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## Determinants of HIV/AIDS Risk Behaviors in Expectant Fathers in Haiti

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**ABSTRACT** *Haiti has an HIV/AIDS epidemic of the highest magnitude outside of sub-Saharan Africa. Factors such as relationship power imbalances, traditional gender role acceptance, and patriarchal belief systems that devalue women's sexuality have increased Haitian women's vulnerability to HIV infection. Because of these influences and since the HIV epidemic is largely heterosexually transmitted, it is important to understand the role that men's beliefs and behaviors play in the continuing risk of young men and women in Haiti. The purpose of this study was to gather information from male community members through semi-structured interviews in order to describe the prevalence of HIV/AIDS risk behaviors (e.g., condom use, number of sexual partners) among expectant fathers in Haiti and identify predictive psychosocial variables of HIV/AIDS risk behaviors. Results from this study showed that men who were not married (OR = 0.22,  $p = 0.05$ ) and men who had medium (OR = 22.50,  $p < 0.001$ ) and high sexual communication (OR = 36.51,  $p < 0.001$ ) were more likely to use condoms. This study also showed that high stigma associated with HIV (OR = 16.07,  $p < 0.05$ ), low HIV knowledge (OR = 0.10,  $p < 0.01$ ), and high decision making power (OR = 62.52,  $p < 0.001$ ) were predictors of multiple sex partners for the expectant fathers in the sample. HIV prevention programs should be designed to increase knowledge about HIV transmission, treatment, prevention and personal risk of contraction as well as correct misconceptions about individuals with HIV or AIDS and promote sex communication among partners.*

**KEYWORDS** *Haiti, HIV risk behaviors, HIV/AIDS Knowledge, Men, Power, Sex communication, Stigma.*

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### INTRODUCTION

The adult HIV prevalence rate in Haiti is the highest among Caribbean countries (5.6%) and the highest outside of Africa.<sup>1</sup> Haiti currently has over 280,000 HIV positive persons, which accounts for 65% of the total HIV positive cases in the Caribbean. In 2003, there were approximately 24,000 total deaths due to AIDS, which represents 69% of all HIV related deaths in the Caribbean.<sup>1</sup> Heterosexual transmission of HIV appears to be the primary route of HIV transmission in Haiti.<sup>1,2</sup> The high percentage of people living in poverty, multiplicity of sexual partners, low condom use, traditional gender role acceptance, patriarchal belief

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systems that devalue women's sexuality, and relationship power are some key contributing factors to Haiti's HIV/AIDS epidemic.<sup>3-5</sup> For example, Kershaw et al.<sup>5</sup> found that factors associated with gender and power (e.g., low relationship decision power, abuse, poor communication) significantly influenced unprotected sex, multiple partnerships, and self-reported STI acquisition among pregnant women in Haiti.

One of the strongest influences on how quickly the epidemic spreads is the sexual behavior and attitudes of men.<sup>7</sup> In Haiti, as well as in most other countries, the HIV/AIDS epidemic is driven by health behaviors that expose persons to higher risks of infection. HIV/AIDS prevention efforts are largely focused on protecting vulnerable groups; therefore, women have been targets of many of these programs.<sup>7</sup> In addition to biological differences between men and women that make women more vulnerable to HIV infection,<sup>8</sup> gender discrimination and the patriarchal belief systems that devalue women's sexuality make women significantly more vulnerable to HIV and other sexually transmitted infections.<sup>6</sup> One study found that 61% of Haitian women felt that the decision on whether to use a condom was exclusively the male's right.<sup>4</sup> These factors perpetuated by men in society are large barriers to the development of women-focused HIV prevention programs.

Previous studies have indicated that the male partner's behavior may be a leading contributor to the risk of HIV infection among socially disadvantaged women.<sup>9</sup> Because of this, it is important to understand the role that men's beliefs and behaviors play in the continuing risk to young men and women in Haiti. In addition, research has shown that pregnant women are at high risk for STIs and HIV and are more likely to engage in risky behavior (such as unprotected sex) because they do not need to worry about pregnancy prevention.<sup>5,10</sup> However, little research has looked at the role expectant fathers play on HIV risk behavior. Pregnancy may be an ideal time to include hard-to-reach heterosexual men in prevention, by recruiting them through their pregnant partners during prenatal care visits.

