Stressors and Sources of Support: The Perceptions and Experiences of Newly Diagnosed Latino Youth Living with HIV

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Abstract

Little is known of the experience of Latino youth with HIV infection in the United States, especially with respect to stressors and how these youth cope with said stressors. This study reports on a subset (Latino/Hispanic self-identified youth, $n=14$) of qualitatively interviewed youth ($n=30$), both in individual interviews and in focus group discussion settings, aware of their HIV diagnosis for 12–24 months (mean: 16.7 months; standard deviation [SD], 4.89). Youth were 16–24 years old ($M=21.5$ years), female (43%) and males (57%). Youth were recruited from three cities: Chicago, New York, and San Juan (Puerto Rico). Interviews of Latinos ($n=14$) were reviewed for sources of stressors and support. Seven themes emerged in analyzing stated sources of stressors: (1) initial psychosocial responses to HIV diagnosis, (2) disclosure to family and friends, (3) stigma related to receiving an HIV diagnosis, (4) body image and concerns of the physical changes associated with HIV and antiretroviral medications, (5) taking antiretroviral medications and side effects, (6) the disruption of their future life goals, and (7) reproductive health concerns. Identified sources of support and coping were described including: gaining appreciation for what matters in life, adapting and developing achievable goals, reordering priorities and relying on religion and spiritual beliefs for health outcomes. The information gathered is from individual interviews and from focus group discussions can be used to increase the understanding of this understudied population while improving services to engage and retain these youth in care.

Introduction

HIV INFECTION IN ADOLESCENTS in the United States is associated with sexually transmitted infections,^{1,2} substance use/abuse,³ poverty and lack of access to health care,⁴ school dropout,⁵ housing instability,⁶ unemployment,^{7,8} race/ethnicity,⁹ and immigration status or lack of U.S. citizenship.¹⁰ Accordingly, the care of youth living with HIV requires that the practitioner be aware of all the physiologic and psychosocial developmental issues that such patients experience. The care of the Latino youth with HIV has not been extensively explored within the literature although HIV-infected Latino youth represent a significant proportion of youth with HIV.

Latinos/Hispanics and HIV

Latinos are disproportionately affected by the HIV/AIDS epidemic in that they comprise 15% of individuals 13 years old and older living in the United States, but represent 19% of

all individuals living with HIV/AIDS in states with HIV name-based HIV reporting to the Centers for Disease Control and Prevention (CDC).¹¹ Latinos are more likely to be diagnosed with AIDS within 12 months after the diagnosis of HIV infection compared to other ethnic groups.¹² Male-to-male sex contact (MSM; 52%), injection drug use (IDU; 21%), and heterosexual contact (20%) are the most common transmission categories for Latinos, however, these categories differ by country of origin (e.g., MSM [62%] cited to be most common in those of Mexican origin; IDU [40%] in those from Puerto Rico).¹³

Latino youth, like adults, represent one of the three ethnic groups with the highest cases of HIV/AIDS reported to the CDC.¹¹ Demographic data revealed that Latino youth are disproportionately infected with HIV and comprise 27% of established infections and 26% of new infections in a study aimed at describing rates of recent HIV infection in youth engaging in care.¹⁴ The route of HIV acquisition from 2004 to 2007 was male-to-male sexual contact for 89% of HIV and AIDS cases among males aged 13–19 years and 87% among

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males aged 20–24 years. Heterosexual sex was the route of acquisition for 88% of HIV/AIDS cases among females aged 13–19 years, and 87% among those aged 20–24 years.^{15,16} As the number of cases of Latinos living with HIV continues to increase, it is important to explore the stressful experiences and coping mechanisms that assist Latinos living with HIV to accept their HIV status.

HIV/AIDS stressors

While research on youth and HIV has identified multiple stressors impacting youth living with HIV, very little is known of the experience of Latino youth with HIV infection in the United States. A recent study found that Latino young men who have sex with men (YMSM) living with HIV were at increased risk of falling out of care compared to African American and other YMSM, thus warranting a closer inspection of the stressors these youth must contend with after receiving an HIV diagnosis.¹⁷

Understanding HIV-specific stressors is important for addressing barriers related to achieving long term survival. HIV/AIDS-related stigma consists of unfavorable attitudes, beliefs, and policies directed toward people perceived to have HIV/AIDS as well as toward their loved ones, associates, and communities, and often the individual with HIV/AIDS may internalize these beliefs, leading to shame and negative health outcomes.¹⁸ We do know from studies on adult Latinos that they report experiencing more HIV stigma than African Americans,¹⁹ and those reporting higher HIV stigma have poorer psychological and physical functioning, as well as lower social support.²⁰ In adult Latinos, HIV stigma was also impacted by language. Spanish language was most significantly associated with experiencing stigma-related worries/concerns that impact HIV status. Moreover, adult HIV infected Latinos report that as a result of HIV stigma, they have experienced loss of social support (from families, friends, sexual partners), persecution, isolation, job loss, and problems accessing health services.²¹ The literature that focuses on the stressors and sources of support for newly diagnosed Latino youth living with HIV is lacking.

Folkman's model of meaning-focused coping

We also know very little regarding what coping strategies Latino youth use to deal with or adjust to living with HIV. We defined coping as skills (thoughts, emotions, and behaviors) used to overcome stress, challenges, or a perceived disability. Generally, coping has been defined as either action based (wherein the individual copes with an external problem by taking on a physical action) or emotion-based coping (wherein the individual addresses stress using emotions, including denial or avoidance). Folkman²² defined an alternate concept of coping called Meaning Focused Coping wherein the individual “draws on his or her beliefs (e.g., religious, spiritual, or beliefs about justice), values (e.g., “mattering”), and existential goals (e.g., purpose in life or guiding principles) to motivate and sustain coping and well-being during a difficult time.” Folkman described five categories of meaning focused coping: benefit finding, benefit reminding, adaptive goal processes, reordering priorities, and infusing ordinary events with positive meaning. Meaning focused coping has not been explored as it relates to Latino youth living with HIV. The use of meaning focused coping can provide additional

understanding of how youth living with HIV adjust to their diagnosis as they are dealing with chronic and multiple stressors. Specifically, for Latino youth this information may help practitioners promote psychosocial adjustment and retention in care after an HIV diagnosis.

