

IS POVERTY OR WEALTH DRIVING HIV TRANSMISSION?¹

Stuart Gillespie, Suneetha Kadiyala and Robert Greener

SUMMARY

This summary highlights the key findings of a review of studies that attempt to relate socioeconomic status to the spread of HIV.

While early studies tended to find positive correlations between economic resources, education and HIV infection, as the epidemic has progressed, it has increasingly been assumed that this relationship is changing. But what is really known about the degree, type and dynamics of the influence of socioeconomic factors on rates of HIV transmission in different settings and at various stages of the AIDS epidemic?

In most countries, relatively rich and better educated men and women have higher rates of partner change because they have greater personal autonomy and spatial mobility. Although the richer and better educated are likely to have better access to reproductive health care, condom use is generally low in Africa and other parts of the developing world. Pre-existing sexual behaviour patterns therefore make the richer and the better educated more vulnerable to HIV infection, especially in the early stages of the epidemic, when information about the virus and how to protect oneself is usually low. At a later stage, however, it has been argued that individuals with higher socioeconomic status tend to adopt safer sexual practices, once the effects of AIDS-related morbidity and mortality become more apparent, adding greater credibility to HIV prevention messages.

Another currently postulated dynamic is that poverty (possibly itself fuelled by AIDS) is increasingly placing individuals from poor households at greater risk of exposure to HIV via the economically-driven adoption of risky behaviours. Poverty and food insecurity are thought to increase sexual risk taking, particularly among women who may engage in transactional sex to procure food for themselves and their children. Women's economic dependence on their partners may also make it difficult for them to insist on safer sex (e.g. condom use). In addition, poor people are more likely to be food insecure and malnourished. Malnutrition is known to weaken the immune system, which in turn may lead to greater risk of HIV transmission in any unprotected sexual encounter. This strand of literature on HIV transmission in Africa stresses the reversal in the distribution of the epidemic across population subgroups as the epidemic advances within countries—with those of lower socioeconomic status experiencing a higher subsequent rate of HIV transmission.

What does the evidence show?

At the macro level there is a weak positive relationship between national wealth and HIV prevalence across countries in sub-Saharan Africa, where higher prevalence is seen in the wealthier countries of southern Africa. Strong urban-rural economic linkages, good transport links and high professional mobility may translate into both higher incomes and higher HIV incidence. National poverty rates on the other do not show a strong association with HIV prevalence, but income inequality does. Countries with greater inequality have higher HIV prevalence, especially in sub-Saharan Africa but also to a lesser extent in Asia and Latin America.

¹ This is a summary of the forthcoming paper of the same name and authorship, to be published by *AIDS* in late 2007.

Micro level evidence that poverty is a major driver of the epidemic is rather mixed. Several studies that adopt ethnographic methodologies suggest that material poverty increases the risks of contracting HIV mainly through the channel of high risk behaviour adoption.

One recent cross-sectional study using DHS data from eight countries however finds HIV prevalence to be generally lower among the poorest individuals in these countries. This is partly accounted for by an association of wealth with other underlying factors. Wealthier individuals tend to live in urban areas where HIV is more prevalent, they tend to be more mobile, more likely to have multiple partners, more likely to engage in sex with non-regular partners, and they live longer – all factors which may present greater lifetime HIV risks. But, on the other hand, they tend to be better educated, with better knowledge of HIV prevention methods, and are more likely to use condoms – factors which reduce their risk relative to poorer individuals. Controlling for these associations however does not reverse the conclusion -- there is no apparent association between low wealth status and HIV.

Such cross-sectional studies however suffer from important limitations: i) they are unable to distinguish between the effect of economic status on HIV infection and the effect of HIV infection on economic status, and ii) they are unable to control for the fact that individuals from richer households may survive longer with HIV, and thus are more likely to be present in the population to be tested, thereby increasing HIV prevalence rates.

These limitations can be overcome by using prospective cohorts to track HIV *incidence*. Three recent studies in this way show different results – a study in Zimbabwe finds relative wealth to be associated with lower incidence, while one South African study finds incidence to be highest in the middle-wealth group, and another finds no association at all between HIV incidence and wealth.

Education is another correlate of socioeconomic status and here a relatively clear picture emerges. Most studies suggest that education is increasingly associated, on balance, with less risky behaviours.

