PAA 2008 Abstract Submission

Gender in Context: Women and HIV/STI risk behavior in the Dominican Republic and Haiti

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Hispaniola is the area of the Americas hardest-hit by HIV/AIDS. In the island's two countries, Haiti and the Dominican Republic (DR), half of new infections are among women, and poor and rural women are at highest risk. Although prior Caribbean research has explored family structure, gender roles, and HIV/STI risk, no comparative study to date has examined these links in Haiti and the DR. Using recent, nationally-representative data, this paper examines how characteristics of women and their sexual partnerships are associated with women's HIV knowledge and reports of condom use at last sex. The research questions examined include: 1) What are the structural, economic, and gender role characteristics of sexual partnerships of Haitian and Dominican women? 2) Which characteristics of women and their sexual partnerships are associated with HIV knowledge and preventive behavior? 3) Is the association between partnership characteristics and HIV knowledge and behavior mediated by women's relative power?

INTRODUCTION

The island of Hispaniola is the area of the Americas hardest-hit by the HIV/AIDS epidemic. Hispaniola is home to at least 250,000 people infected with HIV, in a population of 18 million (UNAIDS 2006). Haiti, which makes up the western third of Hispaniola, is the poorest country in the Western hemisphere, and until recently had the highest HIV prevalence of any country outside of sub-Saharan Africa. The Dominican Republic, which takes up the remaining two-thirds of the island, has a much lower HIV prevalence. Haiti has recently experienced an apparent decline in HIV prevalence estimates, from a peak of 6% adolescent and adult prevalence in the mid-1990s to a current estimate of 2.2% (Cayemittes, Placide et al. 2007). However, it remains unclear how much of that decline was due to improvements in disease surveillance and estimation, AIDS deaths, or changes in risk behaviors. The HIV epidemic in the Dominican Republic (DR) has remained stable for several years, at about 1.1% adolescent and adult prevalence (Molina Achécar, Ramirez et al. 2003). In both countries, HIV infections among women now exceed those among men, and poor and rural women are particularly at risk (UNAIDS 2006).

Evidence from other developing countries indicates that in addition to physiological factors related to biological sex, gender—defined as the socially-constructed roles and expectations ascribed to men and women—affects women's risk for HIV (Parker, Barbosa et al. 2000; Rao Gupta 2000; Weiss, Whelan et al. 2000; Blanc 2001; Rao Gupta 2003; Turmen 2003; O'Sullivan, Hoffman et al. 2006; Pulerwitz, Barker et al. 2006). Gender works at multiple levels of society, from the individual woman to the broader social context, to structure the

opportunities, experiences, and choices of women (Mason and Smith 2003). Although several studies have described gender and sexual relationships in Haiti and the Dominican Republic, no comparative study has examined the multiple levels of context that put women in these countries at increased risk for HIV infection.

This paper is part of a larger study that seeks to investigate how both individual and community characteristics are associated with women's HIV-related outcomes in Haiti and the DR. In this paper, I focus on characteristics of individual women and their sexual partnerships, including family/relationship structure and partner power dynamics. I examine two key HIV-related outcomes: women's knowledge about HIV transmission and prevention, and women's reports of condom use at last sexual intercourse. The independent variables include women's age, relationship type, residential arrangement, relationship commitment, partner age and educational homogamy, and women's economic dependence. I also examine whether the association between partnership characteristics and women's HIV knowledge and behavior is mediated by women's relative power, operationalized as decision making autonomy and control over economic resources.

Placed within the context of a larger comparative study of women's risk for HIV, this work has the potential to improve HIV prevention programs and policies in Haiti and the Dominican Republic, two high-poverty countries where women are at significant risk for HIV infection.

CONCEPTUAL FRAMEWORK AND RESEARCH QUESTIONS

Figure 1 shows the conceptual framework guiding this study, which integrates key components of the Ecological Theory and the Theory of Gender and Power to show the hypothesized connections among individual/relationship characteristics, women's relative power, and women's HIV-related outcomes. According to the Ecological Theory, the determinants of health work simultaneously at multiple levels of human social organization, from the individual to the macro-social (Bronfenbrenner 1979; Bronfenbrenner 1995; McLaren and Hawe 2005). The conceptual model in Figure 1 emphasizes that women's sexual partnerships provide one of the contexts that may affect HIV knowledge and behaviors. In addition, drawing from the Theory of Gender and Power (Connell 1987; Wingood and DiClemente 2002), the conceptual model shows that gender-based inequalities within women's sexual relationships shape women's behaviors. The focal relationship of interest in the model is the association between individual/relationship characteristics and women' HIV-related outcomes. The model depicts individual and relationship characteristics as mediated by, or working through the mechanism, of women's relative power.