Although there is existing literature that examines mental health outcomes and coping strategies of people living with HIV in the United States,^{23,24} there is little data focusing on the experiences of HIV-infected Latino youth. It is important to examine the experiences of these youth since data suggests that Latino youth are at higher risk of experiencing psychological adjustment disorders, anxiety disorders and psychotic disorders and report high risk for depressive symptoms and suicide behavior when compared to the general population.^{25–27} Thus, understanding the stressors as well as the coping strategies of Latino youth after receiving an HIV diagnosis will be important in helping practitioners promote psychosocial adjustment and retention in care.

This is the first study of youth newly diagnosed with HIV which has provided some insight into the stressors and the coping experiences of Latino youth after receiving an HIV diagnosis.

Method

Participants

A total of 30 adolescents and young adults who had been recently diagnosed with HIV participated in either focus groups or individual interviews. For this paper, the Latino youth ($n = 14$) who were interviewed individually or in focus group discussions were reviewed to identify the sources of support and stress that are unique to this population. Latino youth living with HIV comprised 47% of this qualitative study sample.²⁸ All participants had been aware of their HIV diagnosis for 12–24 months, with an average of 16.7 months (standard deviation [SD] 4.89). They ranged in age from 16 to 24 years, with a mean age of 21.5 (SD 2.2). The gender composition of the sample was balanced, with 6 females and 8 males (Table 1).

Procedures

Youth were recruited from Adolescent Medicine Trials Units involved in the Adolescent Medicine Trials Network for HIV/AIDS Interventions (ATN) located in Chicago, New York, and San Juan, Puerto Rico, to participate in either focus groups or individual interviews. This study was approved by the Institutional Review Boards of all three participating sites. Participants were recruited by Study Coordinator nurses when the youth appeared for their regular medical visits, and were only approached regarding participation if they had received their diagnosis within 12–24 months of the study visit date. A total of 41 eligible participants were approached, of whom 11 refused to participate in the study. This criteria was selected in order to recruit key informants that had received their diagnosis recently enough so that they could recall the experiences of their first year after receiving the diagnosis, but also had enough distance from that first year so that they could be more introspective when recalling the stressors associated with that time period. Youth were informed of the nature of information collected and discussed in the focus groups and informed of the confidential nature of

TABLE 1. INTERVIEW TYPE AND GENDER OF LATINO PARTICIPANTS, AGE 16–24 YEARS OLD

	<i>Geographic site</i>			<i>Totals 14 of 30 youth were Latino</i>
	<i>Bronx, NY 5 of 12 youth were Latino^a</i>	<i>Chicago, IL 1 of 10 youth was Latino^b</i>	<i>San Juan, PR All 8 were Latino^c</i>	
Focus group	1	0	3	4
Individual interviews	4	1	5	10
Total	5	1	8	14
Female	2	0	4	6
Male	3	1	4	8
Total	5	1	8	14

A total of 30 youth overall were enrolled in this study and of these 14 were Latino(a)s:

^aTwelve youth enrolled in the Bronx, NY in this study and five were Latinos.

^bTen youth were enrolled in Chicago, IL and of these, one was Latino.

^cAll eight youth enrolled in this study in San Juan, PR and all were Latinos.

such material. Written informed consent/assent was obtained from all participants who expressed interest in the study. As some youth were hesitant to discuss sensitive issues in a group setting, they were offered the option of participating in an individual interview if they did not feel comfortable being a part of a focus group. All participants received compensation for their participation in this study.

All groups and interviews took place in private rooms and were audiotaped; and facilitators took additional process and content notes. Each focus group was facilitated by two trained interviewers with specializations in psychology and public health (one Ph.D.-level male, one M.P.H.-level female), and individual interviews were conducted by trained interviewers. The focus groups and interviews were conducted in either English or Spanish, depending on the comfort level of the participants (9 Spanish-language focus groups/interviews; 10 English-language focus groups/interviews). Interviewers followed a semistructured interview/focus group guide with suggested probes to elicit and clarify responses.

Analysis

Qualitative data from the focus groups and individual youth interviews were combined for the purposes of analysis. The general approach to analysis was guided by a phenomenological framework as the team sought to understand the lives and stressors of Latino adolescents newly diagnosed with HIV.^{29,30} Our focus was on individual experiences and meanings given to those experiences, as well as shared experiences. In order to get a better sense of the coping strategies used by the youth, Folkman's²² model of meaning-focused coping was used to guide the analysis of the coping strategies.

Audiotapes of the focus groups/interviews were transcribed verbatim, and all Spanish-language focus groups/interviews were translated from Spanish to English. Translations were reviewed by a Ph.D.-level consultant to improve the cultural relevancy and that cultural meanings were accurately captured. Data analysis was conducted by two members of the research team, one of whom was an interviewer who collected the data. After reading and reviewing the transcripts individually, members of the analysis team generated codes, which were discussed during team meetings and modified based on group consensus. From this, the analysis team developed a coding structure, (i.e., a hierar-

chical set of constructs that account for the phenomena seen in the data) and then further developed and refined the list of codes as additional transcripts were coded and discussed. After all of the transcripts were coded and the concepts were examined, the analysis team conducted cross-case and comparative analyses. To do this, the team identified consistent patterns in meaning, concepts, and themes across the focus groups/interviews (cross-case) and then examined comparative differences based on gender and ethnicity.^{29,31} Where gender and/or site differences emerged, they are noted in the explanation of the results.

Results

Seven refined major themes emerged in the focus groups salient to the stressors of the youth living with HIV that were interviewed, including: (1) initial psychosocial responses to HIV diagnosis, (2) disclosure to family and friends, (3) stigma related to receiving an HIV diagnosis, (4) body image and concerns of the physical changes associated with HIV and antiretroviral medications, (5) taking antiretroviral medications and side effects, (6) the disruption of their future life goals, and (7) reproductive health concerns. Additionally youth discussed sources of support and coping that helped them move beyond these initial stressors.

