A joinpoint regression analysis of trends in HIV incidence in Brazil over 20 years

P3-K14

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General trend for a reduction in incidence rates for men and an increase for women. Analysis by state indicated distinct trends in different regions of Brazil. These disparate trends suggest a national scenario of social inequality.

BACKGROUND

The HIV/AIDS epidemic, involving infection by the etiological agent Human Immunodeficiency Virus (HIV) or illness by Acquired Immunodeficiency Syndrome (AIDS), began in the early 1980s and involves diverse dynamics.

This study aimed to describe the temporal evolution of ratios of HIV infections e AIDS cases in Brazil and in each of the country's states between 2000 and 2019 among subjects of both sexes 13 years and older using the joinpoint regression method.

METHODS

This ecological study analyzed temporal series of standardized incidence of HIV/AIDS stratified by sex. Incidence data was accessed from the Brazilian National Disease Notification System (SINAN) from the Brazilian Health Ministry. Populational data was accessed from the Brazilian Institute of Geography and Statistics (IBGE).

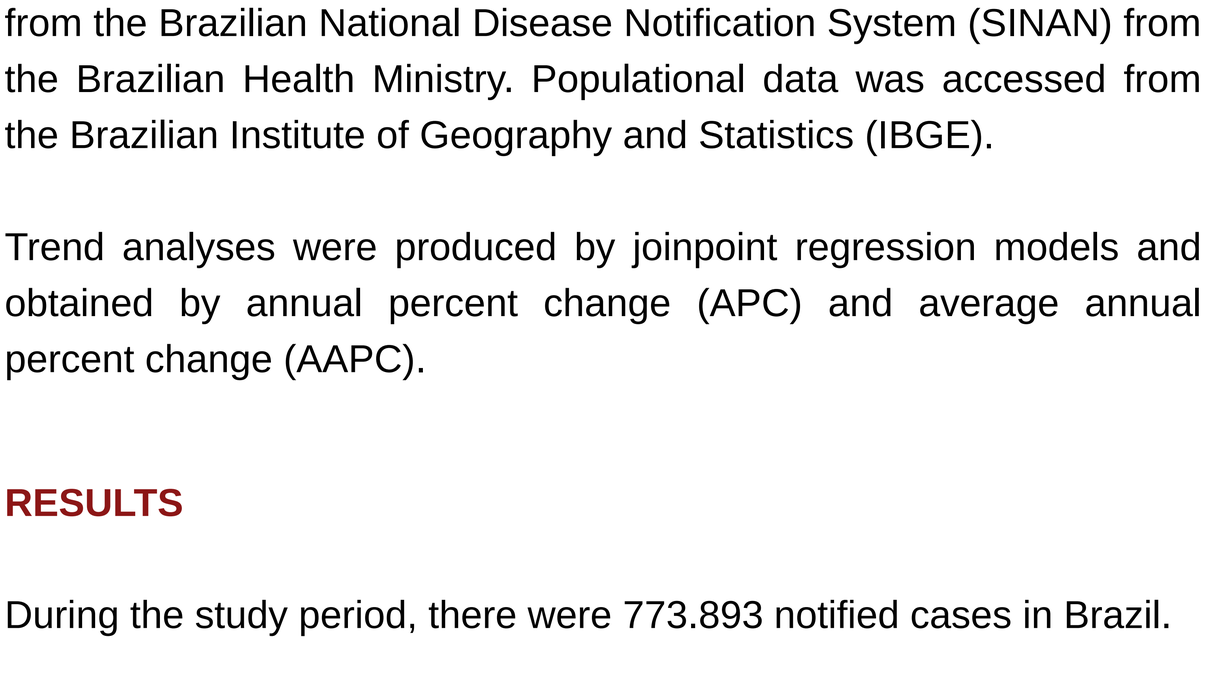
Trend analyses were produced by joinpoint regression models and obtained by annual percent change (APC) and average annual percent change (AAPC).

RESULTS

During the study period, there were 773.893 notified cases in Brazil.

Trend analysis by state indicated rising incidence for both sexes (AAPC > 0) in the country's North and Northeast regions and a decline trend (AAPC < 0) in the South and Southeast regions.

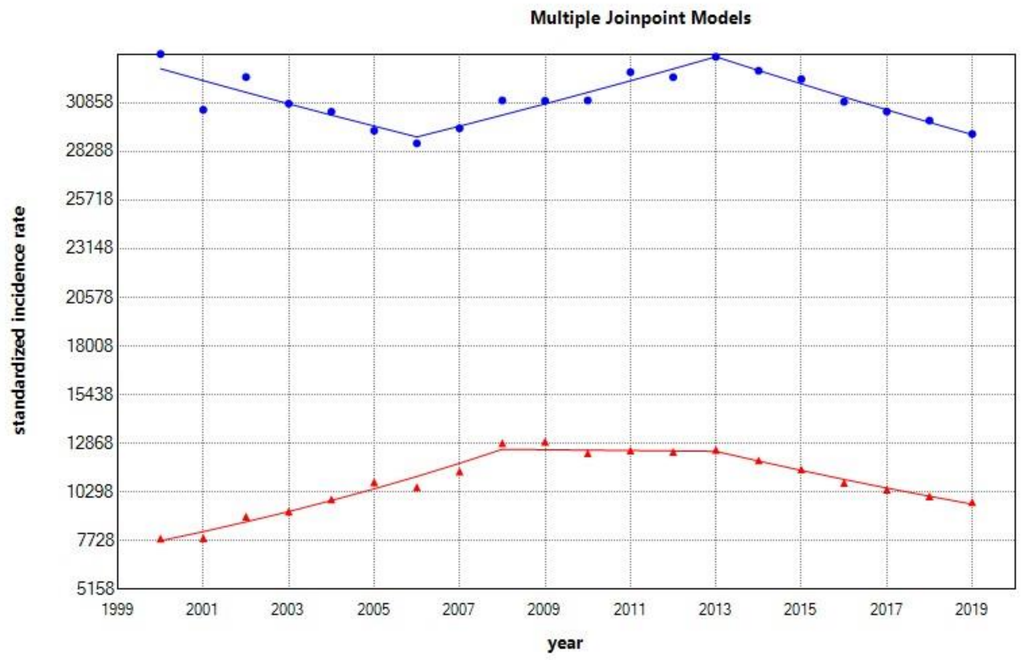
Figure 1: AAPC of HIV for (a) men and (b) women, Brazil, 2000-2019



RESULTS CONTINUED

There was a general trend of decline in incidence among men (AAPC=-0,6; CI95% -0,1; 0) and rise among women (AAPC=1,4; CI95% 0,8; 1,9).

Figure 2: Trends by joinpoint regression in Brazil, by sex, 2000-2019



CONCLUSIONS

HIV incidence rates are higher in the North and Northeast regions, while in the states of the South and Southeast regions, the magnitudes of the observed rates are lower and show a declining trend.

The analysis showed different trends for each sex and in each federation unit. For Brazil, the general trend is for a reduction in incidence rates for males and an increase for females.

The different trends of the epidemic may be associated with social inequalities between the different regions, which implies possibilities unequal access to diagnosis and adequate treatment.

ADDITIONAL KEY INFORMATION

No conflict of interest

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WORLD CONGRESS OF EPIDEMIOLOGY 2024