

CONCERNS ABOUT STIGMA, SOCIAL SUPPORT AND QUALITY OF LIFE IN LOW-INCOME HIV-POSITIVE HISPANICS

Persons living with HIV in the United States face social stigma related to their health conditions. The present study evaluated the relationship between concerns about HIV-related stigma, quality of life, and social support and evaluated social support as a possible pathway contributing to the relationship between stigma concerns and quality of life in low-income Hispanics living with HIV ($N=160$). Persons who expressed greater HIV-related stigma concerns in the context of receiving medical care reported poorer psychological functioning ($R^2 \Delta=.08, P<.01$), lower physical functioning ($R^2 \Delta=.03, P<.05$), and a decreased ability to complete daily activities ($R^2 \Delta=.06, P<.01$). In addition, higher levels of stigma concerns were associated with lower social support ($R^2 \Delta=.15, P<.001$). Mediation analyses showed that social support accounted, in part, for the relationship between stigma concerns and physical functioning ($z=2.16, P<.05$), psychological functioning ($z=3.18, P<.001$), and interference with daily activities ($z=2.95, P<.01$). Interventions directed toward dispelling HIV-related social stigma by educating patients, communities, and physicians would be beneficial to improve quality of life in Hispanics living with HIV. (*Ethn Dis.* 2009;19:65–70)

Key Words: Hispanic, HIV/AIDS, Quality of Life, Social Support, Stigma

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INTRODUCTION

Persons living with HIV may face substantial stigma in their daily lives as a result of misconceptions, fears, and negative perceptions directed toward those diagnosed with HIV.^{1,2} Furthermore, HIV-related stigma is associated with a variety of negative outcomes in patients, including worse quality of life, emotional adjustment, poorer medication adherence, and a greater tendency to engage in risk behaviors.^{3–7} Persons who experience HIV-related stigma concerns also have a lower rate of disclosure to partners and families,^{3,7} report fewer positive social interactions,⁸ and describe a more negative home environment.⁶ Thus, stigma may influence multiple aspects of quality of life and health in HIV-positive persons.

The association between perceived stigma and interpersonal functioning is especially notable, since social support relates to physical⁹ and psychological outcomes¹⁰ in people living with HIV/AIDS. Concerns about stigma may degrade opportunities for social support by leading persons with HIV to conceal their illness or isolate themselves from others, and a climate of stigma surrounding HIV/AIDS may foster active social exclusion of those who most need support. Thus, in part, stigma concerns could influence quality of life and other health outcomes in HIV-positive persons through its effects on social relationships.

Although few studies to date have explored the association between stigma and health in Hispanics, at least some research suggests that this population reports higher levels of HIV-related

stigma when compared to other ethnic groups.¹¹ In addition, Hispanics are nearly twice as likely as African Americans to perceive discrimination when receiving clinical care, and this may contribute to increased concerns about stigma in the healthcare context.¹² A recent study found that concerns about stigma were reported as a barrier to care in 65% of HIV-positive Hispanic patients who reported at least one perceived barrier to healthcare.¹³

Exploring constructs such as stigma that may affect health in HIV-positive Hispanics is of particular importance given the marked escalation in HIV/AIDS cases in this population. Hispanics in the United States experienced a 33% increase in HIV prevalence between 2001 and 2005.¹⁴ Furthermore, Hispanics and other minority groups living with HIV may experience multiple sources of stigma that can compound negative consequences.^{11,15} Specifically, factors such as minority status, socioeconomic status, and cultural beliefs that condemn behaviors often associated with HIV transmission, such as homosexuality and drug use,¹⁶ can all contribute to stigma experiences. In Hispanics, cultural constructs such as *familismo*, or the belief that the family should be placed above the individual's needs,¹⁷ and *personalismo*, a cultural norm that emphasizes strong social ties in everyday living,¹⁸ may interact with stigma and its relationship with quality of life. Moreover, considering the cultural emphasis on social relationships, the stigma may be particularly deleterious on social functioning. These findings suggest the need for additional

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research that considers how concerns about stigma may influence health in Hispanics living with HIV.

We explored the relationships among concerns about stigma in the context of receiving medical care, social support, and quality of life in Hispanics (primarily Mexican American) with low socioeconomic status. Social support was explored as one mechanism through which stigma could affect quality of life, given the strong emphasis on interpersonal relationships in the Hispanic culture, as well as previously observed associations between stigma and social functioning^{19,20} and between social support and health in people living with HIV.^{21,22} Although the current study focused explicitly on subjects' concerns over HIV-related stigmatization as it relates to seeking medical care, persons who fear stigmatization in treatment settings are likely to worry about stigma in other situations as well. Thus, the findings from this study can provide preliminary but general information about the effect of HIV-related stigma concerns on health outcomes in Hispanics.

