Factors affecting the HIV/AIDS epidemic : An ecological analysis of global data

ABSTRACT

Background: All over the world the prevalence of Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS) has became a stumbling stone in progress of human civilization and is a huge concern for people worldwide. Objective: To determine the social and health factors which contribute to increase the size of HIV epidemic globally. Methods: The country level indicators of HIV prevalence rates, are contraceptive prevalence rate, physicians density, proportion of Muslim populations, adolescent fertility rate, and mean year of schooling were compiled of 187 countries from the United Nations (UN) agencies. To extract the major factors from those indicators of the later five categories, backward multiple regression analysis was used as the statistical tool. Results: The national HIV prevalence rate was significantly correlated with almost all the predictors. Backward multiple linear regression analysis identified the proportion of Muslims, physicians density, and adolescent fertility rate are as the three most prominent factors linked with the national HIV epidemic. Conclusions: The findings support the hypotheses that a higher adolescent fertility rate in the population is the adverse effect of premarital and extramarital sex that leads to longer period of sexual activity which increases the risk of HIV infection. On the hand, and cultural restrictions of Muslims and sufficient physicians will decelerate the spread of HIV infections in the society.