This study is interested in three research questions: First, what are the structural, economic, and gender role characteristics of sexual partnerships of Haitian and Dominican women? Second, which characteristics of women and their sexual partnerships are associated with HIV knowledge and preventive behavior? Third, is the association between partnership characteristics and HIV knowledge and behavior mediated by women's relative power? These questions are examined separately in two population-based samples of women, one from the Dominican Republic and one from Haiti, and similarities and differences in these two countries are described.

The study focuses on two outcomes: women's knowledge about HIV transmission and prevention, and women's reports of condom use at last sex. The key characteristics of the individual and her relationship to be examined in this study are: 1) women's age; 2) relationship

type; 3) residential arrangement; 4) relationship experience; 5) partner homogamy; and 6) women's economic dependence. Potential mediating variables to be examined in this study include: 1) access to economic resources; 2) control over economic resources; and 3) decision-making autonomy.

DATA SOURCE AND METHODOLOGY

This study uses existing data from the Demographic and Health Surveys (DHS) in the Dominican Republic (2002) and Haiti (2005). Both surveys used multistage stratified sampling to achieve nationally-representative samples of households and adults living within households. This study uses individual data from interviews with women ages 15-49 years.

In the DR, 23,384 women were interviewed. From this sample, I removed 6,203 women who reported not being sexually active in the past year and an additional 1,045 who were missing data on study variables, resulting in an analytic sample of 16,136 Dominican women. In Haiti, 10,757 women were interviewed. From this sample, I removed 3,425 women who reported not being sexually active in the past year and an additional 366 who were missing data on study variables, resulting in an analytic sample of 6,966 Haitian women.

The study uses logistic regression to test the associations between individual/relationship characteristics and women's HIV-related outcomes. Similarities and differences in Haiti and the DR are described.

PRELIMINARY RESULTS

Table 1 shows descriptive characteristics (weighted percentages and means) of the sexually active, community-resident women in the analytic samples from Haiti and the DR. Women in the Dominican sample were an average of 31.5 years old and had an average of 7.2 years of education. Women in the Haitian sample were slightly younger (a mean of 30.4 years) and less educated (4.4 years). Most women in both samples reported being in a common-law marriage. Women in the Haitian sample were less likely to reside with their sexual partner, and to report being sexually active in the four weeks prior to interview. While 55.4% of women in the Haitian sample were rural residents, only 32.8% of women in the DR sample were. Dominican women tended to live in households with more amenities such as flush toilets and electricity. In both countries, the majority of women live in households with no transportation. Finally, condom use among women in both samples was relatively low, with 5.8% of women in the DR sample and 11.2% of women in the Haiti sample reporting having used a condom at last sexual intercourse.

Preliminary logistic regression models (results not shown here) indicate that several characteristics of women and their sexual partnerships are associated with HIV knowledge and with reported condom use. In the DR, woman's age, partner's age relative to the woman, rural residence, coresidence with partner, and number of children were each negatively associated with condom use. In addition, formal and common-law marriages (as compared with never married) were significantly and negatively associated with condom use. Number of sex partners, number of lifetime marriages/unions, and number of household amenities were significantly and positively associated with condom use.

In Haiti, woman's age, rural residence, being in a common-law marriage and or a casual relationship, coresidence with partner, Protestant religion, and number of living biological children were each significantly and negatively associated with condom use at last sex.

FUTURE WORK

The preliminary analyses suggest that several individual and relationship characteristics are associated with women's condom use and STI symptoms, and that the characteristics important in the Dominican Republic may differ from those in Haiti. Next, I will refine the models and examine potential interactions. In addition, I will examine the potential for mediation by women's relative power.

