary to our hypotheses, results showed that community size alone was not related to any aspect of reported stigma. Urban-rural differences have been reported in past research, (e.g., Heckman et al., 1998 and Reif et al., 2005), but in that research micropolitan areas were not distinguished from either urban or rural areas. Findings of the present study suggest that making this distinction is important, and that future research should consider how the social and cultural characteristics of different sized communities may be associated with the experiences and perceptions of HIV stigma of people with HIV/AIDS living in those communities. The only significant gender effect that was found independent of community size was that women reported a greater concern with public attitudes about people with HIV/AIDS than men did. This concern may make women with HIV/AIDS more vulnerable than men to the effects of HIV stigmatization. Specifically being concerned about what others think about people who have HIV/AIDS may put women with HIV/AIDS at greater risk for anxiety and depression, and/or may result in behavioral outcomes such as increased risky behaviors and social isolation. Interventions that target women with HIV/AIDS may need to address women's concern about public attitudes and perceptions of how others are perceiving people with HIV/AIDS. To our knowledge, there are no empirically based interventions that address these concerns. Because it is likely that concern with public attitudes is a response to public judgments about women who have HIV/AIDS (Bunting, 1996; Ostrom et al., 2006), women with HIV/AIDS may benefit from interventions that help them cope with this threat to their well-being.

Community Size and Gender

There were significant differences in levels of disclosure concerns between males and females living in metropolitan, micropolitan and rural areas. Rural women living with HIV/AIDS reported more disclosure concerns compared to their rural male counterparts. They also reported more disclosure concerns than women in micropolitan areas and tended ($p = .06$) to report more concerns than did women in metropolitan areas. Given that women express high levels of concern with public attitudes, it is not surprising that they also report concern about disclosing their HIV status¹. As minorities within the HIV/AIDS pandemic, especially in rural areas in the U.S., women with HIV/AIDS may not have other women with HIV/AIDS to relate to and socialize with (Mphande-Finn & Sommers-Flanagan, 2007). Moreover, traditional rural values are inconsistent with stereotyped assumptions about women with HIV/AIDS, for example, that they are prostitutes, illegal drug users, and/or are promiscuous. These characteristics of rural areas may heighten rural women's concerns about disclosing their HIV/AIDS status.

Men living in micropolitan areas reported experiencing more disclosure concerns than men in rural areas and tended to experience more concerns than males in metropolitan areas. It may be that for men, micropolitan areas combine some of the disadvantages of both

¹The concern with public attitudes and disclosure concerns sub scales were significantly and positively related to one another among women ($r = 0.42$, $p < 0.01$) and among men ($r = 0.49$, $p < 0.01$).

metropolitan and rural areas. Men living in micropolitan areas may lack the anonymity afforded by living in metropolitan areas, but may also lack the social ties that tend to bond people together in rural areas. This leaves them vulnerable to concerns about disclosure of their HIV/AIDS status.

Overall, the findings of this study suggest that more attention towards rural women and micropolitan men living with HIV/AIDS is needed to foster disclosure and address worries and concerns about the public's attitudes towards people with HIV/AIDS. Worries about public attitudes and fears about disclosure may put rural women and micropolitan men living with HIV/AIDS at greater risk for psychological disorders. Interventions might examine helping these groups gauge the levels of prejudice and discrimination in their community to decide whether it is safe to disclose their HIV status. Additionally, interventions to provide social support may be essential for these groups. Here, the development of safe harbor initiatives might include establishing secure and confidential internet websites, secure and confidential mobile telephone support, sponsor programs or buddy links to foster connections.

This study has some limitations that must be acknowledged. First, the number of rural women who participated was relatively small, limiting the generalizability of our findings. Second, this study is cross-sectional in design, which leaves open the question of whether differences in stigma that occurred in different size communities are a consequence of living in a particular type of community, or whether something else explains the differences that occurred. Finally, this study did not include measures of some of the variables, such as social support, that may be the mechanism by which community size and gender have their effects on the experience of stigma.

Future research is needed to explicate and extend the findings of this study. Researchers should focus on variables that might explain why HIV stigma is experienced differently by men and women living in different types of communities. While the results of this study suggest that it is important to distinguish micropolitan communities from both larger (metropolitan) and smaller (rural) communities, it leaves open the question of what specific processes or interactions within these communities may lead to different experiences of stigmatization of men and women with HIV/AIDS living in these communities. Future research should explore what aspects of different-sized communities influence the experience of HIV/AIDS stigmatization. Finally, our findings suggest that researchers should not take a "one size fits all" approach to developing interventions geared at helping people with HIV/AIDS cope with stigma, but rather should consider both gender and community factors.

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Figure 1.

Main and Interactive Effects of Gender and Community Size on Reported Stigma
 Note: Means and standard deviations are presented for men and women based on community size.

Table I

Demographic Characteristics by Gender

Demographics	Males n (%)	Females n (%)	Total n (%)
Race/Ethnicity			
Caucasian	118 (81.4)	43 (78.2)	161 (80.5)
African American	11 (7.6)	4 (7.3)	15 (7.5)
Latina	6 (4.1)	4 (7.3)	10 (5.0)
Native American	5 (3.4)	1 (1.8)	6 (3.0)
Asian American	1 (0.7)	0 (0)	1 (0.5)
Bi-racial /Other	3 (2.1)	3 (5.4)	6 (3.0)
Sexual Orientation			
1 (Exclusively Heterosexual)	36 (24.8)	47 (85.5)	83 (41.5)
2–3	4 (2.8)	1 (1.8)	5 (2.5)
4 (Bisexual)	16 (11.0)	6 (10.9)	22 (11.0)
5–6	7 (4.8)	0 (0)	7 (3.5)
7 (Exclusively Homosexual)	82 (56.6)	1 (1.8)	83 (41.5)
School Completion			
< High School/G.E.D.	8 (5.5)	6 (10.9)	14 (7.0)
High School/G.E.D.	54 (37.2)	24 (43.6)	78 (39.0)
College/Technical School	65 (44.8)	22 (40.0)	87 (43.5)
Graduate/Professional School	18 (12.4)	3 (5.5)	21 (10.5)
Employment Status			
Employed	56 (38.6)	11 (20.0)	67 (33.0)
Unemployed	89 (61.4)	44 (80.0)	133 (66.5)
Annual Income Bracket			
Under \$11,000	67 (46.2)	33 (60.0)	100 (50.0)
\$11,000 – 20,000	32 (22.1)	14 (25.5)	46 (23.0)
\$21,000 – 30,000	19 (13.1)	4 (7.3)	23 (11.5)
\$31,000 – 50,000	19 (13.1)	2 (3.6)	21 (10.5)
Over \$51,000	8 (5.5)	2 (3.6)	10 (5.0)
Community Size			
Metropolitan	60 (41.4)	24 (43.6)	84 (42.0)
Micropolitan	56 (38.6)	21 (38.2)	77 (38.5)
Rural	29 (20.0)	10 (18.2)	39 (19.5)
Length of time HIV+ (years)	$M= 11.83, SD= 6.90$	$M= 11.23, SD= 5.95$	$M= 11.67, SD= 6.64$
Age (years)	$M= 43.75, SD= 8.28$	$M= 41.67, SD= 9.54$	$M= 43.18, SD= 8.67$