Psychosocial responses to receiving and accepting an HIV diagnosis

The youth described anger and depression as initial reactions to receiving their HIV test results. A couple of youth reported needing to take more than one test before finally accepting they had HIV and before being able to accept health care. During this time, youth discussed psychosocial adjustment to HIV as a difficult process.

It didn't really last too long. Like the first thing, issue, which is like the shock, maybe two weeks, where I was just like crying constantly. Just feeling depressed and stuff.—Latino male, English speaker

Well, what happened was that...I looked at the tests, stared, and closed the letter, put it in my pocket, then when I came out of there, I ripped it. Well, I didn't go to [the clinic]....Well, I wouldn't give the sickness any importance...Anyway, I

continued, bam! I went to [clinic]...a month and a half [later], around that time.—Latino male, Spanish speaker
I can't believe it!... 2 years and I...I was diagnosed, I still don't want to go to the doctor.—Latina female, Spanish speaker

Moreover, those who were new mothers and newly diagnosed with HIV, also describe the emotional difficulty in receiving their HIV diagnosis, not just for themselves but also for their newborn baby. For new mothers, it was also difficult to assess whether the depression was characteristic of postpartum events or due to their initial reaction to HIV or both.

I got very depressed, I had just given birth...because I have a son and they had to hospitalize me for my depression. Then, like I am telling you, it was difficult because I did not expect... [HIV] and because I had a newborn son, I had to be there for my son, but I couldn't...—Latina female, Spanish speaker

Acceptance of their HIV diagnosis was also difficult. Youth describe a multitude of emotions as they accepted their diagnosis including symptoms of depression, anxiety, and anger.

I was very depressed, I would cry all time, even though, I don't know, I continued working, depressed.—Latino male, Spanish speaker

Disclosure to family members and friends

In addition to acceptance of being infected with HIV, youth described an internal struggle between wanting or needing to share their diagnosis with their family and wanting to withhold, due to fear of the family's reaction. Youth described, that in disclosing, they would want their family's support and perceived that life would be better. However, youth described disclosure as an arduous undertaking, especially when they consider that it would be painful for their family members to hear and accept their HIV infection. Some described needing time to prepare for this disclosure, and often not having the opportunity to prepare since others, like siblings, at times would be disclosed before they were ready. Youth also described fear of disclosure if the family members adhere to strict religious beliefs that may result in negative feedback rather than emotional/psychological support received from family.

Well...and yes! I wanted to tell her, [my mother], so she could be prepared for anything, but I didn't want to tell her cause I knew she was going to suffer a lot.—Latina female, Spanish speaker
The whole "I told you so" and um,... my family is very religious so I guess I'll be, I'm just afraid that I'll hear exactly what I'm expecting to hear. Which is nothing good. Pentecostals are very difficult people and, especially my mom, so it's like to tell her or something like that, it would just be like a, like a 'that's what you get!—Latino male, English speaker

Youth who did not disclose to family describe the difficulty of maintaining secrecy, and feeling like they did not have the energy or strength to do so. Often, the need to deceive or withhold information resulted in a yearning for, but not receiving, emotional support from family. These youth who decided not to disclose, described a sense of isolation from family and a sense of being "incomplete."

It was difficult and it continues being difficult because I don't see how I am going to be well and complete until I have the support from my family. I even tell myself that if...if they are going to accept me after they know, because there are people in my family that are well, prejudiced and I am scared of them.

But no, no I don't think I am going to feel well or complete until they know. And well, that is my fear. And I would like to in some way, bring my mother here [to the clinic] to see if they could talk to her, because I wouldn't dare...—Latina female, Spanish speaker

Disclosure to friends was unlikely for these youth with a recent diagnosis, who described fear of feeling rejected if they disclosed. Often disclosure to friends or peers occurred as a result from someone else making their HIV status public.

Hardly anybody knows, the only people that know are my father and mother who are the...are the most affected...I like it like that...hardly anyone knows... It worries me that they [my friends] are going to, like, reject me or something...I don't like to mention it to anyone.—Latino male, Spanish speaker

HIV stigma

Another common theme that emerged during their discussion on stressors was HIV stigma. Youth described feelings of self-shame, and experienced stigma as rejection and malice acts from others, including their peers. Youth also describe how lack of confidentiality on the part of institutions like school or school programs can further add to the HIV stigma they experienced.

Now, I am with a guy. I told him. He said he was going to support me, that I shouldn't worry, that he was going to be with me at all moments. But that...there are times that I am ashamed like that.... I am sick like what I have and he, well, I am ashamed about what he is going to think. It was not easy, when I found out. And for my friends to do that [reject me], I don't have any friends now.—Latina female, Spanish speaker

Through [school work program] the nurse told the guy that was my boyfriend, then a student came, that was supposed not to do what he did, he came into the office, looked through my papers! And he found out. And it looks like...out of malice...he told everyone [youth is crying, breathing profoundly] and I had to leave [the school work program].—Latina female, Spanish speaker

Adolescent mothers also describe stigma in fearing the label of HIV for their children and possibly health care setting denying services to their children because of HIV. For example, HIV stigma was described by one adolescent mother as fear of medical services being denied to her son in her neighborhood if she was to disclose her HIV status.

...Because the people [at the clinic]...did that to me when I was going to see the pediatrician, "Are you HIV?" and "Is your son an HIV patient? Huh...I cannot treat him. He has to go to [another] clinic"...I wanted to have him [receive services in my neighborhood clinic]...in case of an emergency...[where] I could quickly get there. And they denied me. [breathes profoundly] and every time I would go to [ask for services] they would ask "Does he suffer from any condition? Or you?" And if I say no, well I am lying! Because, in reality, I do have a condition, I know he doesn't, thank God... But I know they are going to deny my son [services] or they are not going to treat him. Same goes for the [local] hospital.—Latina female, Spanish speaker

Body image and concerns of the physical changes associated with HIV and antiviral medications.