Research regarding HIV/AIDS risk behavior correlates in Haitian men is limited. The primary objectives of the study are to describe the prevalence of HIV/AIDS risk behaviors among expectant fathers in Haiti and identify predictive psychosocial variables of HIV/AIDS risk behaviors. This study will provide formative data to guide the development of culturally relevant community-based HIV/STI prevention intervention.

## **MATERIALS AND METHODS**

### **Study Site**

Most health care services in Haiti are delivered in community dispensaries of nearby hospitals. This study was conducted at community dispensaries associated with Hospital Albert Schweitzer (HAS) in Deschappelles, Haiti. HAS serves more than 250,000 individuals from the Artibonite Valley. The Artibonite Valley has seven areas that vary in population, each with a community dispensary. Four of the seven affiliated community dispensaries were recruitment locations for this study; three were town communities on flat land and one was in a rural mountainous community.

### **Procedures**

We conducted a cross-sectional survey on men's HIV risk behaviors from May 2004 to July 2004. Individual semi-structured interviews with 93 expectant fathers were

conducted. Additional information was elicited on sexual communication between partners, male/female relationship power dynamics, barriers to condom use, and individual understanding of HIV/AIDS risk knowledge. Recruitment occurred by asking pregnant women who presented at antenatal clinics in the community dispensaries to provide referral information for the father of the child she was carrying. The interviewer greeted and spoke to each pregnant woman in the clinic and identified himself as being affiliated with Hospital Albert Schweitzer. The interviewer provided a detailed explanation of the study and then asked the pregnant woman for the home address of the father of the child and the best time of the week to meet with him. Male partners were excluded from the study only if they would not be in the Central Artibonite Valley during the time of the study. The male partners were contacted in person and provided with a detailed description of the study. The participants were then given a consent form and asked to participate in a brief 45-minute interview. The participants were informed that their participation in the study was confidential and completely voluntary. Participants were also informed that the information they provided will give researchers and the community a greater understanding of the social and cultural influences on HIV/AIDS risk behaviors, as well as help to improve HIV prevention efforts.

### Measures

Questionnaire data were collected by four interviewers who had been given a 3-day training course on data collection procedures. All interviews were conducted by male interviewers who were native Haitian Creole speakers. All interviews were conducted face-to-face in Haitian Creole in a private area either inside or outside the participants' home. Expectant fathers were asked questions pertaining to demographics, HIV sexual risk behavior, sex communication, HIV/AIDS knowledge, decision making, and stigmas toward individuals with HIV or AIDS.

*Demographics* Personal information about the participant was obtained, including age, occupation, income, and marital status. Additional information was collected on participant's future involvement in the lives of their newborn child.

*HIV Sexual Risk Behavior* A series of questions assessed the frequency of condom-protected sexual intercourse in the past year, the number of sexual partners in the past year, and information about perceived personal risk of HIV transmission. The number of sexual partners was collected as a continuous variable and then dichotomized to one sexual partner and >1 sexual partners because previous studies have shown that multiple sex partners increases the risk for HIV transmission.<sup>7</sup> The majority of participants had one or two sex partners in the past year. Therefore, it was not viable to model number of sex partners as a continuous variable, and there were not enough people in the three or more categories to provide statistically meaningful results. Participants were asked if they perceived themselves as having no risk or some risk for HIV transmission compared to other men in their community. These measures have been used and validated in other studies of risk for HIV.<sup>11,12</sup>

*Sex Communication* Five questions were used to assess the degree to which men have discussed sex related topics with their sexual partners. Topics include condom use, STD prevention, infidelity, and partner sex history. This measure has exhibited validity and good internal consistency in previous studies.<sup>13</sup> Participants were

instructed to respond to the questions using a five-option scale (0 = never, 1 = not often, 2 = sometimes, 3 = often, and 4 = all of the time). An overall sex communication score for each participant was calculated by summing the scores from each question. The scale had adequate internal consistency (e.g., coefficient alpha was 0.79). Three levels of sex communication were defined by examining the variable's distribution of the answers. The variable had a strong negative skew, with most people reporting low levels of sexual communication. In order to have an adequate number of participants in each group, we grouped participants using a narrower range for the lower scores. Low sex communication was defined as an overall score of 0–5, medium as a score of 6–10, and high as a score of 11–20.

*HIV/AIDS Knowledge* This nine-question measure assessed the expectant fathers' knowledge about HIV/AIDS risk. The measure was adopted from a previous study that demonstrated adequate internal consistency.<sup>4</sup> One point was given for each correct answer. A knowledge score was calculated for each participant by summing the total number of points. The internal consistency coefficient alpha was 0.81. Three levels of knowledge were defined by examining the distribution of the answers and placing participants in high, medium, and low groups. The levels defined were as follows: low = 0–3 points, medium = 4–6 points and high = 7–9 points.

