

HIV Stigma and Social Support among African Americans

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ABSTRACT

HIV-related stigma and discrimination negatively impact African Americans living with HIV. Social support theory hypothesizes that social support can serve to protect individuals against the negative effects of stressors, such as discrimination, by leading them to interpret stressful occasions less negatively. This study sought to examine the relationship between perceived social support and perceived HIV stigma among HIV-positive African Americans. A cross-sectional convenience sample of 283 HIV-positive African Americans was recruited from three social service agencies. Bivariate and multivariate regressions were used to determine the variables predicting perceived HIV stigma. The study participants were found to have a wide variety of opinions concerning perceived HIV stigma. Of the three different sources of perceived social support examined (from family, friends and a "special person"), only perceived social support from friends was found to be related to perceived HIV stigma when controlling for the presence of other relevant factors. High perceived social support from friends was associated with less perceived HIV stigma. Other factors associated with low perceived HIV stigma included a lack of current symptoms of major depression, a longer time since HIV diagnosis and higher education. Information about the beneficial effects of perceived social support from friends and other factors can help to provide guidance to those working to decrease the negative impact of HIV stigma among HIV-positive African Americans.

INTRODUCTION

HIV/AIDS CONTINUES to disproportionately affect African Americans in the United States. According to the Centers for Disease Control and Prevention, although African Americans constitute approximately 13% of the U.S. population, in 2005 they made up almost half of all new HIV/AIDS cases in the United States in the 33 states with long-term, confidential name-based HIV reporting.¹ The im-

pact of HIV/AIDS in the African American community is even more pronounced when examining its presence among younger African Americans. Among those under 25 years of age whose diagnosis of HIV/AIDS was made during the period of 2001 through 2004 in the 33 states with confidential name-based HIV reporting, 61% of these were African Americans.¹ This strong presence of HIV in the African American community underscores the need to curtail the growth of this epidemic among

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African Americans. In addition, these numbers argue for the importance of ameliorating the negative consequences of HIV affecting African Americans living with the disease.

HIV-related stigma

One area negatively impacting those living with HIV in the African American community is the stigma associated with having HIV. Stigma can take two forms: perceived or enacted.² Perceived (or felt) stigma occurs when there is a real or imagined fear of societal attitudes regarding a particular condition and a concern that this could result in acts of discrimination directed to individuals with that condition. Enacted (or actual) stigma, in turn, refers to experiences of discrimination directed to individuals because of specific attributes or conditions that characterize them.

HIV-related stigma is closely associated with a number of negative consequences, including being labeled and stereotyped, experiencing separation from others, experiencing a loss in social status and being the recipient of actual discrimination and prejudice.³ Individuals living with HIV can be the target of such experiences from loved ones, such as family members and friends, as well as from coworkers, health care providers, employers, and others.^{2,4} Governmental public policies can also contribute to the stigmatization of HIV.²

Different conceptual or theoretical frameworks have been developed to guide the study of HIV-related stigma. These range from individualistic oriented models⁵ to those that emphasize the broader social context and unequal power relationships in which stigma finds its origins.^{6,7} This present study draws upon the conceptual model of perceived HIV stigma of Berger and colleagues,⁵ which focuses on an HIV-positive individual's perceptions of societal attitudes toward people with HIV, his/her own awareness of actual or potential social rejection, and his/her range of responses to these negative societal attitudes and behaviors. Despite the importance of models that emphasize the effects of power differentials due to issues such as race and class on HIV-related stigma, it is nevertheless still important to examine HIV-related stigma from the perspective of an

individual's perception of how this affects his/her own life.

Correlates of HIV-related stigma

HIV stigmatization can harm the lives of those living with HIV in many ways. These can include a loss in self-esteem as well as deteriorated social interactions with others.^{8,9} Additional negative correlates of stigmatization for HIV-positive people are depression, anxiety, loneliness, suicidal ideation, and poor treatment adherence.⁹⁻¹² Thus, there are a number of negative consequences associated with stigma, and stigma itself is usually conceptually composed of items that consist of social rejection, financial insecurity, internalized shame and social isolation/anomie.⁸

There are also other potential negative correlates of HIV-related stigma. For example, surprisingly, the literature has not examined to any significant degree the extent to which HIV-related stigma may be associated with maladaptive forms of alcohol consumption, using clinical measures of alcohol abuse or dependence, among HIV-positive people. When using alcohol screeners, HIV-positive individuals who perceive greater HIV-related stigma have been found to report more alcohol use.⁹ Given this association and also the fact that life stressors have been consistently shown to be associated with substance abuse, such as heavy drinking, among adults,¹³ one could expect to see a similar association between HIV-related stigma and clinical measures of alcohol abuse or dependence.