Adolescence is characterized as a period of rapid physical change during which adolescents undergo a process of

formulating and defining their body image ideals. Any disfiguring or chronic illness can impact this process of defining the body image. Noteworthy is that body image dissatisfaction can lead to poor health habits as well as low self-esteem, and depression, especially in adolescent females.³² Youth described fear of developing physical changes from HIV infection, and how those physical changes could affect their future career goals. Most youth relied on what they heard about HIV and the possible physical changes that would come about from the infection, and this appeared to fuel their fear.

...like I'm into modeling, so it's like okay, what about if um, like the thought going through my mind as far as that is my situation, will it change my body figure?...I'm thinking, more or less, is my body gonna change, am I gonna get sick, am I gonna get skinny? Is it gonna be noticeable?—Latina female, English speaker

Taking medications and side effects

Youth taking medications described the associated fear and difficulties with developing side effects. Youth who sought information on the HIV medications expressed fear of what they read in the literature or internet coupled with the physical changes they saw in other patients. Over time, youth did express adapting to swallowing the pills and lessening of their fears.

But yeah, before I came to read this, I [received an orientation] on the pills and I felt scared, because I saw people that already had to take more than ten pills, they get sores.—Latino male, Spanish speaker
[I was started on medications]...At first, it was a little bit difficult to drink them, but now...now it's not...I drink them normally...Because they were some strange pills with some gel and...they made me nauseous. Then I couldn't swallow them...they changed them to something else...a different medication. The same reaction, but...now it's not three, it's only two.—Latino male, Spanish speaker

Disruption of future life goals

During normal adolescent development, youth develop future goals and work toward achieving these goals. For these youth, receiving an HIV diagnosis initially interfered with their goals and expectations because having HIV made them questioned whether they would have any future.

...And they told me and I kinda expected it but it did break my heart, though, cause it's hard. The first thing that you think it's that, oh yeah, I am gonna die, or my life is gonna be shorter now, and you have a lot of plans and you're like stopped...—Latino male, Spanish speaker

Reproductive health concerns

Another salient theme from the youth centered around reproductive health concerns. For some of these youth, having children and forming a family is an important milestone on their way to becoming adults. Thus, receiving an HIV diagnosis brought up concerns about their reproductive health including parenting, childbearing and childrearing. For males with HIV, many worried about being able to become fathers. For adolescent mothers living with HIV, they described fear that they may not be able to fulfill their role as providers for their children.

... What always worried me was that, because I am young, you know, that I would not be able to have children and you know, a lot of things change.—Latino male, English speaking
It's that is he really young still. Sometimes I feel like I am going to die, but I have to think otherwise, because [my son] is really young. He needs me.—Latina female, Spanish speaker

Coping with HIV

We were also interested in how Latino youth living with HIV managed or coped with their diagnosis. Specifically, Latino youth described strategies similar to four meaning focused coping categories as proposed by Folkman's model, which assisted them with their psychosocial adjustment to their HIV diagnosis with the addition of a fifth coping strategy, i.e., relying on their spirituality to help them adjust to their HIV diagnosis (Table 2).

Coping strategy: benefit finding and reminding. Benefit finding refers to the self-perceived growth in wisdom, patience, and competence resulting from experiencing a traumatic or stressful event. In essence and quite simple, it is any positive effects that the individual derives from a traumatic event. All of the youth in this cohort described receiving an HIV diagnosis as an extremely stressful event, but also described gaining a better appreciation of their life and clarity about what really matters, and sometimes a strengthening of their spirituality. Furthermore, these youth described an improvement in the quality of their social relationships.

Coping strategy: adaptive goal processes. As Latino youth described their experiences managing the stressors after receiving an HIV diagnosis, they sought ways to live with HIV, rather than fixate on the negative aspects of HIV. Adaptive goal processes involves the individual with a stressor (HIV infection), assesses if initial goals in life are attainable, and also develop ones that are more meaningful and realistic. In this cohort of youth, their emphasis was now on living a healthy lifestyle, taking medications, and going to their medical providers.

Eating good! Eat three times a day, because that is obligatory; breakfast, lunch and dinner. Do your exercises, because you should do that. And maintain yourself, always working and for those do not work, doing your things so you could be all right. Staying healthy so you are not thinking about [HIV]...And for your appointments—Punctuality!—Latino male, Spanish speaker

Coping strategy: reordering priorities. For these youth, the use of positive thinking strategies facilitated acceptance by ascribing a purpose to having been diagnosed with HIV. The HIV diagnosis did trigger feelings of resentment, anger, and hurt, but they acknowledged that their priorities shifted, focusing on what really mattered. This reordering of priorities, a change in perception, suggests that youth have developed a strategy for living with HIV, and found a renewed sense of purpose along the way, as well.

For adolescent mothers or those who were pregnant, shifting priority from worries about the illness within them to the need to care for their children, born or yet to be born, was a strong coping strategy in living with HIV.

TABLE 2. IDENTIFIED THEMES OF STRESSORS AND COPING METHODS IDENTIFIED BY LATINO YOUTH LIVING WITH HIV AGE 16–24 YEARS OLD

Major themes of identified stressors	Subthemes
Initial psychosocial responses to HIV diagnosis	Multitude emotions: anger, depression, anxiety Difficulty in accepting HIV test and testing more than once New mothers had dual duty in accepting their own and their baby's HIV diagnosis
Disclosure to family and friends	Fear of family's reaction, especially if family had strict religious beliefs Wanting and yearning family support Needing time to prepare for disclosure Fear of others disclosing to family Difficulty and emotional fatigue required for maintaining secrecy Sense of isolation from family and friends
Stigma related to receiving an HIV diagnosis	Self-shame from internalized stigma Experienced stigma as rejection and malice acts from others including peers Lack of confidentiality from social/educational agencies Denial of services for their children
Body image and concerns of the physical changes associated with HIV and antiretroviral medications	Fear of developing noticeable physical changes Fear of physical changes affecting future career goals
Taking antiretroviral medications and side effects	Fear and difficulty with developing side effects of medications Need to adapt to medications—to swallowing pills and to potential side effects
Disruption of their future life goals	Fear of whether HIV would allow them any future Fear of shorter lifespan and of death
Reproductive health concerns	Fear of HIV's effects on their potential for childbearing, parenting, and forming a new family
Sources of support and coping^a	
Benefit finding and reminding	Better appreciation for life Clarity about what really matters Improvement in the quality of their social relationships Using "faith/spirituality or belief in God" as a way of coping
Adaptive goal processes	Assessment of goals in life—whether attainable, and develop ones that are more meaningful and realistic Emphasis on living a healthy lifestyle, taking medications, and going to their medical providers
Reordering priorities	Ascribing a renewed sense of purpose while having been diagnosed with HIV Focusing on what really mattered rather than negative issues
Infusing ordinary events with positive meaning	Alleviating HIV related stressors by seeking out social support including providers, peers with HIV, and significant others Engaged in physical activity or exercise as an outlet for stress
Relying on their spirituality to help them adjust to their HIV diagnosis	Beliefs that religion/God determine their health outcome