*Primary Decision Maker/Power* In order to assess the participants' perception of who has more decision making power in the relationship, a five-item scale was adapted from the Decision-Making Dominance Subscale of the Sexual Relationship Power Scale (SRPS).<sup>14</sup> Participants were instructed to report who in the relationship usually has more say concerning several domains. Sample questions include, "Who usually has more say about whether you have sex?" and "Who usually has more say when you talk about serious things?" Responses were reported according to a three-option scale (0 = your partner, 1 = both of you equally, and 2 = you). An overall decision making power score for each participant was calculated by summing the scores from each question. The internal consistency coefficient alpha was 0.71. No participants reported that their partner is the primary decision maker on any question. Because the range of this scale was shorter than the other scales and the distribution showed that there were many people with the same score, we were unable to obtain adequate numbers in each group using a three-group split. Therefore, we dichotomized the variable at the scale midpoint. An overall decision making power score of 0–5 was low decision making power, and a score of 6–10 was representative of the high decision making power.

*HIV/AIDS Stigma* A five-item scale was adopted from a previous study to assess the level of stigma that participants felt toward individuals with HIV or AIDS.<sup>15</sup> Sample items include: "People with HIV/AIDS have been hanging around the wrong crowd," and "Getting HIV/AIDS means a person is dirty." The expectant fathers were instructed by interviewers to respond by either disagreeing or agreeing with each item. Participants were given one point for every item to which they agreed. An overall stigma score was calculated for each participant by summing the total number of points. The internal consistency coefficient alpha was 0.71. Three levels of stigma were defined by examining the distribution. The levels defined were as follows: no stigma = 0 points; some stigma = 1–2 points; and high stigma = 3–5 points.

### Data Analytic Strategy

Means, standard deviations, and frequencies were used to characterize the study population. Chi-squared tests were performed to identify statistically significant differences between groups. Bivariate logistic regression was performed to determine unadjusted associations. Backwards elimination logistic regression was performed for independent variables to identify the “best” set of predictors of the dependent variables (reported condom use and more than one sexual partner in the past year) for the multivariate analysis. *P* value <0.05 was considered statistically significant for logistic regression models. In addition, we included two key demographic variables (e.g., age, marital status) in both multivariate models because of their conceptual importance with HIV risk behavior. For these analyses, odds ratios (ORs) were reported. Analyses were performed using statistical software (SAS version 8.2; SAS Institute Inc, Cary, NC).

## RESULTS

### Study Participants

During the months of May 2004 to July 2004, research assistants met with a total of 162 pregnant women during one of their prenatal visits at a dispensary. Twelve women refused to provide referrals, and ten women did not refer because their partner was out of the valley for the study period. Referrals were provided for 141 expectant fathers (referral rate of 93%). Of the men referred, four men declined to participate in the study for personal reasons, and 44 men could not be located because they were not contactable during the study period. Therefore, a total of 93 expectant fathers were interviewed out of the 109 eligible for this study with an 85% participation rate.

The mean age of all interviewed expectant fathers was 39.0 years (SD = 9.6). As shown in Table 1, 46% of the participants were farmers, 19% worked in masonry, 7% were businessmen, 5% were taxi drivers, 5% were teachers, and 17% had other occupations. Thirty-six percent of the expectant fathers were married and 62% lived with their partner but were not married. Twenty-three percent of the referrals from pregnant women were obtained from the Bastien dispensary, 24% from Deschappelles, 27% from Liancourt, and 27% from Verrettes.

Monthly income for half the sample was not reported because the participant did not earn a specific amount per month or did not know how much he earns. As shown in Table 1, 11% of the participants earned the U.S. equivalent of \$28–\$55/month, 11% earned \$56–\$83/month, 14% earned \$84–\$111/month, and only 6% earned at least \$112 or more per month.

Of the 93 expectant fathers interviewed, 32% of them used condoms in the year prior to the interview (Table 2). Seventy-one percent of the men reported having only one sexual partner in the past year, 14% had two partners, 11% had three partners, and only 4% had four or more partners.

The range of reported number of sexual partners was one to seven with a mean of 1.5.

