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**Timeline**

2009-2011

**Sample Size**

4,200 13-year-old girls

**Research Implemented by IPA**

Yes

# The Role of Information and Social Learning on Risky Sexual Behavior

## Abstract

In sub-Saharan Africa, girls and young women are more likely to be HIV positive than young men, in part because of physiological differences that make females more vulnerable to HIV transmission, but also because girls and young women have unprotected sex with older men who have a higher prevalence of HIV. In Cameroon, researchers evaluated the impact of various HIV prevention interventions delivered through schools on girls and young women's exposure to risk. The interventions decreased the incidence of pregnancy (a marker for unprotected sex) in the following nine to twelve months by over 25 percent. The results did not differ substantially across the various interventions, suggesting sexual behavior of adolescent girls in Cameroon is highly responsive to risk information and salience.

## Policy Issue

In 2015, an estimated 1.8 to 2.4 million people were infected with HIV in sub-Saharan Africa, with the vast majority of infections occurring through unprotected heterosexual contact. Women and girls experience a disproportionate share of this burden. In sub-Saharan Africa, girls and women aged 15-24 years are more likely than men to be HIV positive.<sup>1</sup> This difference is in part due to the unprotected sexual intercourse young girls have with older partners who are more likely to be infected.

In order to minimize their risk of contracting HIV, it is crucial for girls and women to adopt

safer sexual behaviors. A previous study found that young girls in rural Kenya were responsive to risk information and adapted their behavior in order to minimize their infection risk. This study tested whether the previous finding in a different context and examined which components of an information tool were the most effective to reduce risky sexual behavior.

## Context of the Evaluation

In 2009, at the time of the study, Cameroon was the country with the highest rate of HIV prevalence in the Central and West Africa region, at 5.3 percent of the population aged 15-49.<sup>2</sup> Moreover, HIV prevalence was more than five times higher among girls and women aged 15-24 than among men aged 15-24. This may be partially attributed to girls becoming sexually active at a younger age. In 2006, 14 percent of girls between 15 and 19 years of age had their first sexual intercourse before the age of 14 in Cameroon.<sup>3</sup>

The study took place in three French-speaking regions of Cameroon: Yaoundé (urban), and South and West (mostly rural).

## Details of the Intervention

Researchers partnered with the Institute for Research, Socio-economic Development and Communication (IRESCO) to evaluate school-based HIV prevention interventions for girls in the eighth grade. The design of the interventions varied along two dimensions: the content and who delivered the message. The content was delivered either face-to-face, by either permanent school staff or a one-time visit by external consultants, or impersonally through a one-time self-administered in-class quiz. The content was either a *basic message*, which focused on abstinence, faithfulness, and condom use, or a *basic + relative risk message*, which used this same curriculum, but added information on infection rates by sex and age.

Specifically, one eighth grade class from each of 318 public schools was randomly assigned to one of four groups:

**1. Basic message by permanent school staff:** One staff member from each school in this treatment completed a two-day training focused on how to teach the HIV prevention curriculum.<sup>4</sup> After the training, the staff members could hold as many sessions in their school as they wanted, prioritizing the targeted eighth grade class. Seventy percent of the trained staff members were men.

**2. Basic message by external consultant:** A trained, female external professional delivered a single hour-long presentation in selected eighth grade classes with the basic message.<sup>5</sup> The consultant also showed the two short videos below:

**3. Basic + Relative risk message by external consultant:** A trained, female external professional delivered a single hour-long presentation with the basic message as well as the relative risk message.<sup>6</sup> The consultant also showed the longer videos below:

#### **4. No intervention.**

In addition, half of the schools in each of the four groups was randomly assigned to the *In-Class Quiz* intervention: an external consultant visited the class at the beginning of the year (before any other intervention) and had students complete an hour-long anonymous in-class quiz that asked about HIV knowledge, the sexual behavior of one's peers, beliefs about the risks of pregnancy and HIV infections from unprotected sex, and one's own sexual behavior.

This research design creates eight groups (seven treatments and one comparison) and allows the research team to study the effect of the *In-Class Quiz* intervention alone, the effect of each of the three face-to-face HIV education interventions alone, as well as whether the in-class quiz augments the effect of subsequent HIV education interventions.

To measure impacts on HIV knowledge, sexual behavior, and childbearing, researchers administered face-to-face questionnaires to the girls in a randomly selected half of the schools, and provided self-administered questionnaires in the other half. The interventions took place January to April 2010, and questionnaires were conducted nine to twelve months later. The questionnaires measured the girls' exposure to HIV education, their knowledge about HIV, their own HIV prevention plans, self-reported sexual behavior, and childbearing.

## **Results and Policy Lessons**

The HIV prevention programs reduced the incidence of pregnancy in the following nine to twelve months by over 25 percent. The results did not differ substantially across the individuals exposed to the various programs, including for those only offered the *In-Class Quiz*.

*Knowledge and HIV Prevention Plans:* The interventions increased the belief that condoms are very effective. The interventions also increased the likelihood that girls reported one rather than multiple strategies they planned to use to prevent HIV, suggesting that they helped girls focus on a concrete HIV prevention plan. They increasingly reported abstinence as their sole strategy.

*Sexual Behavior:* The interventions led girls to report a more pronounced decrease in unprotected sex compared to the decrease in overall sexual activity. They did not, however, impact the age of partner that girls chose.

*Pregnancy:* The interventions reduced the likelihood of having started childbearing within one

year of the intervention by 2.4 to 4.6 percentage points, from an average of 9.5 percent in the comparison group (a 25 to 48 percent decrease). The *In-Class Quiz* alone had an effect comparable to those of the HIV education programs, implying that being surveyed alone can cause behavioral change. However, there was not a further reduction from combining the quiz with the education programs, suggesting that the quiz could substitute for more intensive education programs.

*Urban vs. Rural Impacts:* All of the impacts were concentrated in rural areas. Presumably in urban Yaoundé, teenagers already had more exposure to information and experienced lower rates of unwanted pregnancy, and would thus experience smaller impacts from such interventions.

*Cost-Effectiveness:* These interventions can be inexpensive to implement. All of the interventions cost about US\$300, or US\$13 per student. With an average of three pregnancies averted for every 100 students, each averted pregnancy cost around US\$430.

## Sources

1. UNAIDS. 2016. "Global AIDS Update 2016."
2. UNAIDS. 2010. "Global Report: UNAIDS Report on the global AIDS epidemic 2010."
3. World Health Organization (WHO). "Epidemiological Fact Sheet on HIV and AIDS: Cameroon." September 2008.
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Dupas, Pascaline, Elise Huillery, and Juliette Seban. Forthcoming. "Risk Information, Risk Salience, and Adolescent Sexual Behavior: Experimental Evidence from Cameroon." *Journal of Economic Behavior and Organization*.

1 hide footnote

UNAIDS. 2016. "Global AIDS Update 2016."

2 hide footnote

UNAIDS. 2010. "Global Report: UNAIDS Report on the global AIDS epidemic 2010."

3. World Health Organization (WHO). "Epidemiological Fact Sheet on HIV and AIDS: Cameroon." September 2008.

4. For more details, see the [training manual](#) for school staff (in French)

5. For more details, see the [training manual](#) for consultants on the basic message (in French)

6. For more details, see the [training manual](#) for consultants on the relative risk message (in French)

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