METHODS

Participants

From June through October 2003, 160 HIV-positive Hispanics were re-

cruited to complete a quality-of-care survey at San Ysidro Health Center (SYHC), a community health clinic that primarily serves a low-income Hispanic population. Participants were eligible to participate if they received HIV/AIDS care at SYHC. Because of the nature of the survey (ie, satisfaction with and quality of care) and the need for a short administration time, language of the survey and detailed sociodemographic data were not collected. Information about the general HIV-positive population at the clinic shows that 80% are monolingual Spanish speaking. We extrapolated poverty level of the sample by examining poverty level in the entire patient population at the SYHC. Fifty-four percent (18,636) of SYHC patients live at or below 100% of the federal poverty level, and 22% (7527) of all patients are uninsured. These data demonstrate that SYHC has a high percentage of low-income families. Other sample characteristics are reported below.

Procedures

This study used archival data from the quality-of-care survey administered as part of the Southern California Border HIV/AIDS Project evaluation.²³ The survey consisted of 218 items that assessed demographic characteristics, system factors (eg, perceived patient access to medical services), and psychosocial and behavioral factors relevant to HIV. Minor adaptations were made to the surveys originally developed and translated by the measurement group²⁴ for the Southern California Border HIV/AIDS Project, with regard to reading level, verb tense, and specific services provided at SYHC. In some cases, measures were reduced to accommodate limited time available to complete the survey. The survey was self-administered; however, trained, bilingual research aides provided assistance when necessary. Participants were compensated \$30 for their time and effort. Approval was obtained from San Diego State University's insti-

tutional review board for secondary analysis of these data.

Measures

The survey included a measure of barriers to care created by the measurement group and adapted for the Southern California Border HIV/AIDS Project.²⁵ Based on their face validity and apparent relevance to the stigma construct,¹³ three items from this scale were extracted as a measure of stigma-related concerns for the current study. These items were "I worry that somebody might find out that I have HIV if I get medical care," "I worry that people will think bad of me because I am HIV-positive," and "I worry that my family and friends will be against me receiving HIV medical services." The response options included yes, no, and "I don't know." The 3 items were summed, with scores ranging from 0 (no items endorsed) to 3 (all items endorsed). Responses of "I don't know" counted as "no" (20 responses across all items and participants). Cronbach α for this three-item scale was adequate (.65).

The 23-item quality of life assessment²⁶ was subjected to factor analysis, which resulted in a three-factor solution accounting for 63.6% of the variance. Five items that cross-loaded were dropped, and Cronbach α estimates for the three resulting subscales were excellent (.82 to .85). The physical functioning subscale consisted of six items, eg, "In general walking up a hill or climbing a few flights of stairs is..." Response choices were "limited a lot," "limited a little," or "not limited at all." The psychological functioning subscale contained six items, eg, "In general I have difficulty with reasoning and problem solving" and "In general I feel sad and downhearted." Responses on a five-point Likert scale ranged from "all the time" to "a little of the time." The interference with daily living subscale consisted of six items, eg, "During the past 4 weeks to what extent has your physical health or emotional problems

interfered with your social activities?" Response options were "not at all," "slightly," "moderately," "quite a bit," and "extremely." Items for each subscale were summed, with higher scores on the mental and physical functioning scores representing better functioning, and higher scores on the activities of daily living scale indicating less interference with daily living (reverse coded).

Social support was measured with the 19-item Medical Outcomes Study Social Support Survey.²⁷ This scale measures emotional and informational support, tangible support, affectionate support, and positive social interaction and is reliable in medically ill patients.²⁷ A composite score was created by summing the four subscales, creating a continuous overall support index, which was reliable in the current sample ($\alpha=.96$).

Participants responded to standard self-report questions assessing their age, sex, sexual orientation, educational attainment, and immigration status. Questions assessing education and immigration were added halfway through the survey and were therefore available in only a subset of participants ($n=69$). Items assessing length of time receiving care at SYHC and access of care in the past month were also examined to describe the sample. Immune status data were obtained on a subset of participants ($n=121$) who had available medical charts with recent (within six months of the survey) CD4 cell counts.

Statistical Analyses

All variables were standardized as z scores before analysis. Multivariate regression analyses were performed to examine associations between concerns about stigma and quality of life, after controlling for relevant covariates. Age and sex were controlled in quality-of-life analyses, and CD4 counts were also controlled in secondary analyses. We did not control for CD4 counts in the primary quality-of-life analyses because of the large amount of missing data.

Analyses of perceived social support controlled for age, sex, and sexual orientation, since these variables relate to social support^{20,28} in HIV-positive persons. Because of the reduced sample size for education, we did not control for this variable in any analysis. However, preliminary analyses showed that stigma concerns did not relate significantly to education in the subset of participants with education data.

