

MODELING DISPROPORTIONAL EFFECTS OF EDUCATING INFECTED KENYAN YOUTH ON HIV/AIDS

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Abstract

We formulate an age and sex-structured deterministic model to assess the effect of increasing comprehensive knowledge of HIV/AIDS disease in the infected Adolescent Girls and Young Women (AGYW) and, Adolescent Boys and Young Men (ABYM) populations in Kenya. Mathematical analysis of infection through sub-network analysis was carried out to trace various infection routes and the veracity of various transmission routes as well as the associated probabilities. Using HIV data in Kenya on our model, disproportional effects were observed when dispensation of comprehensive knowledge of HIV/AIDS was preferred in one population over the other. Effective dispensation of comprehensive knowledge of HIV/AIDS in both the infected AGYW and ABYM populations significantly slows down the infection spread but may not eradicate it.

Keywords:

HIV/AIDS, AGYW, ABYM, Comprehensive Knowledge, Disproportional, Infection Spread