MOTHERS OF ADOLESCENT GIRLS: COMPARING HIV POSITIVE AND HIV NEGATIVE WOMEN

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Background: HIV+ mothers of adolescent girls can serve as agents of change, particularly when it comes to preventing patterns of behaviors that are inherently dangerous. In order to do so these women need to be able to communicate with their daughters and educate them about risk behaviors, especially those associated with HIV acquisition. The objective is to describe the sociodemographic and risk profile in a sample of mothers of adolescent girls who are HIV+ or HIV negative and analyze differences between them.

Methods: A convenience sample was recruited from three sites, the Universidad Central del Caribe School of Medicine, the UPR School of Medicine, and the Ponce School of Medicine. Six focus groups, two in each institution, were conducted following Krueger's methodology with the objective of developing an educational intervention for mothers of adolescent girls. All participants completed two self-administered questionnaires prior to the focus group. A data analysis was performed - descriptive statistics for the sociodemographic measures included frequencies, percents, mean and SD. We used *t* test and the Fisher's exact test to analyze differences between groups.

Results: A total of 44 participants were enrolled, with 50% being HIV positive mothers and 50% being HIV negative mothers. The mean age for both groups was similar (41 years). Statistically significant differences ($P<.05$) were observed among HIV diagnosis and for the following variables: education, working status, income, marital status, age at first intercourse, and illicit drug use.

Conclusions: It is possible that the sociodemographic characteristics of HIV+ women affect their parenting and communication skills. The same factors that may have led to these women being infected by HIV in the first place might in addition be compromising their roles as effective parents. (*Ethn Dis.* 2010; 20[Suppl 1]:S1-127–S1-130)

Key Words: HIV+ Mothers, Adolescents, Sociodemographic Characteristics, Puerto Rican

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INTRODUCTION

Since the highly active antiretroviral therapy era began in 1997 more people with HIV/AIDS are living longer. The UNAIDS/WHO 2007 Global Report reported that AIDS claimed an estimated 24,000 lives in the Caribbean in 2005, making it the leading cause of death among adults aged 15–44 years. A total of 300,000 people are currently living with HIV in the region, including 30,000 people who became infected in 2005.[1]

In contrast to the rest of the region, injection drug use is the key factor in HIV transmission in Puerto Rico's epidemic. Very high HIV prevalence is still being found among injection drug users in Puerto Rico, where the rate of HIV infection (26 per 100,000) is twice that of the US mainland where more than two thirds of HIV infections have been among men.[1]

A study of HIV infected adults showed that 28% of them had children after their HIV diagnosis.[2] It has been estimated that 80% of HIV infected women are in childbearing age,[2] and 12% of women conceived and gave birth to their youngest child after their diagnosis. The percentage of HIV/AIDS patients who are parents is high and many HIV/AIDS affected families are raising adolescents.

Adolescents are more likely to engage in high-risk behavior, which makes this population vulnerable to HIV infection and susceptible to health problems related to drugs, alcohol and sexual transmitted diseases (STDs). Adolescent risk taking includes sexual initiation, experimentation, exploration, and impulsiveness, and as they are also influenced by peer pressure, they cannot foresee long-term consequences of their risky behaviors.[3,4]

Rupp says that parents play a significant role in sexual development and behavior of their children.[5] A supportive relationship between parents and adolescent is important for enhancing communication and supervision.[5] The family is one of the most important units that influence adolescent sexual development and sexual socialization. The family unit provides many of the factors that protect the adolescent from engaging in risky sexual behaviors. Among these are positive family relations, effective communication about sexuality, enhancement and support of academic functioning, and monitoring of peer activities.[6] The quantity and quality of parents' communication plays a crucial role in the extent of influence on their children. Adequate communication skills have the potential to reduce risky adolescent sexual behavior by fostering responsible sexual decisions. Parents who are HIV positive face a tremendous challenge in educating their children.[7]

Parent-child communication about sexual risk has been linked with more conservative sexual attitudes and late onset of sexual initiation among adolescent females.[8] A mother's role is especially influential with daughters in decreasing sexual risks.[8] Positive communication between mothers and ado-

lescents has been associated with less frequent intercourse and fewer sexual partners.[9]

Mothers who are HIV positive and have adolescent girls can serve as agents of change, particularly related to the prevention of risky behaviors. These mothers need the skills to communicate, supervise and educate their daughters regarding risky behaviors, especially those associated with HIV acquisition.