To test whether social support is a mechanism by which stigma concerns affect quality of life, a mediation analysis was undertaken by following a causal steps approach.^{29,30} Associations between the independent variable, stigma, and the outcome, quality of life, and between stigma and the mediator, social support, were established in the primary analyses described above. The third criterion involved establishing the relationship between the mediator, social support, and the outcome, quality of life, while simultaneously accounting for the relationship between stigma and quality of life, via multivariate regression analysis. This testing of joint significance has the best balance of type I error and statistical power.³¹ The Goodman Sobel equation was used to examine statistical evidence for mediation.³²

RESULTS

The sample was predominantly male ($n=124$, 77.5%), with ages ranging from 20 to 65 years (mean 39.4 years). Sixty-nine participants (44%) self-identified as homosexual 70 (44%) as heterosexual, 17 (10.6%) as bisexual, 1 as unsure, and 3 did not respond. Of the participants who reported educational attainment ($n=69$), 29 (42%) reported less than high school, 16 (23%) reported a high school diploma, and 19 (28%) reported a college degree. Of the participants who reported immigration status ($n=69$), 65 (94%) were first-generation Mexican immi-

grants, 3 were born in the United States, and 1 was born in Central America. Thirty-eight participants (24%) had been receiving care at SYHC for less than six months, and 122 (74%) had been receiving care at the center for more than a year. Most participants ($n=109$, 68%) reported that they had visited the health center in the past month in addition to the visit at the time of the assessment, which indicates good access to and continuity of care. We obtained information about prescription of antiretroviral medications on a subset of participants ($n=71$). Of these participants, only 8 reported having ever been prescribed antiretroviral medications. Participants appeared to be in good overall health. In those with CD4 data ($n=121$), the mean count was 359 (standard deviation [SD] 250) cells/ μ L, and \approx 58 of 114 participants had an undetectable viral load.

On average, participants obtained a perceived stigma score of .98 (SD=1.07). Forty eight percent of the sample endorsed none of the perceived stigma items, 16.6% endorsed 1 item, 25.8% endorsed 2 items, and 9.8% endorsed all 3 items. The sample reported relatively good quality of life and social support. The mean physical health score was 19.0 (SD=4.4, possible range 0 to 24), average psychological functioning was 31.5 (SD=6.7, possible range 0 to 42), and the mean activities of daily living scale score was 25.8 (SD=5.8, possible range 0 to 32). Overall social support score was a mean of 79.1 (SD=16.8, possible range 0 to 95).

Hierarchical Multivariate Regression Analyses: Concerns about Stigma in Relation to Quality of Life and Social Support

After controlling for age and sex, higher concerns about HIV-related stigma were associated with poorer psychological functioning ($R^2=.15$, $F(3,150)=8.29$, $P<.001$), lower physical functioning ($R^2=.15$,

Table 1. Results of multivariate hierarchical regression analyses regressing quality of life, social support, on stigma concerns

Dependent Variable	Stigma Concerns					
	R ² Δ	F-Change	B (SE)	β	t test	Bivariate r
Physical Functioning* (n=156)	.03	5.44¶	-.17 (.07)	-.18	-2.33¶	-.22§
Psychological Functioning* (n=150)	.08	15.07§	-.30 (.08)	-.30	-3.88‡	-.33§
Daily Living* (n=156)	.06	12.13§	-.25 (.07)	-.25	-3.48‡	-.30§
Overall Social† Support (n=147)	.15	26.71‡	-.40 (.07)	-.40	-5.17‡	-.41§

* Analyses control for age, sex
 † Analyses control for age, sex and sexual orientation
 Significant findings in bold
 ‡ P<.001
 § P≤.01
 ¶ P<.05

F(3,156)=8.93, P<.001), and a decreased ability to complete daily activities (R²=.19, F(3,156)=12.11, P<.001) (Table 1). In addition, a greater fear of stigma related to lower levels of overall social support, (R²=.44, F(3,147)=8.39, P<.001) after controlling for age, sex, and sexual orientation.

In secondary quality of life analyses that included CD4 counts in addition to other covariates, stigma concerns were no longer significantly related to physical functioning (n=117), R² Δ=.02, β=-.14, P=.10. However, stigma remained a significant predictor of activities of daily living (n=117), R² Δ=.08, β=-.29, P<.001, and psychological functioning (n=112), R² Δ=.10, β=-.31, P<.001. Although

control for CD4 counts led to a nonsignificant relationship between stigma and physical functioning, the reduction (.04) in the beta weight for this variable was small. Thus, attenuated power due to decreased sample size probably contributed to the lack of significant relationship.