As observed in Table 2, only 24% of participants perceived themselves at risk for HIV. In addition, 55% of the expectant fathers reported low decision making power, and 45% of the men reported high decision-making power. Most (61%) of the men reported low sex communication with their partners, 33% reported medium sex communication, and only 5% reported high sex communication.

**Table 1. Descriptive characteristics of study participants ( $n = 93$ )**

Variable	Distribution $n(\%)$
Age	
<20 years	1 (1.1)
21–30 years	22 (23.9)
31–40 years	46 (50.0)
41–50 years	14 (15.2)
51 years and older	9 (9.8)
Occupation	
Farmer	43 (46.2)
Masonry	18 (19.4)
Businessman	6 (6.5)
Taxi driver	5 (5.4)
Teacher	5 (5.4)
Other	16 (17.2)
Monthly income (translate)	
0–\$27 U.S.	4 (4.3)
\$28–\$55 U.S.	10 (10.8)
\$56–\$83 U.S.	10 (10.8)
\$84–\$111 U.S.	13 (14.0)
\$112 U.S.	6 (6.5)
No specific amount	26 (28.0)
I don't know	21 (22.6)
Marital status	
Married	33 (35.9)
Not married but live together	57 (62.0)
Other	2 (2.2)
Recruitment dispensary	
Bastian	21 (22.5)
Deschappelles	22 (23.7)
Liancourt	25 (26.9)
Verrettes	25 (26.9)

Most (58%) men in the study were observed to have high HIV/AIDS knowledge. These participants showed that they had correct knowledge regarding common risk pathways (e.g., sex without condoms, multiple partners, blood transfusion) as well as knowledge pertaining to HIV “myths.” For example, most men reported that HIV/AIDS cannot be contracted through mosquito bites or sharing utensils with someone who has HIV/AIDS. Forty-five percent of the sample was identified as not having any stigmatization toward individuals with HIV or AIDS, 17% of the sample was identified as having some stigmatization, and 27% were identified as having high stigmatization (Table 2).

### Bivariate Analysis

Bivariate correlations among condom use in the past year and marital status, perceived risk of contracting HIV, HIV/AIDS stigmas, HIV/AIDS knowledge, sex communication, and power/decision maker are presented in Table 3a. A moderate but not statistically significant association was observed between high HIV/AIDS knowledge and condom use in the past year. Statistically significant associations

**Table 2. Distribution of dependent and independent variables (n = 93)**

Variables	Distribution n(%)
<b>Dependent</b>	
Condom use in past year	
No	62 (68.13)
Yes	29 (31.87)
Sexual partners in past year	
1 partner	62 (71.26)
More than 1 partner	25 (28.74)
<b>Independent</b>	
Perceived risk	
No risk	51 (76.12)
Risk	16 (23.88)
Power/Decision making	
Both partners equally	50 (54.95)
Male partner	41 (45.05)
Sexual communication	
Low	57 (61.29)
Medium	31 (33.33)
High	5 (5.38)
HIV/AIDS knowledge	
Low	12 (12.90)
Medium	27 (29.04)
High	54 (58.06)
HIV/AIDS stigma	
No stigma	34 (45.34)
Some stigma	13 (17.33)
High stigma	28 (27.33)

**TABLE 3a. Bivariate logistic regression predicting condom use in the past year**

Predictor	OR (unadjusted)	95% CI	p value
Number of sex partners in last year			
1 partner	1.00		–
>1 partner	1.04	(0.38–2.83)	0.9382
Marital status	0.29	(0.10–0.86)	0.0251
Perceived risk	0.95	(0.23–4.00)	0.9367
HIV/AIDS stigma			
None	1.00		–
Low	0.53	(0.12–2.29)	0.3912
High	0.70	(0.24–2.07)	0.519
HIV/AIDS knowledge			
Low	1.00		–
Medium	3.85	(0.418–35.47)	0.2341
High	7.45	(0.89–62.13)	0.0634
Sex communication			
Low	1.00		–
Medium	20.40	(6.20–67.16)	<0.0001
High	40.80	(3.79–439.08)	0.0022
Power/Decision maker	1.22	(0.50–2.97)	0.6606