Public health studies advocate for the education of women, especially mothers, as they are highly likely to pass on their education to their children, as well as enforce healthy practices and thereby protecting their entire families from diseases. Whereas this is usually true in regard to most infectious diseases such as influenza, it is not usually the case when it comes to sexually transmitted infections (STIs) such as HIV/AIDS.[10]

Adolescents with an HIV positive mother are a vulnerable population because they are often exposed to the same environments that placed their mothers at risk for HIV infection. Since adolescents have reported that they discuss sexual topics more with their mothers than with their fathers,[11,12] mothers have a primary role in the communication of sexual information to their children and that communication can be a key element in modifying adolescent sexual behavior. Also more mothers discuss sexual topics with their daughters than with their sons.[12]

Several studies have found that adolescents who reported feeling connected to parents and family were more likely to delay sexual intercourse.[13–15] Teens who reported prior discussions of sexuality with their parents were seven times more likely to communicate with a partner about HIV/AIDS than those who had not.[16]

A study performed in Puerto Rico found that adolescents, whose parents reported having poor communication with their children and little to no monitoring or control over them, were more likely to engage in early sexual activities than those whose parents had closely bonded with them and maintained control of their households.[17] The objective of this article was to describe the sociodemographic and risk profile of a sample of HIV positive and HIV negative mothers of adolescent girls and to analyze differences between them.

METHODOLOGY

This was a qualitative research study that, through focus groups, explored the differences in communication skills between HIV negative and HIV positive mothers with their adolescent daughters regarding sexuality. For the purpose of this article, we analyzed the qualitative data. The study group was composed of 44 participants; twenty-two HIV positive mothers were recruited from the immunology clinics in Bayamón, Ponce and San Juan and twenty-two HIV negative mothers were recruited from external clinics and OB-GYN clinics from the three participating medical schools of Puerto Rico. Each mother had at least one daughter aged 12–17 living in the same home, was able to consent, was over 21 years and was willing to participate in focus groups sessions.

Prior to attending the focus group the participants answered 2 questionnaires. The first, the PR-CCHD Common Questionnaire, is a self-report that describes the general sociodemographic and risk profile of the participants. They also answered an additional questionnaire eliciting information about their daughters. Sociodemographic variables evaluated were: age, education level, working status, civil status, income, principal health provider, mother's age at first sexual relation, mother's age at first conception, numbers of children and adolescent girls. Life style and risk factors included use of alcohol, use of illegal drugs for mother and daughter, and incarceration. The PR-CCHD Common Questionnaire was previously tested and validated for diverse populations in Puerto Rico at the three sites of San Juan, Ponce and Bayamón.

A total of one pilot and six focus groups, two for each institution, were conducted following a methodology originally developed by R. Krueger. The focus group facilitator served as the group moderator and followed a written discussion guide. The discussion guide to explore communication consisted of a series of open-ended questions and a series of probe questions. Sessions were tape recorded, transcribed verbatim and the conversations were coded for specific topics. The moderator and a study assistant observed and took notes of each session. After the end of each session, the moderator and study assistant convened and discussed any observed general trends in responses. All qualitative analysis was conducted in Atlas.Ti version 5.2. Descriptive statistics like mean, standard deviation and percentages were used to evaluate the variables distribution. Differences between continuous variables were evaluated with *t*-tests. Proportion comparison was evaluated with the Chi-square or Fisher's exact statistic where applicable. Significance level was set at .05. All statistical procedures were done in SPSS v14.0.

RESULTS

A total of 44 participants were enrolled, 50% HIV positive mothers and 50% HIV negative mothers (Table 1). The mean age for both groups was similar (mean=41 years old).

Regarding family composition, 63.6% of the participants reported a live-in partner and 12.5% of HIV positive and 35% of HIV negative mothers were married. Sixty-eight percent of the participants reported having 3 or more children and 79.5% had only 1 teenage daughter.

Table 1. Sociodemographic data, sample size by research site

Institution	HIV+ Mothers ($n = 22$)	HIV– Mothers ($n = 22$)
Universidad Central del Caribe	7	6
UPR School of Medicine	8	6
Ponce School of Medicine	7	10
TOTAL	22 (50%)	22 (50%)

With respect to education, 68.2% of the mothers completed 12 years or a higher education. In the HIV positive mothers group only 56.5% of the participants completed 12 years or more education while 89.5% of HIV negative mothers completed 12 years or more education.