HIV stigma and African Americans

For a community disproportionately affected by HIV, African Americans also have the additional burden of dealing with the negative effects associated with the stigma of HIV. HIV-positive African American women have been found to report a fear of societal stigma related to HIV from a variety of sources, including family members, fellow church congregants, health care professionals and the broader community.¹⁴ Similarly, older female African American caregivers of HIV-positive people have reported not widely disclosing the HIV diagnosis of their loved ones because of the an-

ticipation of HIV-related stigma.¹⁵ African Americans, in fact, are more likely to state that there is a lot of discrimination against people living with HIV in the United States today compared to Latinos and whites.¹⁶

Managing HIV stigma

HIV-positive people can deal with the stigmatizing aspects of living with HIV through a number of ways. These usually are referred to as forms of "stigma management."^{15,17} Stigma management refers to the different strategies that can be used in addressing HIV-related stigma and have been described as ranging from reactive strategies to proactive strategies.¹⁷ Reactive strategies are those that involve avoiding or lessening the effects of the stigma, such as concealment and selective disclosure.¹⁷ Proactive strategies are those that actually confront the stigma, such as social activism.¹⁷ Between these polar opposites are a variety of intermediate forms of coping with HIV stigma. All of these strategies describe actual approaches that can be utilized by HIV-positive people to deal with the negative effects of HIV stigma on their lives.

How HIV-positive people manage HIV stigma and the strategies that they use can be influenced by the extent of social resources that they have available in their lives. Social resources refer to family, friends, and others who can provide emotional support to HIV-positive people, which in turn can increase their self-esteem and self-confidence.¹⁸ These social resources are important because they may effect the extent to which an individual feels impacted by HIV stigma in their own lives.

Perceived social support

One important aspect of social resources is the social support that one perceives as being available in one's life. Perceived social support refers to the beliefs or evaluations that one has about the relationships in one's life.¹⁹ Several benefits have been found to be associated with perceived social support. Individuals with high levels of perceived social support describe themselves in more positive and less negative terms compared to others.¹⁹ These positive self appraisals may in turn promote the develop-

ment of more effective coping skills that can be utilized when confronting specific situations.¹⁹

Another positive benefit of perceived social support is that it may allow individuals to deal more effectively with life stressors because they may believe that others will be there to help them if necessary.¹⁹ This sense that others are available to provide assistance can result in enhancing one's ability to cope with life challenges.

In contrast, the lack of perceived social support can have negative consequences for individuals. For example, psychological impairment among individuals facing a crisis has been found to be associated with low expectations of support from others such as family members, relatives or neighbors.²⁰ Such findings highlight the importance of not only the presence of others during times of crises but also of their perceived availability for support in managing life's challenges.

These observations are consistent with social support theory that hypothesizes that social support serves to protect individuals against the negative effects of stressors by leading them to interpret stressful occasions less negatively.²¹ This theoretical perspective focuses on an individual's perception of the availability of support for a stressful situation. When working from such a theoretical framework, measures of perceived social support are utilized that ask respondents to evaluate the quality or availability of different types of support or of support from different types of individuals.

Sources of social support

The importance of informal social support networks as sources of assistance for African Americans is well established.²²⁻²⁵ Informal social support is used by African Americans to address a variety of different problems, such as dealing with economic difficulties, housing issues or interpersonal problems with spouses or family members.²² These social support networks may include different types of members (e.g., family members or friends), whose availability or desirability for providing assistance in specific contexts may vary among themselves. For example, late middle-aged and older African American men living with HIV

report similar levels of social support from friends when compared to white HIV-positive men of the same age.²⁶ However, they report significantly more social support from immediate family members compared to the white HIV-positive men.

The use of informal social support networks by African Americans may also be dependent upon the specific nature of the problem for which help is being sought. For example, when dealing with a mental health problem, African Americans have been found to be less likely than whites to seek help from family members, friends, or religious leaders.²⁷ Thus it is important to identify the specific problem for which help is being sought when considering the extent to which African Americans may draw upon informal social networks for support.

Specific study aim

This study had the following specific aim: to determine the independent association of perceived social support from family, friends and a "special person" on perceived HIV-related stigma among HIV-positive African Americans after controlling for the presence of relevant covariates, including clinical measures for depression and alcohol abuse or dependence.

