Covariates of Syphilis and HIV Infection: Zambia and Kenya

The purpose of this paper is to ascertain which characteristics and behaviors are related to the STI and HIV infection of individuals. Questions to be answered: Are the traditional "risk factors" such as non-use of condoms, multiple casual partners, and prostitution the major determinants of infection? Is male and/or female circumcision related to infection? Are non-sexual routes of transmission important? To answer these questions we use a new source of information.

There have been few national level surveys of STI and HIV prevalence. Even rarer are data that allow a large set of individual and household characteristics to be studied as correlates to STI and HIV prevalence. Data on STI and HIV prevalence have just been made available in two countries as part of recently conducted Demographic and Health Surveys (DHS).

The DHS surveys interviewed women and men of reproductive age. Information is available on relationships, sexual and fertility behavior, contraceptive use including condom use for contraception, use of condom at last sexual intercourse, the use of health services, knowledge of HIV risk factors, attitudes, and background characteristics, as well as a complete birth history, a reproductive calendar of the preceding five years, nutritional status, maternal care, child health and vaccinations. The Kenya and Zambia surveys also included blood tests for Syphilis (Zambia) and HIV infection (Kenya), data that have been linked to the large set of respondents' characteristics and behavior.

In order to assess potential relationships between the many characteristics and behaviors, an initial screening is performed using bivariate statistical tests. Possible interactive relationships are also tested.

The paper presents the behaviors and characteristics found to be related to STI and HIV infection distributed according to respondents' background (age, sex, residence, education, wealth, marital status and migratory status).

Characteristics and behaviors that pass the bivariate tests are then separated according top their theoretical direction of causality (i.e. risk factors for infection, consequences of infection, both risk factors for and consequences of infection, and variables with theoretically indeterminate direction). Next, multivariate analyses are performed for variables considered to be risk factors in order to eliminate potential spurious relationships among the variables. Due account is also taken of the possible interactions in the multivariate analyses.

The discovery of sets of covariates of HIV and STI prevalence and the elimination of others serves the needs of programs for reduction, treatment and alleviation of STIs and HIV. Knowledge of which variables have strong relationships with prevalence is also important to produce valid estimates of the levels and trends of HIV and STI.