Perceived HIV risk and fertility intentions: Evidence from 11 Demographic and Health Surveys

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Background

Evidence dating back to the early years of the African epidemic shows that HIV/AIDS reduces fertility at both the individual and the population level (see Kaida et al. 2006; Lewis et al. 2004; Zaba and Gregson 1998 for reviews of this literature). Birth rates of HIV-positive women have been estimated to be 25-40 percent lower than those of uninfected women (Zaba and Gregson 1998). Most of this reduction is attributable to biological and behavioral proximate determinants, including lower fecundability and greater fetal loss among HIV-positive women and lower coital frequency among HIV-positive couples due to illness (Lewis et al. 2004).

In the early years of the HIV/AIDS epidemic, few individuals knew whether they were infected. Thus, the lower fertility of HIV-positive women was unlikely to be the result of deliberate decisions about childbearing (Terceira et al. 2003). More recently, however, expanded voluntary testing programs have increased the number of HIV-positive people aware of their serostatus at early stages of infection. Among these people, HIV infection may affect fertility by influencing desires and intentions for having children. Yet studies of fertility intentions among HIV-positive individuals have found ambivalence and mixed results (Aka-Dago-Akribi et al. 1999; Chen et al. 2001; Cooper et al. 2007; Emenyonu et al. 2008; Moore et al. 2006; Nakayiwa et al. 2006). On the one hand, women express worry about the possibility of bearing HIV-positive children, the impact of pregnancy on their own health, and what will happen to their children in the event of their death. On the other hand, individuals report a strong desire to bear and raise children, consistent

with the high social value placed on children. The relative strength of these conflicting feelings varies according to individual and contextual factors. For instance, young women and low parity women are more likely to desire some additional children even when HIV-infected, but also more likely to reduce their intended lifetime fertility (Aka-Dago- Akribi et al. 1999; Emenyonu et al. 2008). Unmarried women express more confidence in their ability to stop childbearing than married women, who in many contexts report pressure from husbands to have children (Cooper et al. 2007).

Even in the absence of HIV testing, as it has been the case in most developing countries until recent years, people living in areas with high levels of HIV infection form opinions about the likelihood that they are or will become infected (Anglewicz and Kohler 2009; Bignami-Van Assche et al. 2007; Smith and Watkins 2005; Zaba and Gregson 1998). People who do not know their serostatus but suspect they are HIV-positive may, in turn, modify their desire for children in response to fears about the disease. The limited evidence about this topic has identified a relationship between HIV perceived risk and fertility intentions, but the direction and magnitude of this effect remain unclear. Indeed, subjective assessments of risk have been shown to be correlated with increased fertility intentions in some settings (Baylies 2000; Yeatman 2009), whereas other studies suggest that perceived HIV risk is not associated with desires for additional children (Moyo and Mbizvo 2004; Rutenberg, Biddlecom, and Kaona 2000).

Overall, it is difficult to draw solid conclusions about the relationship between fertility intentions and HIV risk (whether actual or perceived) because existing studies differ in their definitions of key concepts and data collections methods and because much existing research consists of small-scale studies conducted in different countries at different time periods. This paper adds to existing research by systematically comparing the relationship between perceived HIV risk and fertility intentions in 11 developing countries with comparable quantitative data collected by the Demographic and Health Surveys at the end of the 1990s.

Data and methods

Data sources

The data for the analysis come from 11 Demographic and Health Surveys (DHS) that were carried out in the late 1990s in Burkina Faso (1998/99), Cote d'Ivoire (1998/99), Ghana (1998), Guinea (1999), Indonesia (1997), Haiti (2000), Kenya (1998), Madagascar (1997), Mozambique (1997), Niger (1998), and Togo (1998). These countries were chosen because of the availability of information about perceived HIV risk, which is no longer collected by recent DHS.

Methods of analysis

The outcome variable of interest for this analysis is whether a woman wants to have more children. Multinomial logit models are used to predict the likelihood of wanting to postpone childbearing or wanting to stop childbearing relative to wanting to have another child within two years or sooner.

The primary independent variable in this analysis is one's subjective assessment of HIV risk, as reported by answering the question: "Do you think your chances of getting AIDS are small, moderate, great, or that you have no risk at all?" Given the relatively low level of testing in these countries in the late 1990s, HIV risk perception is unlikely to be primarily determined by medical knowledge of HIV status. (Although women were not directly asked if they were HIV positive, responses indicating that they knew themselves to be HIV-positive were recorded, and these represent a handful of cases in all countries considered). It is important to stress, however, that information on the respondent's experience with HIV testing was not collected by any of the surveys included in the analysis except Haiti.