MATERIALS AND METHODS

Participants

A cross-sectional convenience sample of 283 HIV-positive African Americans was recruited from three social service agencies in Los Angeles, California, offering a variety of programs to individuals of low income. The data were collected from June 2005 through May 2007. These individuals were part of a larger study which examined the alcohol consumption patterns of African Americans living with HIV. Individuals were administered a survey and received \$45 for their participation.

Measures

Each participant provided information on their gender (male, female, or transgender/

other), year of birth, living situation, sexual orientation, annual income, year of HIV diagnosis, and highest level of formal education completed.

Current major depression and current alcohol abuse or dependence were assessed using the *Structured Clinical Interview for DSM-IV-TR Axis I Disorders (SCID-I) (Research Version)*.²⁸ Participants testing positive for either current major depression or alcohol abuse or dependence were provided with appropriate referrals for follow-up mental health or substance abuse care as necessary.

Perceived HIV-related stigma was assessed using the HIV Stigma Scale of Berger et al.⁵ The HIV Stigma Scale is a 40-item instrument developed to measure the stigma perceived by people living with HIV. Individuals are asked to respond to each item indicating whether they "strongly disagree," "disagree," "agree" or "strongly agree" with an item. Possible scores ranged from 40 to 160, with a larger scale score indicating a higher degree of perceived HIV-related stigma.

Four factors were identified by Berger and colleagues from their original sample of HIV-positive individuals: personalized stigma, disclosure concerns, negative self-image and concern with public attitudes toward people with HIV. Personalized Stigma (factor 1) identifies negative consequences of other people's knowing that an individual has HIV, such as experiences of rejection or fears of being rejected. Disclosure Concerns (factor 2) includes items related to controlling the information about one's HIV-positive status. Negative Self-Image (factor 3) refers to concerns about feeling unclean or not being as good as others because of being HIV-positive. Finally, Concern with Public Attitudes about People with HIV (factor 4) focuses on perceptions about what "most people" think about a person who has HIV or what individuals with HIV can expect from others when their HIV-positive status is discovered.

In the present sample, the HIV Stigma Scale had an α reliability score of 0.94. Using principal components analysis, four factors were identified. A factor analysis of these was done using a varimax rotation. We then compared the results of the present study to the information on the factor loadings provided by Berger

et al.⁵ for their scale items. Although Berger et al.⁵ stated that when an item loaded at 0.50 or better on more than one factor it was included in each of these factors, we used their determinations of which items loaded primarily on each of the four factors. We then discovered that our factors closely matched theirs. Factor 1 with the present sample included one additional item ("When people learn you have HIV, they look for flaws in your character.") and also had one item missing ("Since learning I have HIV, I feel set apart and isolated from the rest of the world.") compared to the Berger et al. version of the scale; Factor 2 had one additional item ("Since learning I have HIV, I worry about people discriminating against me.") compared to Berger and coworkers'; Factor 3 had one additional item ("Since learning I have HIV, I feel set apart and isolated from the rest of the world.") compared to Berger and coworkers'; and Factor 4 had two less items ("Since learning I have HIV, I worry about people discriminating against me." and "When people learn you have HIV, they look for flaws in your character.") compared to Berger and coworkers'. One of the original items ("Telling someone I have HIV is risky.") did not load onto any of the four factors; hence it was eliminated when the final scale was used in the bivariate and multivariate analyses. The α scores for the four subscales were as follows: Personalized Stigma, 0.93; Disclosure Concerns, 0.82; Negative Self-Image, 0.87; and Concern with Public Attitudes about People with HIV, 0.83.

Perceived social support was measured using the Multidimensional Scale of Perceived Social Support of Zimet.²⁹ This scale consists of twelve questions, four each measuring perceived social support from family members, friends, and "a special person." Participants were informed that "a special person" referred to a "significant other" or someone with whom the individual had a romantic relationship. Respondents then reported their agreement with the ideas reflected in each item using a 7-point scale from "very strongly disagree" to "very strongly agree." Each subscale had a possible range of scores from 4 to 28, with a higher score reflecting a higher level of perceived social support.

The subscales for each of the three categories of individuals (family, friends, and "a special

person") were treated separately for this study. The subscale for perceived social support from family had an α reliability score of 0.93, for perceived social support from friends 0.92 and for "a special person" 0.96.