^aAdapted from Folkman's model of meaning-focus coping.

It's that he is really young still. Sometimes I feel like I am going to die, but I have to think otherwise, because he is really young. He needs me.—Latina female, Spanish speaker
I learned, with time I had to do it [take my medications] because I had to take care of myself and the health of my baby so my baby would not, not come out, infected.—Latina female, Spanish speaker

Coping strategy: infusing ordinary events with positive meaning. Individuals facing stressful situations will often find positive meaning in ordinary events or create positive

moments, even under the most dismal conditions. Latino youth also described alleviating HIV related stressors by seeking out social support. Three sources of social support were influential in helping these youth accept their diagnosis including providers, peers with HIV, and significant others.

Like all these people [Adolescent Clinic Staff] was like a family to me 'cause they gave me like all the support and there was always someone to talk to me,...any question that I needed to ask her[my doctor], like she always knew, she was always there for me.—Bilingual Latino male

Latino youth also engaged in physical activity or exercise as an outlet for stress and relief.

Like ever since, to try to deal with it, I've been trying to go the gym like three hours a day sometimes, and it's just like, I mean even though I know that's like, that's going over what you should be doing, sometimes it's good to just let it out. Just the frustration that you have. You let it out in the weights, and when you come out you feel so relieved.— Latino male, English speaker

Spirituality

Latino youth's coping strategies extended beyond Folkman's meaning-focused coping strategies reporting a heavy emphasis on religious or spiritual beliefs. Youth describe that their outcome with HIV infection was ultimately in the hands or control of an external force, that is within God. The concept that religion/God plays a role in their health outcome was often more expressed by monolingual Spanish-speaking Latinos compared to bilingual or English-speaking youth in both individual and group settings.

I thought well no [does not finish thought] but I did it, but it was on God's time, because there was some purpose to what happened. And well, I kept going....—Latina female, Spanish speaker

Well we went to [the clinic] and we took the [HIV] exams. And I came out positive and I said, "Well!" I didn't worry any more about that, up above there is a God that knows everything, God is going to help us and we are going to find a little bit of help, somebody that could help us thank God.—Latino male, Spanish speaker

Discussion

Recently or newly diagnosed HIV infected Latino/Hispanic youth in care report stressors similar to non-Latino/Hispanic youth.²⁸ These stressors included: (1) adapting to receiving the initial HIV diagnosis; (2) conflict of disclosing or withholding their HIV diagnosis from family, friends, and or sexual partners; (3) HIV stigma, (4) concerns with body image, (5) concerns with medication side effects; (6) disruption with future life goals, and (7) reproductive health concerns.

Mental health services for youth newly diagnosed with HIV are thus important in order to assist them with stressors stemming from an HIV diagnosis. Not addressing these stressors can result in compliance problems with appointments and adherence issues to medications.^{33,34} Thus, mental health services appear to be critical in assisting these youth in adapting to their HIV diagnosis. The acceptance of mental health services does vary by ethnicity with Euro-Americans more likely than Latinos (and African Americans) to accept and seek mental health services. Furthermore, Latinos report higher levels of mental health related stigma in contrast to Caucasians.³⁵ Thus, health care settings must be able to provide culturally appropriate mental health care that includes considerations of the context within which these youth live as well as their fear of accepting mental health services. Culturally appropriate mental health services focuses not only the youth's symptoms meeting DSM criteria but also of the community, cultural, and family context of the youth.³⁶⁻³⁸

While some of the stressors identified by youth arise in response to HIV stigma, there are several insights on how practitioners can use this information to help minimize HIV/

AIDS-related stress. For example, disclosure of their HIV status was identified as a major stressor by these youth study participants. Skills building opportunities that assist youth to prepare for disclosure of their HIV status may add to the overall well being and quality of life for these youth. Disclosure is difficult even among HIV infected adults with 42% of adult MSM, 19% of heterosexual men, and 17% women not disclosing to sexual partners.³⁹ Disclosure of HIV status to sex partners among youth has been positively correlated with length of time since diagnosis although youth are less likely to disclose to HIV negative and to casual sex partners.⁴⁰ Disclosure of HIV status has been demonstrated to be difficult but also rewarding in that youth who disclose have been assessed as achieving better psychosocial outcomes like higher self competence in peer relationships and less post traumatic stress.⁴¹

Confidential services have also been found to be key in provision of health care for youth living with HIV who fear HIV stigma. HIV stigma was described as by these study participants as rejection and negative reactions from family, friends, gatekeepers/providers of health services, and they worried that their diagnosis may unwillingly be shared with others. Previous studies of minors who are sexually active and may be pregnant, or with an STD or seeking contraceptive services demonstrated that confidential services were important and that they would forego health care if it required parental consent.^{42,43} Thus, breaching confidentiality by a health provider or by an educator adds to the stress of being HIV infected. The rights to privacy for youth are not as clear cut as for adults, and varies by state or local jurisprudence. Providers should respect an adolescent's request for privacy, when permitted by local statutes. In instances where local jurisprudence overrides the youth's request for confidentiality, the youth should be informed and the provider should ensure the safety and well being of said youth when disclosure to parents occurs.^{44,45} Several states through legislation, have attempted to strike a balance between authorizing a minor to make decisions about some areas of their own medical care, especially reproductive or sexual health (including HIV), against the disclosure of health care information to parents.⁴⁶ Confidentiality in the health care setting which extends to the relationship between youth and parents is broad enough to also protect the privacy of youth from disclosure of health information to others including classmates and sexual partners. Further, the issue of confidentiality and privacy of health care information is important not only for minors but also for older youth whose diagnosis may be disclosed due to dependence on parental health insurance, and is protected by The Health Insurance Portability and Accountability Act (HIPAA).⁴⁷ However, even HIPAA is vague on the extent of health information that is or can be disclosed of youth 18 years and older to parents when insurance companies bill for service.