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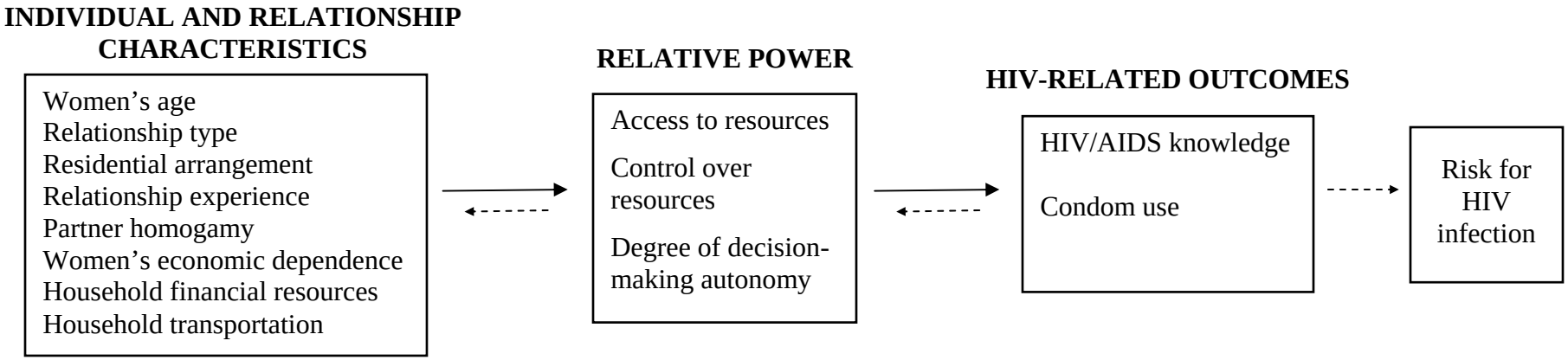
Table 1. Selected characteristics of sexually active Haitian and Dominican women ages 15-49 (Haiti 2005 & Dominican Republic 2002 DHS).

	Dominican Republic		Haiti	
Sample Size		16,136		6,966
Mean Age in Years		31.5		30.4
Mean Years Completed Education		7.2		4.4
Mean Age at First Sex		17.4		17.2
Mean Proportion of Lifetime Lived in Community		0.63		0.58
	Percent (weighted)	**N (unweighted)**	**Percent (weighted)**	**N (unweighted)**
Woman's Age				
15-19	8.9	1,543	12.0	811
20-24	17.4	2,794	19.4	1,351
25-29	18.3	2,867	20.0	1,374
30-34	17.3	2,770	14.5	1,009
35-39	16.3	2,593	14.0	955
40-44	12.0	1,983	10.5	752
45-49	9.8	1,586	9.8	714
Current Relationship Status				
Never married	4.9	610	13.0	807
Formally Married	22.9	3,448	62.5	4,428
Common-law Married	57.7	9,959	20.0	1,399
Widowed or divorced	14.4	2,119	4.6	332
Has a Partner who Resides with Her	74.1	12,366	53.3	3,774
Marriage/Union History				
Never married/in union	4.9	610	13.0	807
One marriage/union	59.9	9,854	55.9	3,911
More than one marriage/union	35.1	5,672	31.1	2,248
Recent Sexual Activity with Main Partner				
Active in last 4 weeks	79.6	12,984	67.3	4,679
Not active in last 4 weeks- postpartum	1.9	336	5.2	366
Not active in last 4 weeks- not post.	18.5	2,816	27.5	1,921
Religion				
Catholic	64.7	10,508	49.9	3,667
Other Christian/Protestant	10.7	1,697	42.4	2,912
Other	1.3	175	0.8	41
No religion	23.3	3,756	6.9	346
Rural Residence	32.8	6,326	55.4	3,746

Table 1, continued

	Dominican Republic		Haiti	
Sample Size		16,136		6,966
	Percent (weighted)	**N (unweighted)**	**Percent (weighted)**	**N (unweighted)**
Number of children < 5 years old				
0	57.5	9,175	50.8	3,376
1	29.0	4,568	32.9	2,354
2	11.6	2,033	14.5	1,104
3	1.8	333	1.8	129
4-5	0.1	27	0.0	3
Currently pregnant	7.0	1,190	8.6	6,319
Household Amenities Present (index of: flush toilet, electricity, radio, television, telephone, refrigerator)				
0	1.6	486	28.4	2,210
1	5.4	1,370	32.1	2,425
2	10.2	2,255	11.2	721
3	14.5	2,797	13.7	804
4	20.0	3,365	7.7	455
5	22.1	3,034	5.1	264
6	26.1	2,829	1.8	87
Best Available Transportation				
None	54.4	8,703	75.9	5,307
Bicycle	0.7	154	15.6	1,087
Motorcycle	24.2	4,849	2.5	227
Car	20.8	2,430	5.9	345
Visited a Health Facility in Last 12 Months	72.3	4,481	43.7	3,094
Used a Condom at Last Sex with Main Partner	5.8	825	11.2	756

Figure 1. A conceptual model of the connections among individual and relationship characteristics, relative power, and women's HIV-related outcomes.



Key: ——— = relationship examined in the current study
- - - - - - - = potential relationship not examined in the current study