Analysis

Descriptive statistics were obtained on all the study variables. The distribution of the variable, perceived HIV-related stigma, was examined using the letter-value displays function (*lv*) of Stata 9.0 (Stata Corporation, College Station, TX) in order to determine the spread of this variable among the sample participants. Bivariate and multivariate linear regressions were used to determine the variables predicting perceived HIV-related stigma. For the regression analyses, year of birth and year of HIV diagnosis were treated as continuous variables, sexual orientation was dichotomized as heterosexual and gay/bisexual/other, and some of the income categories were collapsed.

The multivariate model includes variables that were significant at the bivariate level at $p < 0.25$ following the recommendations of Hosmer and Lemeshow.³⁰ Annual income was associated with perceived HIV-related stigma at the bivariate level, but it was not entered into the multivariate model because of its correlation with education (Pearson $\chi^2(4) = 11.7, p = 0.02$). The education variable was chosen over the annual income variable for use in the multivariate model because it was more strongly related to perceived HIV stigma at the bivariate level. Additional bivariate and multivariate analyses were conducted separately with each of the four subscales of perceived HIV-related stigma; the results of these analyses are presented only for the multivariate models. All tests were conducted using Stata 9.0.

RESULTS

Sample characteristics

The sample characteristics are presented in Table 1. More than 70% of the participants were men, a quarter women, and approximately 4% transgender/other. Almost half were born in the 1960s and a third in the 1950s. Approxi-

TABLE 1. SAMPLE CHARACTERISTICS

<i>Variable</i>	<i>n</i>	<i>Percent</i>
Total	283	100
Gender		
Male	199	70.3
Female	73	25.8
Transgender/other	11	3.9
Year of birth		
1930s	2	0.7
1940s	8	2.8
1950s	96	33.9
1960s	136	48.1
1970s	35	12.4
1980s	6	2.1
Sexual orientation		
Heterosexual	133	47.0
Gay	101	35.7
Bisexual	47	16.6
Other	2	0.7
Year of HIV diagnosis ^a		
1980–1989	62	22.5
1990–1999	133	48.2
2000 or later	81	29.4
Highest level of formal education completed		
Elementary school	5	1.8
Middle school/junior high school	63	22.3
High school	128	45.2
Two-year/vocational college	68	24.0
Four-year college	18	6.4
Master's degree	1	0.4
Living situation		
Living alone	96	33.9
Temporary/transitional housing	80	28.3
Homeless	15	5.3
Living with roommate(s)	16	5.7
Living with family members	76	26.9
Annual income		
None	16	5.7
Less than \$5,000	79	27.9
\$5,001 to \$10,000	96	33.9
\$10,001 to \$15,000	46	16.3
\$15,001 to \$25,000	28	9.9
Greater than \$25,000	18	6.4
Current major depression		
Yes	89	31.5
No	194	68.6
Current alcohol diagnoses ^b		
Alcohol abuse	34	12.0
Alcohol dependence	17	6.0
Either alcohol abuse or dependence	38	13.4

The percentages do not always add to 100% due to rounding.

^aThe total does not add up to 283 because of missing values for some individuals.

^bThese categories are independent of each other and hence the numbers do not add up to 283 and the percentages do not add to 100%.

mately, 80% was aged 40 years or older. The sample had slightly more gay/bisexuals than heterosexuals. Slightly less than a third was diagnosed with HIV since 2000, about half during the 1990s and over a fifth during the 1980s.

Slightly less than half reported their highest level of formal education as being their high school education, almost a third had some type of college degree, and about a quarter had a middle school/junior high school education or

less. A third of the sample reported living alone, slightly more than a quarter lived in temporary/transitional housing and another quarter lived with family members. A much smaller percent lived with roommates or were homeless. The overwhelming majority (over two thirds) reported an annual income of \$10,000 or less.

Almost a third met the criteria for current major depression using a clinical diagnostic measure. Smaller percentages met the criteria for a clinical diagnosis of alcohol abuse (12.0%), alcohol dependence (6.0%), or either alcohol abuse or dependence (13.4%). Additional analysis found that 6.03% of the men met the criteria for both alcohol abuse and dependence as did 1.37% of the women.

The mean reported scores and standard deviations (SD; in parentheses) for the subscales of the Multidimensional Scale of Perceived Social Support scale were as follows: for perceived support from a special person, 18.7 (8.48 SD), for perceived support from family members, 19.2 (7.13 SD), and for perceived support from friends, 20.0 (6.27 SD).