Another stressor or challenge identified by youth was taking antiviral medications and highlights the importance of conducting treatment readiness with youth and having them understand possible side effects and strategies for dealing with said side effects. National guidelines for HIV treatment have been developed which emphasize the patients' readiness for treatment as a requirement for starting treatment,⁴⁸ however said guidelines do not state how readiness is defined or assessed. Research has revealed that lack of readiness for

treatment may result in interrupted treatment.⁴⁹ Treatment readiness is thus important to consider in provision of care to youth who, as compared to adults, will require longer duration of treatment until a cure is found. Present research on treatment readiness screening forms is underway.⁵⁰ However, until valid and reliable measures are available, providers should engage in in-depth discussions with youth addressing identified barriers to successfully initiating and adhering to their medications. In summary, Latino youth reported using meaning-focused coping strategies as a way of adjusting to their HIV diagnosis, with the addition of spirituality as a form of coping. Having knowledge of what these youth identified as coping strategies, especially seeking support from providers, peers with HIV, and significant others, can also help youth newly diagnosed with HIV. This support assists them in gaining a better appreciation of their life, reordering priorities, and achieving clarity about what really matters to them. Individual and group therapy sessions would be complementary strategies for achieving these goals, allowing youth to identify coping strategies and to be able to gain strength from sharing these adaptive processes with peers living with HIV in their same environment.

Our findings of how youth describe their coping with HIV supports Folkman's model of meaning-focused coping in describing positive emotions during a stressful experience. Youth used benefit finding strategies to learn and grow from their diagnosis. They used benefit reminding strategies to remind themselves that even with HIV, they could still live, and that there were other diseases that could be worse; they employed adaptive goal processes to achieve what was more realistically appropriate, and focused on what really mattered in their lives (reordering priorities). Furthermore, these youth, despite stressful and dire circumstances, found positive meaning in ordinary life events as a way of coping with their illness. Thus, stressful or challenging events or circumstances were dealt with not just with negative emotions (anger, fear, depression) but with positive emotions (finding meaning in life with HIV) as a way of coping and may be part of the normative process for these HIV infected youth to restore their sense of psychological and social functioning. We could not comment on the timing or duration of when positive emotions become part of the coping strategy of these youth, but can only state that these youth needed to find positive meaning within their lives with HIV infection.

Religion and faith as coping strategies are not fully explained by Folkman's model, but were noted to be important strategies for coping. Of note is that religion, attending church, references to God as a source of strength and coping, is often expressed by youth of many ethnic groups, usually in individual settings, rarely in group settings within a clinical environment. These youth study participants discussed the presence of God in their coping with HIV. A study on religion and Latinos demonstrated that 93% surveyed report identifying with a religion and less than 0.5% identified as agnostic or atheist,⁵¹ and highlights the importance of religious beliefs in their lives. Religion/God/spirituality has previously been described as important in counseling services to Latinos, wherein Latinos use religion/prayer to cope with stress. However, providers should be cautious in that some of these youth sought strength more in their religion and their belief in God than in themselves. That they become passive in caring for themselves, leaving the outcome of their health to an

outside source of control could be of great concern with the potential negative impact on adherence to medications, and on strengthening character development. Holt et al.⁵² distinguished between an active spiritual health locus of control orientation—the individual is empowered by God to actively take healthy behaviors/actions, and a passive spiritual health locus of control—the individual believes that their own health is up to God. This cohort of youth expressed more passive spiritual health believing that their diagnosis and outcome were up to God, but many did state that they sought changes in their lives to stay healthy. The health provider must be able to assist these youth in finding strength within themselves to make behavior changes that will keep them healthy, whether through the support of family, friends, health professions or their religious/God/spiritual beliefs.

Limitations and future directions

The primary limitation of this study is the small sample size. Additionally, the data from the qualitative interviews should only be used to generate more questions about the stressors and coping strategies that face Latino youth living with HIV. The common themes identified from the interviews help us to begin to understand the stressors face by these youth but should not allow us to make conclusions that these stressors are all inclusive or that the coping strategies identified are all but exhaustive. Yet, the importance of doing more research in this area is highlighted when seen in the context of engagement and retention in care, so that Latino youth diagnosed with HIV and their communities can benefit from the available medical treatments. Medical treatment of HIV can improve the quality of life of individuals with HIV,⁵³ reduce viral loads within genital secretions^{54,55} and thereby reduce transmission of HIV to other members within a community.^{56–58} Future research on Latino youth living with HIV should evaluate the stigma that they experience from being Latino, HIV infected and often from being immigrants and on being gay. Research should also focus on the social support of Latino youth, as many face alienation from both the religious, gay and their own Latino communities, and as result many conceal their HIV diagnosis or go without medical treatment. Thus, innovative interventions that can inform these youth about physiologic and emotional impact of HIV on their everyday lives, on coping strategies, and expectations of health care services, including HIV treatment with antiretroviral medications and information on their legal rights to privacy, may prove to be valuable.

