Determinants of HIV risk perception among adolescents in four sub-Saharan African countries

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Background

The HIV/AIDS pandemic is one of the most important and urgent public health challenges facing Sub-Saharan African countries. The epidemic is taking an enormous toll on the Sub-Saharan region's youth, and is fastest growing among this age group. Focusing on young people has thus been suggested as one of the most effective approaches to confronting the epidemic, particularly in high prevalence countries.

Many factors explain young people's vulnerability including their limited efficacy in protecting their sexual and reproductive health. Earlier studies have shown that, despite a great awareness of the dangers of HIV/AIDS, young people continue to engage in sexual behaviors that place them at high risk of contracting the disease (Bernardi, 2002; Kohler, Behrman and Watkins, 2007; Biddlecom et al., 2007). This is often due to an incorrect or lacking assessment of HIV risk, which could have served as a motivation for adolescents to change the behaviors that place them at risk (UNAIDS, 1999; Akwara et al., 2003; Kibombo et al., 2007). Indeed, psychosocial models such Health Belief Model have shown that the perceived susceptibility, that is, an individual's perception of being personally vulnerable to a threat as well as his beliefs about the efficacy of various actions he can take in order to reduce the risk of contracting a disease, are critical factors that explain why individuals fail to engage in health-related recommendations (Ajzen and Fishbein, 1980; Janz and Becker 1984; Petosa and Jackson 1991).

However, little research has examined the determinants of risk perception, especially among adolescents. In this article, we use data from nationally representative surveys of adolescents to assess the factors associated with youth's HIV risk perception in four sub-Saharan African countries at different stages of the AIDS epidemic (Burkina Faso, Ghana, Malawi, and Uganda).

Data and methods

Data sources

The data come from National Adolescents Surveys (NAS) carried out in 2004 in Burkina Faso, Ghana, Malawi and Uganda. The NAS are modeled on the Demographic and Health Surveys (DHS), but have two particular features that make them particularly appropriate for the purposes of the present analysis: first, they interviewed adolescents of at least 12 years of age (whereas the DHS interview respondents age 15 and above);

second, they include detailed questions on adolescents' characteristics and sexual behaviors.

The surveys were nationally representative, household-based surveys that interviewed all eligible 12-19 de facto residents in each sampled household.[1] Consent from a parent or caretaker was required for minor adolescents (12-17 years old) before the eligible adolescent was authorized to participate in the survey. A total number of 6,030 adolescents were surveyed in Burkina Faso (3 057 boys and 2 973 girls), 4548 in Ghana (2291 boys and 2257 girls), 4129 in Malawi (2101 boys and 2028 girls), and 5294 in Uganda (2603 boys and 2691 girls).

Methods

Several studies have analyzed the determinants of risky sexual behavior and included HIV risk perception as an explanatory variable (Akwara et al., 2003; Prata et al., 2006; Kibombo et al., 2007). In this study, however, we aim to identify the determinants of HIV risk perception, so that self-assessed HIV risk perception is our dependent variable of interest. On the assumption that an individual's characteristics and social environment have an effect on individual degree of risk perception, we estimate ordered logistic regression models (Greene 2000). Exploratory analyses have highlighted that the determinants of HIV risk perception are crucially different not only for boys and girls, but also for virgin and sexually active adolescents. The analysis is thus conducted separately for these groups. For virgin adolescents, we explore in particular the role of social networks in shaping one's assessment of HIV risk. For sexually active adolescents, we include an estimated sexual risk index, using the DHS' wealth index approach (Rutstein and Johnson, 2004), as one of the independent variables.

Preliminary results

Concerns about one's risk of HIV infection are widespread in the four countries included in the analysis, but to a varying degree (Table 1). Surprisingly, however, a great proportion of virgin adolescents feel that they are at great risk of getting HIV/AIDS. This descriptive finding suggests the possible influence of individual's social environment on adolescents' HIV risk perception. Social interaction theories argue that individuals see what their counterparts in the social environment claim to see even though the group's claims contradict the objective reality (Kohler, Behrman and Watkins, 2007: 2).

Ordered logistic regression' results indeed show that virgin adolescents' social networks have a significant effect on their HIV risk perception. For females in Burkina Faso and Uganda, and both males and females in Ghana, having had conversation with friends about AIDS increases the level of HIV perceived risk. This is consistent with what Bernardi (2002) and Kibombo et al. (2007) have found, respectively, in Kenya and Uganda.

[1] A first-stage systematic selection of census areas was made and a second stage selection of households within the selected census areas was made from an updated household listing.

Table 1: All respondents, by experience of sexual intercourse and self-assessed risk of HIV infection, sex and country

	Burkina				**Ghana**				**Malawi**				**Uganda**			
	Virgins		Sexually active		Virgins		Sexually active		Virgins		Sexually active		Virgins		Sexually active	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
N	2423	2201	634	772	2076	1866	215	391	1225	1583	876	445	1777	1964	826	727
Self-assessed risk of HIV infection																
Great	13.49	18.26	25.76	20.93	10.94	7.87	22.64	12.47	33.13	34.63	46.15	42.33	39.24	48.96	54.96	56.15
Moderate	7.86	4.18	16.75	11.76	6.02	4.83	11.32	10.91	4.22	3.74	6.43	4.58	12.81	10.24	12.47	16.32
Small	15.37	12.76	24.15	24.21	13.35	16.08	16.04	18.70	10.90	7.62	13.89	16.02	18.25	13.67	16.71	13.55
No risk	49.01	49.34	26.09	32.97	64.53	66.33	46.23	54.03	47.72	49.73	29.39	34.32	20.54	22.45	12.35	8.71
Has HIV	0.10	0.11	-	-	0.05	-	-	-	0.09	0.07	-	-	-	0.05	-	0.14
Don’t know	14.18	15.34	7.25	10.12	5.12	4.89	3.77	3.90	3.95	4.21	4.13	2.75	9.15	4.63	3.51	5.12