Summary statistics of perceived HIV-related stigma and related factors

The 40-item HIV Stigma Scale, which we subsequently used to compare with the findings from another study of HIV-positive African American men, had a mean value of 100.7 and a reported range of from 49 to 156. The modified HIV Stigma Scale (with 1 item eliminated as mentioned above) had a possible range of from 39 to 156. The mean reported score for the modified HIV Stigma Scale was 97.5 with a standard deviation of 17.5. The median value of the scale was 96.5. The lower bound of the interquartile range (IQR) was 86 and the upper bound 109. The halfway point of the IQR, the midsummary, was 97.5. This suggests that the distribution was fairly symmetrical, since the value of the midsummary is almost the same as the median.

The extreme values reported for perceived HIV-related stigma were 51 and 153. There were only 4 mild outliers, according to the criteria of the *lv* function of Stata 9. Two of these were above the IQR and 2 below. There were no severe outliers, using the same criteria.

Abbreviated summary statistics of the 4 perceived HIV-related stigma subscales are provided as follows, again with a higher score meaning a greater agreement with perceiving that type of HIV stigma described: Personalized Stigma, possible range of 16–64, mean value of 36.0 (SD 8.8); Disclosure Concerns, possible range of 8–32, mean value of 22.0 (SD 4.1); Negative Self-Image, possible range of 9–36, mean value of 19.9 (SD 4.8), and Concern with Public Attitudes about People with HIV, possible range of 6–24, mean value of 16.9 (SD 3.3).

Predictors of perceived HIV-related stigma

Table 2 shows the results of bivariate and multivariate analyses used to determine the predictors of perceived HIV-related stigma. In the bivariate analyses, perceived social support from family and perceived social support from friends were found to be inversely associated with perceived HIV-related stigma. We did not find an association between perceived social support from a special person and perceived HIV-related stigma at the bivariate level.

Both of the clinical measures (current major depression and current alcohol abuse or dependence) were found to be positively related to perceived HIV-related stigma at the bivariate level. Those who met the clinical criteria for a current major depression reported a higher level of perceived HIV-related stigma in comparison to those who did not meet the criteria. Similarly, those who met the clinical criteria for either current alcohol abuse or alcohol dependence reported a higher level of perceived HIV-related stigma compared to those who did not meet the criteria.

With regards to other demographic factors, lower levels of HIV-related stigma were found for gay/bisexuals/others compared to heterosexuals, for individuals with a college degree compared to those who completed only middle school or junior high school, and for those with an annual income greater than \$10,000 compared to those with no income or less than \$5,000. In contrast, "year of HIV diagnosis" was positively associated with perceived HIV-related stigma. That is, a more recent diagnosis of HIV was associated with increased per-

TABLE 2. PREDICTORS OF PERCEIVED HIV-RELATED STIGMA

Variable	Bivariate ^a		Multivariate ^{b,c}	
	b	95% CI	b	95% CI
Gender				
Male		Reference		Reference
Female	2.61	-2.09-7.32	0.38	-4.89-5.65
Transgender/other	8.19	-2.94-19.3	7.18	-3.12-17.5
Year of birth	0.15	-0.12-0.42		
Sexual orientation				
Heterosexual		Reference		Reference
Gay/bisexual/other	-4.09*	-8.19-0.004	-3.00	-7.69-1.69
Year of HIV diagnosis	0.35*	0.03-0.67	0.34*	0.04-0.64
Highest level of formal education completed				
Middle school/junior high school		Reference		Reference
High school	-3.47	-8.59-1.65	-2.09	-6.97-2.79
College (2 years, 4 years or master's)	-8.92**	-14.4--3.42	-7.05**	-12.3--1.76
Living situation				
Living alone		Reference		Reference
Temporary/transitional housing	1.92	-3.32-7.15	-0.54	-5.34-4.27
Homeless	7.47	-2.09-17.0	-1.18	-10.5-8.09
Living with roommate(s)	3.37	-5.94-12.7	3.07	-5.77-11.9
Living with family members	0.35	-4.98-5.68	-1.87	-6.88-3.14
Annual income ^d		Reference		
None to less than \$5,000				
\$5,001 to \$10,000	-3.76	-8.75-1.22		
Greater than \$10,000	-6.19*	-11.2--1.17		
Current major depression				
No		Reference		Reference
Yes	12.4***	8.21-16.6	10.5***	6.33-14.7
Either current alcohol abuse or dependence				
No				
Yes	6.50*	0.54-12.5	3.84	-1.96-9.65
Perceived social support from a special person	-0.08	-0.33-0.16		
Perceived social support from family	-0.32*	0.61--0.04	-0.08	-0.40-0.23
Perceived social support from friends	-0.62***	-0.94--0.30	-0.37*	-0.74--0.003

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$.