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References

1. Fleming DT, Wasserheit JN. From epidemiological synergy to public health policy and practice: The contribution of other sexually transmitted diseases to sexual transmission of HIV infection. *Sex Transm Infect* 1999;75:3–17.
2. CDC. Trends in Reportable Sexually Transmitted Disease in the United States, 2004. National Surveillance Data for Gonorrhea, Chlamydia, and Syphilis. November 2005. www.cdc.gov/std/stats04/04pdf/trends2004.pdf (Last accessed December 27, 2011).
3. National Institute of Drug Abuse. How Does Drug Abuse Impact the HIV/AIDS Epidemic. Research Report Series. 2006:1–8. NIH Publication Number 06-5760. Printed March 2006.
4. Centers for Disease Control and Prevention. Characteristics associated with HIV infection among heterosexuals in urban areas with high AIDS prevalence—24 cities, United States, 2006–2007. *MMWR* 2011;60:1045–1049.
5. Office of the Surgeon General. The Surgeon General's call to action to promote sexual health and responsible sexual behavior, 2001. Available at www.surgeongeneral.gov/library/sexualhealth/call.htm (Last accessed December 27, 2011).
6. Martinez J, Bell D, Camacho R, et al. Adherence to antiviral drug regimens in HIV-infected adolescent patients engaged in care in a comprehensive adolescent and young adult clinic. *J Natl Med Assoc* 2000;92:55–61.
7. Augustine J, Bridges E. Understanding Disparities in the HIV Epidemic. Washington, D.C.: Advocates for Youth. 2008. www.advocatesforyouth.org/youth/health/hiv/index.php?option=com_content&task=view&id=524&Itemid=177 (Last accessed December 27, 2011).
8. Steele BC, et al. Health Disparities in HIV/AIDS, Viral Hepatitis, Sexually Transmitted Diseases, and Tuberculosis: Issues, Burdens, and Response, A Retrospective Review, 2000–2004. Atlanta, GA: Department of Health and Human Services, Centers for Disease Control and Prevention, 2007. www.cdc.gov/nchhstp/healthdisparities/docs/NCHHSTP_Health%20Disparities%20Report_15-G-508.pdf (Last accessed December 27, 2011).
9. CDC. HIV/AIDS among Youth. Fact Sheet. Revised August 2008:1–4. www.cdc.gov/hiv/resources/factsheets/PDF/youth.pdf (Last accessed December 27, 2011).
10. CDC. HIV/AIDS among Hispanics—United States, 2001–2005. *MMWR* 2007;56:1052–1057.
11. CDC. HIV/AIDS Surveillance by Race/Ethnicity (through 2009). www.cdc.gov/hiv/topics/surveillance/resources/slides/race-ethnicity/ (Last accessed December 27, 2011).
12. Chen NE, Gallant JE, Page KR. A systematic review of HIV/AIDS survival and delayed diagnosis among Hispanics in the United States. *J Immigr Minority Health* 2012;14:65–81.
13. Centers for Disease Control and Prevention. HIV/AIDS Surveillance Report, 2007. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2009:18. www.cdc.gov/hiv/topics/surveillance/resources/reports/2007report/pdf/2007SurveillanceReport.pdf. (Last accessed December 27, 2011).
14. Sill AM, Constantine NT, Wilson CM, Peralta L. Demographic profiles of newly acquired HIV infections among adolescents and young adults in the U.S. *J Adolesc Health* 2010;46:93–96.
15. Centers for Disease Control and Prevention. HIV/AIDS Surveillance Data in adolescents and young adults (through 2008). www.cdc.gov/hiv/topics/surveillance/resources/slides/adolescents/index.htm (Last accessed June 14, 2011).
16. Centers for Disease Control and Prevention. HIV/AIDS Surveillance Data in adolescents and young adults (through 2008). www.cdc.gov/hiv/topics/surveillance/resources/slides/adolescents/index.htm Accessed June 14, 2011.
17. Magnus M, Jones K, Phillips G, et al. Characteristics associated with retention among African American and Latino adolescent HIV-positive men: Results from the outreach, care, and prevention to engage HIV-seropositive young MSM of color special project of national significance initiative. *J Acquir Immune Defic Syndr* 2010;53:529–536.
18. Herek GM, Mitnick L, Burris S, et al. AIDS and stigma: A conceptual framework and research. *AIDS Public Policy* 1998;13:36–47.
19. Auerbach C, Beckerman NL. HIV/AIDS prevention in New York City: Identifying sociocultural needs of the community. *Soc Work Health Care* 2010;49:109–133.
20. Larios SE, Davis JN, Gallo LC, Heinrich J, Talavera G. Concerns about stigma, social support and quality of life in low-income HIV-positive Hispanics. *Ethn Dis* 2009;19:78.
21. Rajabian S, Rumpitz MH, Felizzola J, et al. The impact of acculturation on Latinos' perceived barriers to HIV primary care. *Ethn Dis* 2008;18:403–408.
22. Folkman S. The case for positive emotions in the stress process. *Anxiety Stress Coping* 2008;21:3–14.
23. Folkman S, Moskowitz JT. Positive affect and meaning-focused coping during significant psychological stress. In M. Hewstone M, H. Schut H, de Wit J, Van Den Bos K, Stroebe M, eds. *The Scope of Social Psychology: Theory and Applications*. Hove, UK: Psychology Press, 2007:193–208.
24. Orban LA, Stein R, Koenig LJ, Conner LC, Rexhouse EL, Lewis JV, LaGrange R. Coping strategies of adolescents living with HIV: Disease-specific stressors and responses. *AIDS Care* 2010;22:420–430.
25. Yeh M, McCabe I, Hurlburt M, et al. Referral sources, diagnoses, and service types of youth in public outpatient mental health care: A focus on ethnic minorities. *J Behav Serv Res* 2002;29:45–60.
26. Roberts RE, Roberts CR, Chen YR. Ethnocultural differences in prevalence of adolescent depression. *Am J Commun Psychol* 1997;25:95–110.