In addition to p\erceived HIV risk, models control for a range of sociodemographic characteristics likely to be associated with the outcome variable of interest: region, type of place of residence (urban/rural), age, education, union type (monogamous/polygamous), and household wealth.

References

Aka-Dago-Akribi, H., A. Desgrées du Loû, P. Msellati, R. Dossou, C. Welffens-Ekra, et al. 1999. "Issues surrounding reproductive choice for women living with HIV in Abidjan, Cote d'Ivoire." *Reproductive Health Matters* 7 (13): 20-29.

Anglewicz, P. and H.-P. Kohler. 2009. "Overestimating HIV infection: The construction and accuracy of subjective probabilities of HIV infection in rural Malawi." *Demographic Research* 20 (6): 65-96.

Baylies, C. 2000. "The impact of HIV on family size preference in Zambia." *Reproductive Health Matters* 8 (15): 77-86.

Bignami-van Assche, S., L. W. Chao, P. Anglewicz, A. Bula, and D. Chilongozi. 2007. "The validity of self-reported likelihood of HIV infection among the general population of rural Malawi." *Sexually Transmitted Infections* 83(1): 35-40.

Chen, J. L., K. A. Phillips, D. A. Kanouse, R. L. Collins and A. Miu. 2001. "Fertility desires and intentions of HIV-positive men and women," *Family Planning Perspectives* 33(4): 144-152.

Cooper, D., J. Harries, L. Myer, P. Orner, H. Bracken, et al. 2007. " 'Life is still going on': Reproductive intentions among HIV-positive women and men in South Africa." *Social Science and Medicine.* 65 (2): 274-283.

Emneyonu, N., Maier, M., Andia-Biraro, I., Kaida, A., Hogg, R., and Bangsberg, D.R. 2008. "ART, fertility desire and recent fertility history of HIV-positive Ugandan women." Presented at the conference "Switching Gears in HIV Research," Johannesburg, South Africa.

Kaida, A., Andia, I., Maier, M., Strathdee, S.A., Bangsberg, D.R., et al. 2006. "The potential impact of antiretroviral therapy on fertility in sub-Saharan Africa." *Current HIV/AIDS Reports* 3: 187-194.

Lewis, J.J., Ronsmans, C., Ezeh, A., and Gregson, S. 2004. "The population impact of HIV on fertility in sub-Saharan Africa." *AIDS* 18 (Suppl 2): S35-43.

Moore, A.M., Nakabiito, C., Mirembe, F., Singh, S., Bankole, A., et al. 2006. "How HIV status impacts child-bearing decisions: Results from a qualitative study in Kampala, Uganda." Population Association of America Annual Meetings, Los Angeles, CA, 30 March-1 April.

Moyo, W. and M.T. Mbizvo. 2004. "Desire for a future pregnancy among women in Zimbabwe in relation to their self-perceived risk of HIV infection, child mortality, and spontaneous abortion." *AIDS and Behavior* 8(1): 9-15.

Nakayiwa, S., Abang, B., Packel, L., Lifshay, J., Purcell, D.W., et al. 2006. "Desire for children and pregnancy risk behavior among HIV-infected men and women in Uganda." *AIDS and Behavior* 10: 95-104.

Rutenberg N., A. E. Biddlecom, and F. A. D. Kaona. 2000. "Reproductive decision-making in the context of HIV and AIDS: A qualitative study in Ndola, Zambia." *International Family Planning Perspectives.* 26 (3): 124-130.

Smith, K. P. and S. C. Watkins. 2005. "Perceptions of risk and strategries for prevention: Responses to HIV/AIDS in rural Malawi." *Social Science and Medicine* 60(3): 649-60.

Terceira, N., Gregson, S., Zaba, B., and P.R. Mason. 2003. "The contribution of HIV to fertility decline in rural Zimbabwe, 1985-2000." *Population Studies* 57: 149-164.

Yeatman, S. 2009. “The impact of HIV status and perceived status on fertility desires in rural Malawi.” *AIDS and Behavior* 13 (supplement): S12-S19.
Zaba, B., and Gregson, S. 1998. “Measuring the impact of HIV on fertility in Africa.” *AIDS* 12 (Suppl 1): S41-50.