Mediation Analyses

Analyses shown in Table 1 establish the preliminary criteria for mediation, by demonstrating that concerns about stigma relate to both the proposed outcomes (quality of life) and to the proposed mediator (social support). In addition, as shown in Table 2, both stigma and social support were significantly related to psychological function-

ing and activities of daily living when included simultaneously in regression equations. In contrast, social support, but not concerns about stigma, predicted physical functioning in this testing of joint significance. Critical ratios showed that social support, in part, mediated the relationship between stigma and psychological functioning (z=3.18, P<.001), physical functioning (z=2.16, P<.05), and interference with daily activities (z=2.95, P<.01). After accounting for indirect effects through social support, unstandardized regression coefficient weights for stigma were reduced by 43%, 47%, and 24% for psychological functioning, physical functioning, and activities of daily living, respectively. When simultaneous regres-

Table 2. Results of hierarchical regression analysis regressing quality of life outcomes on social support and stigma concerns: a test of mediational joint significance

Outcome	B (SE)	β	t test	Goodman Sobel Test
Physical Functioning (n=151)				
Stigma Concerns	-.09(.08)	-.10	-1.16	
Social Support	.06(.02)	.23	2.81†	2.16‡
Psychological Functioning (n=151)				
Stigma Concerns	-.17(.08)	-.17	-2.06‡	
Social Support	.09(.02)	.32	3.99*	3.18*
Activities of Daily Living (n=151)				
Stigma Concerns	-.19(.07)	-.19	-2.42‡	
Social Support	.07(.02)	.26	3.31‡	2.95†

Note: All analyses controlled for age and sex. Significant findings in bold.
 * P≤.001
 † P≤.01
 ‡ P<.05

Greater stigma concerns in the context of receiving medical care were associated with poorer psychological functioning, lower physical functioning, more difficulties in completing daily activities, and lower levels of overall social support.

sion analyses and Sobel tests were repeated using data from analyses that controlled for CD4 counts (and other covariates), social support was still found to partially mediate the association between stigma and psychological functioning ($z=2.89$, $P<.01$) and activities of daily living ($z=2.91$, $P<.01$). Because concerns about stigma were not related to physical functioning in the analysis controlling for CD4, this analysis was not repeated for this outcome.

DISCUSSION

The current study identified a strong relationship between HIV-related stigma concerns and quality of life. Greater stigma concerns in the context of receiving medical care were associated with poorer psychological functioning, lower physical functioning, more difficulties in completing daily activities, and lower levels of overall social support. In addition, social support was found to mediate, in part, the relationship between stigma and each facet of quality of life assessed. Indeed, the indirect effect of stigma through social support explained between 24% and 47% of the variance shared between stigma and quality of life. Higher levels of stigma in a person's life may reduce his ability to form social

relationships, degrade existing support, and interfere with access to adequate levels of social support by promoting social isolation and exclusion. Furthermore, social support can be a protective factor, improving psychological and physical functioning in persons living with HIV.¹⁹ Having social support in one's life may also facilitate the completion of daily activities, and this may represent one mechanism through which increased stigma contributed to quality of life in the current sample.

The ordering of the hypothesized associations among stigma, social support, and quality of life cannot be determined with certainty. Nonetheless, research suggests that concerns of being stigmatized can lead to loneliness, marginalization, and exclusion from social groups.¹⁹ The cultural construct of *personalismo* assigns a high value to social relationships, possibly increasing the effect of stigma on social interactions and resulting psychological quality-of-life effects in Hispanics.

The use of archival data has limitations, and in the current study, resulted in a limited assessment of the primary independent variable, stigma concerns. The complexity of stigma makes measurement difficult, and additional research in this area is needed.³³ In addition, the survey did not directly assess the cultural constructs believed to influence stigma and quality of life in Hispanics and was limited in assessment of education and other socioeconomic indicators that affect health and increase discrimination.¹⁵ Finally, our sample consisted of persons who were receiving treatment from a community health center nationally recognized for providing culturally competent HIV/AIDS care to low-income patients. As a result, the fear of perceived stigma may have been lower in this sample when compared with Hispanics receiving care from other health centers. It may not be possible to generalize these findings to a larger group of HIV-positive Hispanics who may not be receiving tailored, culturally appro-

priate care or who are from broader socioeconomic strata.

Despite its limitations, the current study contributes to the knowledge base in this research area, since it is among the first to examine associations of stigma with health outcomes in HIV-positive Hispanics. Future research should address the limitations of the current study by examining a more comprehensive assessment of stigma, including assessments of relevant cultural constructs, and examining additional pathways through which stigma might affect health in larger, more heterogeneous samples of HIV-positive Hispanics. Reducing stigma in minority communities may positively affect treatment-seeking, including HIV testing, and can help reduce the incidence of HIV in these communities. In clinical settings, providers should be aware of how stigma affects quality of life, social support, and risk behaviors in people living with HIV and address stigma when necessary.

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