^aAll bivariate models, with one exception, had a sample size of 280 due to missing data from some individuals. The exception was for the year of HIV diagnosis which had a sample size of 273.

^bThe multivariate model had a sample size of 273 because of missing data from some individuals.

^cMultivariate model includes only the variables that were significant at the bivariate level at $p \leq 0.25$.

^dAnnual income was associated with perceived HIV-related stigma at the bivariate level. However, it was not entered into the multivariate model because of its correlation with education.

ceived HIV-related stigma at the bivariate level.

For the multivariate analysis, all of these significant variables were included in the analysis (with the exception of annual income as previously mentioned), as were those that were significantly associated with perceived HIV-related stigma at $p < 0.25$ at the bivariate level (gender and living situation). In the multivariate model, perceived social support from friends remained inversely associated with perceived HIV-related stigma. Similarly, lower levels of HIV-related stigma were continued to be found for individuals with a college degree

compared to those who completed only middle school or junior high school. A more recent diagnosis of HIV and meeting the criteria for current major depression both continued to be associated with a higher level of perceived HIV-related stigma.

Table 3 shows the results of multivariate analyses used to determine the predictors of each of the four subscales of perceived HIV-related stigma: Personalized Stigma, Disclosure Concerns, Negative Self-Image, and Concern with Public Attitudes about People with HIV. Only one of the perceived social support variables (perceived social support from friends)

TABLE 3. MULTIVARIATE PREDICTORS OF EACH OF THE PERCEIVED HIV-RELATED STIGMA SUBSCALES

Variable	Personalized stigma ^a		Disclosure concerns ^b		Negative image ^c		Concerns with public attitudes about people with HIV ^d	
	b	95% CI	b	95% CI	b	95% CI	b	95% CI
Gender								
Male								
Female								
Transgender/other								
Year of birth			0.03	-0.03-0.10				
Sexual orientation								
Heterosexual		Reference						
Gay/bisexual/other	-1.18	-3.23-0.87	-0.39	-1.37-0.58	-1.05	-2.36-0.26	-0.22	-1.01-0.57
Year of HIV diagnosis	0.10	-0.06-0.25	0.12**	0.04-0.20			0.06*	0.002-0.12
Highest level of formal education completed								
Middle school/junior high school		Reference						Reference
High school	-1.15	-3.65-1.34	0.05	-1.12-1.22	-0.60	-1.94-0.74	-0.38	-1.35-0.60
College (2 years, 4 years or master's)	-2.92*	-5.61--0.22	-1.45*	-2.73--0.17	-1.66*	-3.14--0.19	-0.97	-2.03-0.08
Living situation								
Living alone		Reference						
Temporary/transitional housing	0.25	-2.22-2.72	-0.35	-1.52-0.82	0.01	-1.35-1.36		
Homeless	0.26	-4.46-4.98	0.24	-1.99-2.48	0.28	-2.26-2.82		
Living with roommate(s)	2.16	-2.40-6.71	-0.26	-2.42-1.90	-0.25	-2.67-2.17		
Living with family members	-1.33	-3.91-1.25	-0.10	-1.32-1.13	-0.45	-1.85-0.95		
Current major depression								
No		Reference						Reference
Yes	5.15***	3.00-7.30	1.24*	0.23-2.25	2.68***	1.51-3.85	1.43***	0.60-2.27
Either current alcohol abuse or dependence								
No		Reference						
Yes	1.30	-1.69-4.28	0.75	-0.66-2.16	1.31	-0.29-2.92		
Perceived social support from a special person								
Perceived social support from family	-0.07	-0.24-0.09	-0.04	-0.11-0.04			-0.01	-0.08-0.05
Perceived social support from friends	-0.13	-0.32-0.06	-0.03	-0.12-0.06	-0.10*	-0.19--0.01	-0.05	-0.12-0.02

* $p \leq 0.05$.

** $p \leq 0.01$.

*** $p \leq 0.001$.

^a $n = 274$.

^b $n = 276$.

^c $n = 282$.

^d $n = 275$.

The multivariate models include only the variables that were significant at the bivariate level at $p \leq 0.25$. Annual income was not entered into the multivariate model because of its correlation with education.

was found to be significantly associated with each of these four outcome variables at a bivariate level (results not shown). However, when it was introduced in multivariate models, it remained significant only in the case of negative self-image. Greater perceived social support from friends was associated with a lower negative self-image about being HIV positive.