**TABLE 3b. Bivariate logistic regression predicting more than one sexual partner in the past year**

Predictor	OR (unadjusted)	95% CI	<i>p</i> value
Marital status	0.80	(0.30–2.14)	0.6536
Perceived risk	0.07	(0.01–0.55)	0.0117
HIV/AIDS stigma			
None	1.00		–
Low	6.22	(0.97–39.81)	0.0536
High	23.80	(4.65–121.87)	0.0001
HIV/AIDS knowledge			
Low	1.00		–
Medium	0.27	(0.06–1.13)	0.0718
High	0.10	(0.02–0.40)	0.0013
Sex communication			
Low	1.00		–
Medium	0.29	(0.087–0.95)	0.0403fs
High	1.19	(0.18–7.78)	0.8537
Power/Decision maker	13.28	(3.97–44.43)	<0.0001

were observed between condom use in the past year and marital status (OR = 0.29,  $p < 0.05$ ), medium sex communication (OR = 20.40,  $p < 0.01$ ), and high sex communication (OR = 40.80,  $p < 0.01$ ).

Bivariate correlations among number of sexual partners in the past year and marital status, perceived risk of contracting HIV, HIV/AIDS stigmas, HIV/AIDS knowledge, sex communication, and power/decision maker are presented in Table 3b. Statistically significant associations were observed between having more than one sexual partner in the past year and perceived risk of contracting HIV (OR = 0.07,  $p < 0.05$ ), medium sex communication (OR = 0.29,  $p < 0.05$ ), and power/decision making (OR = 13.28,  $p < 0.0001$ ). For HIV/AIDS stigma, a moderate but not significant association was observed at the moderate stigma level (OR = 6.22,  $p = 0.054$ ), and a statistically significant association was observed at the high stigma level (OR = 23.80,  $p < 0.01$ ). A significant association was also observed between the number of sexual partners in the past year and high HIV/AIDS knowledge (OR = 0.10,  $p < 0.01$ ), but only a moderate non-significant association was observed at the medium knowledge level (OR = 0.27,  $p = 0.07$ ).

**TABLE 4a. Multivariate logistic regression predicting condom use in the last year**

Variable	OR (adjusted)	95% CI	<i>p</i> value
Age			
<31 years	1.00		–
31–40 years	0.90	(0.21–3.80)	0.8829
41 years	0.65	(0.12–3.57)	0.6223
Marriage	0.22	(0.06–1.01)	0.0517
Sex communication			
Low	1.00		–
Medium	22.50	(6.31–80.20)	<0.0001
High	36.51	(2.95–451.10)	0.005

**TABLE 4b. Multivariate logistic regression predicting more than one sexual partner in the past year**

Variable	OR (adjusted)	95% CI	<i>p</i> value
Age			
<31 years	1.00		–
31–40 years	0.86	(0.10–7.18)	0.8889
41 years	9.03	(0.42–190.36)	0.1569
Marriage	0.51	(0.07–3.91)	0.5173
Power/Decision maker	62.52	(3.34–999.99)	0.0057
HIV/AIDS knowledge			
Low	1.00		–
Medium	0.02	(0.001–0.68)	0.0295
High	0.02	(0.001–0.74)	0.0343
HIV/AIDS stigma			
None	1.00		–
Low	3.54	(0.203–61.77)	0.3860
High	16.07	(1.16–222.14)	0.0382

### Multivariate Analysis

Backward analyses showed that while adjusting for age and marital status, the most parsimonious predictive model for condom use in the past year included medium sex communication (OR = 22.50,  $p < 0.01$ ) and high sex communication (OR = 36.51,  $p < 0.01$ ) (Table 4a). Men who had medium and high sexual communication were more likely to use condoms. In addition, individuals who were married were less likely to use condoms (OR = 0.22,  $p = 0.052$ ).

As seen in Table 4b, while adjusting for age and marital status, the most parsimonious adjusted predictive model for having multiple sex partners included high decision-making power (OR = 62.53,  $p < 0.01$ ), medium HIV/AIDS knowledge (OR = 0.02,  $p < 0.05$ ), high HIV/AIDS knowledge (OR = 0.02,  $p < 0.05$ ), and high HIV/AIDS stigma (OR = 16.07,  $p < 0.05$ ). Expectant fathers with medium-high HIV/AIDS knowledge were less likely to have multiple sexual partners. Being the primary decision maker and having high stigmas toward individuals with HIV or AIDS were associated with having multiple sex partners.