Pathways, interactions and mediating factors

Links between socioeconomic conditions, such as wealth and education, and HIV risk and vulnerability are clearly complex -- perhaps too complex for a single explanation. A major analytical challenge is to define the causal pathways operating from distal socioeconomic factors to proximal individual behaviours and ultimately physiological factors. Different socioeconomic factors may affect health at different times in the life course, operating at different levels (e.g., individual, household and neighbourhood) and through different causal pathways. The review highlights three key mediating factors: gender inequalities, mobility and the socio-ecology of HIV.

The issue of gender is front and central to any discussion of HIV and poverty. Women's dependence on men's economic support throughout much of the developing world means that women's personal resources, including their sexuality, has economic potential. Economic asymmetries within a couple are reinforced by various contextual factors, such as family and peer pressures, social and economic institutions and pervasive and deeply entrenched gender-based inequalities. Gender economic inequality between young women and adult men has been found to be a driver of HIV transmission, as has food insufficiency which may not directly correlate with household income. A specific focus on protecting and promoting access to food may thus decrease exposure to HIV, especially among women.

There is convincing empirical evidence of the link between human mobility and HIV spread. In sub-Saharan Africa, the risk of HIV infection has been found to be higher near roads, and amongst people who either have personal migration experience or have sexual partners who are migrants.

There are some important neglected issues – the role and influence of social capital, social cohesion and community-level structural factors, for example, are under-researched and little understood. Likewise, the literature is somewhat biased towards explaining the relationship between socioeconomic conditions and HIV through high risk behaviour adoption pathways, with less attention being paid to the ways in which pre-existing health and nutritional status may have compromised immune status of individuals

Conclusions

The notion that poverty is the main driver of HIV transmission is too simplistic. Relative wealth appears to have a mixed influence on HIV risk depending on context and an array of mediating factors. Gender inequality appears to be particularly important. In the most comprehensive multi-country, cross-sectional study to date, the residual effect of wealth was found to be statistically insignificant after controlling for intermediary variables such as urban residence, age, education and differences in sexual behaviour. There are very few cohort studies that are able to relate wealth or poverty to the incidence of HIV, and they tend to be rurally based. One such study, reported here, shows the highest risk of infection in the middle wealth group.

Education in general appears to be protective with regard to HIV risk, and the interaction effects between education and wealth could be very positive -- when people have resources, and the ability to use those resources, they can act on safeguarding their sexual health. Sustained efforts to improve education levels as well as targeted and tailored messages on HIV prevention efforts can yield positive results.

In investigating the relationship between poverty, wealth and HIV it is important to state the following qualifications:

- Many existing studies suffer from important limitations such as low statistical power; high attrition rates, difficulty in tracking certain individuals, a paucity of longitudinal nationally representative panels tracking HIV incidence; and a lack of a comprehensive measure of economic status.
- On the latter, different aspects of economic status are likely to behave differently -- e.g. assets, income, expenditures, cash flows, sources and control of income, and their intra-household and gender differentials. Most studies here use an asset-based index of household wealth.
- Most studies also examine *relative*, not absolute wealth. Many of the wealthiest groups in affected communities may actually fall below an absolute poverty line;
- Patterns are not uniform across, or even within, countries, and a variety of socio-economic factors and processes are likely to be at play in complex and interlinked ways.
- The relationship between wealth and HIV is dynamic and may change over time. Most studies are cross-sectional in nature, not longitudinal, and thus ‘snapshots’ at a single point in time. It is important therefore to track the rates of new infections. If incidence is higher in groups moving out of poverty, this implies a greater need to “HIV-proof” poverty reduction so as to make the options for increasing wealth less risky.

In sum, when examining the interplay between wealth or poverty and HIV transmission, there is no simple explanation, no magic bullet. AIDS cannot accurately be termed a “disease of poverty”. Although it is true that poor individuals and households are likely to be hit harder by the downstream impacts of AIDS, their chances of being exposed to HIV in the first place are not necessarily greater than wealthier individuals or households. What is clear is that approaches to HIV prevention *need to cut across all socioeconomic strata of society* and they need to be tailored to the specific drivers of transmission within different groups – with particular attention to the vulnerabilities faced by youth and women, and to the dynamic and contextual nature of the relationship between socioeconomic status and HIV.