

Does the Role of Education in HIV Prevention Differ by the Epidemic Stage?
Evidence from 14 African countries

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A number of studies, in particular, epidemiological studies have examined the association between socio-economic characteristics and HIV infection, but the empirical evidence is mixed. Because of data constraint, most existing studies did not explicitly pay attention to the fact that each study came from different countries (areas) at different stages of the epidemic. However, it is reasonable that HIV risk factors or vulnerability to HIV infection change with the stage of epidemic.

To fill some of the void in the existing literature, this paper attempts to empirically examine the differences in the correlation of HIV with educational attainment by the stage of HIV/AIDS epidemics. To overcome the current data constraint, this paper tests the hypothesis by comparing the coefficient estimates on educational attainment by the stage of epidemic using pooled data based on nationally representative data sets from 14 African countries with different levels of HIV prevalence instead of using a longitudinal data set of a specific region (area).

The innovation of this study is the ability to examine the difference in educational effect by the stage of HIV/AIDS epidemic using a large data set with countries at different stages of the epidemic. In addition, this study tests the education effect employing appropriate estimation specifications with controls for age and community effects. First, we estimate regression models for each country and compare the coefficient estimates on educational attainment of each country. Second, in order to test the difference in educational effect by the stage of HIV epidemic directly, we pool all the data set and employ regression models with interactions between educational attainment and the stage of HIV epidemic.

Three main empirical findings emerge from our analysis. First, educational attainment is negatively correlated with HIV infection in countries where HIV/AIDS epidemic has spread, but such relationship is not found in countries with low prevalence rates. These results suggest that the association between educational attainment and HIV infection is weakly positive or insignificant at the beginning of the epidemic, but education has a significant effect on reducing HIV risks as the epidemic has become severe. Second, such relationship is significant especially for women. Third, the prevention effect of educational attainment on HIV infection is particularly strong for younger generations. This result is robust to gender and the stage of HIV/AIDS epidemic, although the effect is the strongest for women in countries where the epidemic is matured.

The fact that the education effect differs between sexes is intriguing. While we cannot answer this question in this paper, most likely educating women is important to slow the spread of HIV infection. Medically and biologically, women face much higher infection risk than men. To reduce the overall prevalence rate, safeguarding the most vulnerable - in this case, women - is needed. What this paper shows is that it can be achieved by educating those women.

The result of this study underlined a policy implication that education is one of the useful strategies to prevent future HIV incidence. The level of education is still very low in Sub-Saharan Africa, especially in low epidemic countries. They have not achieved universal primary

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education yet. To reap the benefit from the education effect on HIV prevention, it is imperative to build a strong educational system and achieve education for all.