

A Bisexual Model for the Influence of Heavy Alcohol Consumption on the spread of HIV/AIDS

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Abstract

The HIV/AIDS epidemic, one of the leading public health problems to have affected sub-Saharan Africa, is as much a social and behavioral problem as it is a biological one for which behavioral change has been advocated as an intervention strategy for reversing the epidemic. Our hypothesis in the present paper is that alcohol abuse, which is strongly correlated to sexual risk taking, has made heavy drinkers more susceptible to HIV and has affected both treatment of HIV and HIV related opportunistic infections. We extend the model in [1] to a two-sex model since HIV has affected males and females differently. Numerical simulations based on the available data point to the extreme need for education and counseling intervention strategies for preventing and curtailing addiction to irresponsible and detrimental patterns of drinking in order to arrest the spread of the epidemic and also to reduce the economic burden at the macro - level.

Key words: HIV/AIDS, Alcohol

References

- [1] Thomas G., Lungu E.M., The Influence of Heavy Alcohol consumption on HIV Infection and Progression, Accepted for publication in *Journal of Biological Systems*