### DISCUSSION

This study was conducted to describe the prevalence of HIV/AIDS risk behaviors among expectant fathers in Haiti and to identify predictive psychosocial variables of HIV/AIDS risk behaviors. Results showed that the majority of expectant fathers in our sample did not use condoms. This finding is consistent with other studies of Haitians<sup>4</sup>; no condom use was reported by a majority of the sample. In addition, Haitian men in this study had low rates of condom use even if they had more than one partner, indicated by the lack of relationship between condom use and having multiple partners in the past year. These HIV risk behaviors places both them and their female partners at increased risk of contracting HIV.<sup>9</sup>

It is important to look at the male's attitude toward sex and the woman's relationship with her male partner within the context of Haitian culture.<sup>16</sup> Cultural norms are likely to discourage condom use. Having children is especially important

to Haitian men and women. Therefore, by choosing not to use condoms, they simultaneously increase their chances for pregnancy and HIV transmission.<sup>17</sup>

Despite the low levels of condom use overall, there were a number of factors related to condom use among Haitian expectant fathers. More than 50% of the expectant fathers interviewed had low levels of communication with their partners, signifying inadequate levels of communication regarding safer sex practices. However, men who had moderate to high levels of communication were more likely to use condoms. This suggests that prevention programs aimed at increasing communication about sex among young couples may be beneficial in increasing safe sex practices. Findings from previous studies show that increased sex communication enables couples to negotiate safer behaviors, such as condom use, during sexual encounters.<sup>16</sup> This may be particularly important for married couples since our results showed that marriage was a barrier to condom use.

In addition to low condom use, results from the present study also show that approximately one-third of the interviewed men had multiple sex partners in the past year. It must be understood that engaging in multiple lifetime sex partners, premarital sex, and unofficial polygamy are behaviors that will be difficult to change because they are accepted behaviors for men within the Haitian culture.<sup>18</sup> Furthermore, these risky behaviors may significantly contribute to the rapid spread of HIV and become obstacles for HIV prevention efforts. High stigma associated with HIV, low HIV knowledge, and high decision making power were found to be predictors of multiple sex partners for the expectant fathers in the sample. Results from this study indicate that a lack of HIV/AIDS knowledge alone did not account for failure to stay monogamous in a relationship. Knowledge relating to HIV/AIDS can influence the likelihood of men engaging in healthier sexual practices, but programs simply aiming to increase knowledge will not be enough to affect significant change. Most Haitians are aware of the dangers of HIV/AIDS, but personal risk denial and stigma are obstacles to behavior change efforts.<sup>19</sup> In addition, it may be important to try to adjust power differentials so that women are more empowered to limit multiple partnership behavior. Also, it is important for individuals to have reduced fear of and stigma against people living with HIV in order for community health personnel to implement risk-reduction strategies. Prevention programs should be designed to increase knowledge about HIV transmission, treatment, prevention and personal risk of contraction as well as correct misconceptions about individuals with HIV or AIDS and promote sex communication among partners.

### **Limitations**

Due to the small sample size, there was limited power to determine statistically significant associations, especially with variables with categories that had few observations. This is somewhat evident from the large confidence intervals found on many of our primary predictors. Small sample and cell sizes can increase measurement error. Therefore, it is important to confirm these results with a larger study. Interviewers actually received many referrals from pregnant women for their partners. However, the partners were often very difficult to locate. Interviewers would travel long distances for appointments with expectant fathers, and on many occasions the man was not present because he was either working or out of town. It is possible that our sample of expectant fathers is different than the population of expectant fathers because our sample reflects only those fathers that were in the valley for the short duration of the study. Expectant fathers who were traveling

because of work may be different from the men who were present and available in the study sites. Future studies should aim to recruit more men and increase the participation rate by recruiting them directly.

Another limitation to this study was the possible introduction of bias. Although participants were reassured that all responses to questions would be kept confidential, there existed potential for reporting bias. Some participants may have under-reported certain behaviors such as the number of sexual partners in the past year for fear that their responses may not be kept private. Future studies should make use of more objective measures such as biological STD tests that would help to support and strengthen self-report data.

### Future Directions

Formative data can be used from the present study to design culturally sensitive community-based prevention interventions for populations of high risk for HIV infection. For optimal benefit to the community, these prevention interventions should be integrated with the existing health care structure to maximize resources. Interventions should continue to stress importance of condom use as well as selecting fewer sexual partners. Interventions for risk reduction should incorporate men and women and place additional emphasis on sex communication between partners, HIV/AIDS education, and changing social norms about power and decision-making. HIV/AIDS prevention activities should empower sexually active Haitians to make informed choices and to adopt behaviors that protect their health and reduce their risk and vulnerability to HIV and other STDs.

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