Additional analysis using the mediation testing techniques of Baron and Kenny³¹ (results not shown) found that perceived social support from friends served as a mediator in the association between current major depression and a negative self-image about being HIV-positive (a domain of the perceived HIV-related stigma scale). That is, when perceived social support from friends was introduced into the model with negative self-image as the dependent variable, the statistically significant coefficient associated with current major depression was reduced but remained significant.

Current major depression was the only variable related to each of the four components of perceived HIV-related stigma, with current major depression's being associated with a greater amount of each stigma attribute. "Year of HIV diagnosis" was positively associated with concerns about disclosure of HIV status and concerns about public attitudes about people with HIV, with individuals with a more recent diagnosis reported greater levels of concern about both of these issues. Having a college education was associated with lesser reported personalized stigma, disclosure concerns and a negative self-image.

DISCUSSION

Characteristics of the sample

The study sample was drawn from social service agencies in Los Angeles, California, providing a variety of programs to HIV-positive people of low income. Hence, it is not surprising that over two thirds of this African American HIV-positive sample reported an annual income of \$10,000 or less. These, then, were individuals of limited financial resources relying on the assistance of social service providers for meeting not only their HIV-related needs but

also for other basic services, such as assistance with obtaining food and housing.

Close to half reported that they had been diagnosed as HIV-positive during the 1990s, and almost a quarter during the 1980s. Thus, many were individuals who had been living with HIV for a considerable period of time, in some cases for over 20 years.

Perceived HIV-related stigma

The HIV-positive African Americans of this study were found to have a wide range in their perceptions of HIV-related stigma. In addition, they reported a lower level of perceived HIV-related stigma and a broader range of opinions concerning perceived HIV stigma when compared to another sample of HIV-positive African Americans who were administered the same HIV stigma scale.³² Whereas the participants in our survey had a mean value of 100.7 (SD 18.6) based on the 40-item HIV Stigma Scale and a range of 49 to 156, the HIV-positive African American men interviewed by Buseh et al.³² had a mean value of 110.4 (SD 17.4) and a range of 73 to 160. It is not immediately clear why this difference was found between the two samples. However, the smaller range of scores in the Buseh et al. study may have been due to some extent to their smaller sample size ($n = 55$) resulting in a less diverse sample than that of the present study.

Association between perceived social support and perceived HIV-related stigma

For this sample of HIV-positive African Americans, of the three perceived social support measures, only perceived social support from friends was found to be inversely related to perceived HIV-related stigma, after controlling for the presence of other relevant factors. However, perceived social support from friends was not found to function in a similar manner with the four different components of perceived HIV-related stigma. Its association with perceived HIV-related stigma occurred only with its inverse association with a negative self-image of being HIV-positive.

There is support in the literature for these particular findings of the important role of social support in the lives of HIV-positive peo-

ple. In a study of 301 HIV-positive Latino gay and bisexual men, Zea et al.³³ found that the quality of the social support received by friends was positively associated with self-esteem, an indicator of how an individual perceives himself, similar to self-image. In addition, social support has been found to be inversely related to depression among men and women living with HIV.³³⁻³⁵

Although we did not ask about the HIV serostatus of the individuals who made up these friendship networks, it is possible that many of these friends may have consisted of persons who were themselves HIV-positive. This may have been the case because all of the participants were recruited from organizations serving HIV-positive people and these agencies typically offer opportunities for HIV-positive people to meet each other and engage in formal and informal interactions. It would also be consistent with what has been reported by older HIV-positive individuals, with their friendship networks sometimes having a large number of other adults living with HIV.³⁶

Other predictors of perceived HIV-related stigma

Meeting the criteria for current major depression was found to be significantly associated with perceived HIV-related stigma. This finding is consistent with that reported in the literature, where depressive symptoms have been found to be correlated with stigma-related experiences.¹¹ Given the cross-sectional nature of the present study, we are not able to definitively state whether the perceived HIV-related stigma preceded the clinical depression or the reverse. Although depression could be an expected response to a perception of HIV-related stigma, it is also possible that being depressed could affect one's perception of HIV-related stigma.