Twenty-nine percent of the mothers reported monthly incomes lower than $300 and 70% reported less than $900. Eighty percent of the HIV positive mothers reported incomes of $600 or less, vs 20% of the HIV negative mothers who reported the same.

The principal healthcare provider was the government, 62.5% had the government health insurance plan (Health Reform) and 33.3% had private insurance. Puerto Rico's indigent population has relied exclusively on the local government for their healthcare needs. In 1994, the Commonwealth of Puerto Rico implemented the privatization of the public health system under the name Health Reform. This health insurance includes ambulatory services, surgical, hospitalization, maternity, mental health, prescription drug services, dental, emergency room, rehabilitation, drug addiction treatment, ground and air ambulance, laboratory testing, and catastrophic coverage (including AIDS, TB, cardiovascular, cancer, neonatal, intensive care, and others).

When comparing the use of alcohol in our sample we found that HIV positive mothers reported more use of alcohol than HIV negative mothers (87% vs 65%; $P<.05$), and the use of illicit drugs was 45.8% vs 5% ($P<.05$), respectively. Of those that used illicit drugs, the drug most commonly used was marijuana, follow by cocaine and crack. Also, HIV positive and HIV negative mothers reported their knowledge of their daughter's alcohol use (37.5% vs 20%, respectively) or illicit drug use (22.7% vs 5%, respectively) (Table 2).

Statistically significant differences ($P<.05$) were observed among HIV diagnosis and for the following variables: education, working status, income, marital status, age at first intercourse, and illicit drug use (Table 2).

DISCUSSION

The majority of HIV positive and HIV negative mothers completed 12 years or more education. This compared with US Census Bureau data that shows 61.3% of the women in Puerto Rico completed 12 years or more education.[18] Nevertheless, the HIV positive group were less educated. Gallegos et al found that Mexican parents with higher education levels scored higher in HIV knowledge and facilitated more general communication between parents and adolescents.[19]

HIV positive mothers and their daughters tended to use more alcohol and illicit drugs than HIV negative mothers and their daughters. Role modeling by the mother and the immediate environment to which children and adolescents are exposed are very important and may influence positive or negative behaviors in the children. Theory and evidenced based studies have demonstrated that behavioral interventions to prevent HIV/AIDS may be most effective when they are individualized, culturally sensitive and provide models of the desired behaviors.[20]

When compared with HIV negative mothers, HIV positive mothers were more likely to be unemployed, initiated sexual intercourse at early age, and had lower education. As in the study conducted in Nigeria, HIV positive mothers were younger, unemployed, had early sexual exposure, lower education and were married to polygamous spouses.[21]

One of the limitations of this study was the use of a convenience sample. For that reason, the results cannot be generalized to all HIV positive and HIV negative Puerto Rican women. The analysis of the qualitaitve data will be published in the future.

CONCLUSION

There are many significant differences among HIV positive and HIV negative mothers. Specifically, the HIV positive mothers are less educated, unemployed and have more experience with alcohol, and illicit drugs. Also, they

Table 2. Characteristics of groups

CHARACTERISTICS	HIV+ Mothers ($n= 22$)	HIV– Mothers ($n= 22$)
Mothers using alcohol	87.5%	65%*
Daughters using alcohol	37.5%	20%
Mothers using illicit drugs	45.8%	5% *
Daughters using illicit drugs	22.7%	5.9%
Education (12 years or more)	56.5%	89.5% *
Employed	14.3%	86.4%*
Mother's civil status (Married)	12.5%	35% *
Mother's age at first sexual intercourse	16 yrs (mean)	19 yrs* (mean)
Mother's age at first conception	19 yrs (mean)	23 yrs* (mean)

* $P<.05$

had earlier sexual exposure and pregnancy. Parenting and communication skills can be affected among HIV positive women, in part, due to the sociodemographic characteristics of this group. It is possible that the sociodemographic characteristics of HIV positive women affect their parenting and communication skills. The same factors that may have led to these women to be infected by HIV in the first place might also be compromising their roles as effective parents. Researchers and policymakers should consider the impact of sociodemographic factors among HIV positive Puerto Rican participants when designing programs or interventions aimed to improve HIV prevention. Prevention, parenting and educational interventions targeting mothers of adolescent girls need to consider these issues in their design.

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