27. Duarté-Vélez YM, Bernal G. Suicide behavior among Latino and Latina adolescents: Conceptual and methodological issues. *Death Stud* 2007;31:435–455.
28. Hosek SG, Harper GW, Lemos D, Martinez J. An ecological model of stressors experienced by youth newly diagnosed with HIV. *J HIV/AIDS Prev Child Youth* 2008;9:192–218.
29. Creswell J. *Qualitative Inquiry and Research Design; Choosing Among Five Traditions*. Thousand Oaks, CA: Sage Publications, 1998.
30. Patton MQ. *Qualitative Evaluation and Research Methods*, 2nd ed. Newbury Park, CA: Sage, 1990.
31. Miles MB, Huberman AM. *Qualitative Data Analysis*, 2nd ed. Thousand Oaks, CA: Sage Publications, 1994.
32. Seigel JM, Yancey AK, Aneshensel CS, Schuler R. Body image, perceived pubertal timing, and adolescent mental health. *J Adolesc Health* 1999;25:155–165.
33. Hosek SG, Harper GW, Domanico R. Psychological predictors of medication adherence among HIV-infected youth. *Psych Health Med* 2005;10:166–179.
34. Murphy DA, Wilson CM, Durako SJ, et al. Antiretroviral medication adherence among the REACH HIV infected adolescent cohort in the USA. *AIDS Care* 2001;13:27–40.
35. Carpenter-Song E, Chu E, Drake RE, Ritsema M, Smith B. Ethno-cultural variations in the experience and meaning of mental illness and treatment: Implications for access and utilization. *Transcult Psychiatry* 2010;47:224–251.
36. Szapocznik J, Kurtine WM. Family psychology and cultural diversity: Opportunities for theory, research and application. *Am Psych* 1993;48:400–407.
37. Hernandez M, Isaacs MR, Nesman T, Burns D. Perspectives on culturally competent systems of care. In: Hernandez M, Isaacs MR, eds. *Promoting Cultural Competence in Children's Mental Health Services*. Baltimore, MD: Paul H. Brookes, 1998:1–25.
38. Greenbaum SD. The role of ethnography in creating linkages with communities: Identifying and assessing neighborhoods' needs and strengths. In: Hernandez M, Isaacs MR, eds. *Promoting Cultural Competence in Children's Mental Health Services*. Baltimore, MD: Paul H. Brookes, 1998:119–132.
39. Ciccarone DH, Kanouse DE, Collins RL, et al. Sex without disclosure of positive HIV serostatus in a US probability sample of persons receiving medical care for HIV infection. *Am J Public Health* 2003;93:949–954.
40. Batterham P, Rice E, Rotheram-Borus MJ. Predictors of serostatus disclosure to partners among young people living with HIV in the pre- and post-HAART eras. *AIDS Behav* 2005;9:281–287.
41. Wiener LS, Battles HB. Untangling the web: A close look at diagnosis disclosure among HIV-infected adolescents. *J Adolesc Health* 2006;38:307–309.
42. Lehrer JA, Pantell R, Tebb K, Shafer MA. Forgone health care among U.S. adolescents: Associations between risk characteristics and confidentiality concern. *J Adolesc Health* 2007;40:218–226.
43. Jones RK, Purcell A, Singh S, et al. Adolescents' reports of parental knowledge of adolescents' use of sexual health services and their reactions to parental notification for prescription contraception. *JAMA* 2005;293:340–348.
44. CDC. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *MMWR* 2006;55:13.
45. American Academy of Pediatrics. Adolescents and human immunodeficiency virus infection: The role of the pediatrician in prevention and intervention. *Pediatrics* 2001;107:188–190.
46. Boonstra H, Nash E. Minors and the right to consent to health care. *The Guttmacher Report on Public Policy* 2000; 3:4–8.
47. Health Insurance Portability and Accountability Act of 1996 (HIPAA), Public Law 104-191, <http://aspe.hhs.gov/admnsimp/pl104191.htm/> Accessed December 27, 2011
48. Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. January 10, 2011;1–166. www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf (Last accessed March 5, 2011).
49. Enriquez M, Lackey NR, O'Connor MC, McKinsey DS. Successful adherence after multiple HIV treatment failures. *J Adv Nurs* 2004;45:438–446.
50. Fernandez MI, Hosek S, Warren J, Jacobs, Martinez J; and the ATN. Development of an easy to use tool to assess adolescent's hiv treatment readiness in clinical care settings. *AIDS Care* 2011;23:1492–1499.
51. Espinosa G, Elizondo V, Miranda J. *Hispanic Churches in American Public Life: Summary of Findings. Interim Reports Vol. 2003.2*, 2nd ed. March 2003. South Bend, IN: University of Notre Dame Institute for Latino Studies. Working Papers Series. www.jrank.org/cultures/pages/4376/Religion-Spirituality.html#ixzz1FT54wjWo (Last accessed March 5, 2011).
52. Holt CL, Clark EM, Kreuter MW, Rubio D. Spiritual Health locus of control and cancer beliefs among urban African American women. *Health Psychol* 2003;22:294–299.
53. Garcia F, de Lazzari E, Plana M, et al. Long-term CD4+ T-cell response to highly active antiretroviral therapy according to baseline CD4+ T-cell count. *J Acquir Immune Defic Syndr* 2004;36:702–713.
54. Vernazza PL, Troiani L, Flepp MJ, et al. Potent antiretroviral treatment of HIV-infection results in suppression of the seminal shedding of HIV. *The Swiss HIV Cohort Study. AIDS* 2000;14:117–121.
55. Coombs RW, Reichelderfer PS, Landay AL. Recent observations on HIV type-1 infection in the genital tract of men and women. *AIDS* 2003;17:455–480.
56. Castilla J, Del Romero J, Hernando V, et al. Effectiveness of highly active antiretroviral therapy in reducing heterosexual transmission of HIV. *J Acquir Immune Defic Syndr* 2005; 40:96–101.
57. Wilson DP, Law MG, Grulich AE, et al. Relation between HIV viral load and infectiousness: A model-based analysis. *Lancet* 2008;372:314–320.
58. Sullivan P, Kayitenkore K, Chomba E, et al. Reduction of HIV transmission risk and high risk sex while prescribed ART: Results from discordant couples in Rwanda and Zambia [Abstract 52bLB]. Paper presented at: 16th Conference on Retroviruses and Opportunistic Infections. Montreal: February 8–11, 2009.

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