Some literature has found that living longer with HIV is associated with positive outcomes, such as ruminating less on the events leading up to one's HIV diagnosis, reporting less trauma by their diagnosis initially and reporting fewer depressive symptoms.³⁷ These findings suggest that living longer with HIV could be associated with adjusting over time to one's HIV-positive status. This is consistent with the

findings of our study, where a more recent diagnosis of HIV was associated with increased perceived HIV-related stigma. Medical and other providers of services to HIV-positive African Americans need to be aware that newly or recently diagnosed individuals may be more likely to perceive stigma related to HIV compared to those living longer with the disease and thus may benefit from referrals to mental health services to help them cope with such experiences.

Having a college degree was associated with lower levels of perceived HIV-related stigma. In addition, annual income was also associated with lower levels of perceived HIV-related stigma when examined at the bivariate level. Both of these findings suggest that HIV-positive African Americans of higher socioeconomic status may have fewer experiences of HIV-related stigma and hence have lower perceptions of it, in comparison to HIV-positive African Americans with only a middle school or junior high school education or with less than \$5,000 annual income. Additional research can help to identify the extent to which this explains the lower levels of perceived HIV-related stigma among HIV-positive African Americans of higher socioeconomic status.

Additional findings

Almost a third of the participants met the clinical criteria for current major depression. Given that all of these individuals were recruited through HIV-related agencies and thus are already connected to services and programs, this finding demonstrates the need for HIV service providers to identify individuals presenting with symptoms of depression and then connecting them with mental health services as necessary.

A little over 13% met the criteria for current clinical alcohol abuse or dependence. No data exist among the general population of African Americans with which to compare this finding. However, comparable data do exist for information on African Americans who meet the criteria for both alcohol abuse and dependence. In the present sample, 6.03% of the men fit this category as did 1.37% of the women. In general population studies of African Americans,

2.90% of African American men meet the criteria for both alcohol abuse and dependence as do 1.23% of the women.³⁸ Thus the men of this sample had a prevalence of a combined alcohol abuse and dependence diagnosis that was over twice that found in the general population, whereas the prevalence for the women of the sample was only slightly above that of the general population. The finding for the men is consistent with previous data which have found a higher percentage of heavy drinkers among HIV-positive people compared to the general population.³⁹ This finding also highlights the importance of screening HIV-positive individuals for alcohol abuse or dependence and referring them to treatment services as needed.

Limitations

This study involved a convenience sample of HIV-positive African Americans who access the services of social service agencies. Hence, we are not able to generalize from these findings to the population of HIV-positive African Americans. In addition, no additional information was taken on the quality of the relationships or the frequency of contact with the individuals' family members, friends or "special persons" about whom the participants were asked to describe their degree of perceived social support. Such information would be valuable in determining the characteristics of their social network members which are associated with lower perceived HIV-related stigma.

This study was cross-sectional in nature. Thus we are not able to make causal inferences with regards to the associations that were obtained among the variables in the results. So, for example, with regards to the finding that greater perceived social support from friends was associated with a lower negative self-image about being HIV-positive, we are not able to say that this association was because perceived higher social support from friends results in lower negative self-image about being HIV-positive or whether it was because individuals with a positive self-image are better at seeking out and establishing social support once diagnosed with HIV.

Additionally, the literature provides evidence that social support can have both positive and negative aspects (for example, having social support can provide someone with whom to share one's problems but also the person providing support can become a source of new problems for an individual).²⁰ Thus we do not know the extent to which those providing support to the participants of this study were also sources of stress for them, or even included individuals who engaged in HIV-related discriminatory behaviors toward the participants. Providers of services to HIV-positive African Americans need to be aware of both of these dimensions of social support when assessing an individual's support system.

Finally, it is also possible that the level of perceived stigma reported in this sample of African American adults recruited from HIV service organizations may differ significantly from individuals who do not access such services. The sample may overrepresent those who have the resources and desire to seek out services for their HIV and thus may experience relatively lesser stigma than individuals who do not access such organizations.

Nevertheless, despite these limitations, this study was able to identify the importance for HIV-positive African Americans of perceived social support from friends as a way of decreasing their perception of HIV-related stigma. Thus, as a way of helping HIV-positive African American clients deal with HIV-related stigma, service providers should talk with them about the availability of friends in their lives and also about the quality of these relationships. For individuals with limited support networks, service providers should refer such clients to support groups for HIV-positive African Americans or other organizations where supportive networks could potentially develop. This should be done in particular with individuals who are recently diagnosed with HIV.

Future studies should examine the extent to which specific types of actual social support received from friends may be helpful in ameliorating experiences of discrimination among HIV-positive African Americans. Such information could help to provide guidance to mental health practitioners and others working to

decrease the negative impact of HIV-related stigma among HIV-positive African Americans.

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