

Understanding of Factors Associated with HIV Prevalence in South Africa: Analysis of the Antenatal Clinic Survey Data

Makgoka Freck Dikgale

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DECLARATION

I, Makgoka Freck Dikgale declare that this research report is my own work. It is being submitted for the degree of Master of Science in Medicine in the field of Epidemiology and Biostatistics in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University.

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..... Day of 2010

DEDICATION

*To my mother: Mmakgomo Dikgale, for understanding, her trust
and belief in me*

*To my wife: Simangele Dikgale and my son: Ranti Dikgale for their
love, patience and unwavering support*

To God Almighty for looking and guiding me over the years

ABSTRACT

Research Project Title: HIV Prevalence and Factors Associated with HIV Infection in South Africa: Analysis of the Antenatal Clinic Survey Data.

Background: In sub-Saharan Africa, the HIV epidemic is commonly monitored through the sentinel surveillance of pregnant women attending antenatal clinics (ANC), which provides important indications for planning and evaluating public-health interventions.

Many of such surveillance systems in South Africa reported limited information on factors associated with HIV infection, even though the survey collected information related to a woman's participation. This is likely to compromise the development of effective preventive programmes that are more focussed.

To address this, the 2005 HIV (ANC) surveillance data was used with the objective of increasing the available information on the HIV epidemic in the country and identifying the socio-demographic factors associated with HIV infection in each province.

Methodology: The data from the 2005 ANC survey was analysed in depth. The chi-square test was used to test bivariate associations for categorical associations of HIV infection and other associated factors. In addition a logistic regression model was used to explore the association of socio-demographic and other variables with HIV infection in each province.

Results: The HIV prevalence reported in this study was similar to earlier reports released by the Department of Health in 2005. That is the overall HIV prevalence is 30.1% (29.5-30.8%) with KwaZulu Natal having the highest (39.1%, 37.5-40.1%) and Western Cape recorded the lowest HIV prevalence of 15.9% (14.1-17.4%).

In five provinces, women aged 25-29, 30-34 and 20-24 years old were mostly infected by the HIV virus. The HIV prevalence by education levels was not statistically significant in all provinces except in the Eastern Cape and Gauteng. In addition, the HIV infection peaked at the second pregnancy in all provinces.

In a multivariate analysis, significant independent predictors of HIV infection included pregnant women aged 20-24, 25-29 and 30-34 years old in all provinces, attained higher education (Grade 11+) in the Eastern Cape and Gauteng province (negative association), having a partner older by more than five years in six provinces; having tested positive for syphilis in three provinces (Gauteng, KwaZulu Natal and Limpopo) and lastly being pregnant more than once in five provinces when compared to the study reference group.

Conclusion: Good knowledge of the socio demographic characteristics of the patients with HIV may be of great importance in understanding its epidemiology in South Africa and could facilitate efforts at curtailing the spread of the infection.

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