

Abstract

BACKGROUND:

The well-established connection between HIV risk behavior and place of residence points to the importance of geographic clustering in the potential transmission of HIV and other sexually transmitted infections (STI).

METHODS:

To investigate the geospatial distribution of prevalent sexually transmitted infections and sexual behaviors in a sample of 18-24 year-old sexually active men in urban and rural areas of Kisumu, Kenya, we mapped the residences of 649 men and conducted spatial cluster analysis. Spatial distribution of the study participants was assessed in terms of the demographic, behavioral, and sexual dysfunction variables, as well as laboratory diagnosed STIs. To test for the presence and location of clusters we used Kulldorff's spatial scan statistic as implemented in the Satscan program.

RESULTS:

The results of this study suggest that sexual risk behaviors and STIs are evenly distributed in our sample throughout the Kisumu district. No behavioral or STI clusters were detected, except for condom use. Neither urban nor rural residence significantly impacted risk behavior or STI prevalence.

CONCLUSION:

We found no association between place of residence and sexual risk behaviors in our sample. While our results can not be generalized to other populations, the study shows that geospatial analysis can be an important tool for investigating study sample characteristics; for evaluating HIV/STI risk factors; and for development and implementation of targeted HIV and STI control programs in specifically defined populations and in areas where the underlying population dynamic is poorly understood.