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Prevalence and factors associated with hypertension and diabetes among adults living with HIV in South Africa

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ABSTRACT

Introduction: Hypertension and diabetes are significant risk factors for cardiovascular diseases which are the leading cause of mortality worldwide. Globally, people living with HIV on ART treatment have improved life expectancies, making them susceptible to developing these non-communicable diseases over time. These non-communicable diseases pose a public health challenge, especially in countries with high HIV prevalence rates and given that hypertension and diabetes have been recently identified as risk factors of the coronavirus disease. This study, therefore, determined the prevalence and factors associated with hypertension and diabetes in adults living with HIV in South Africa from 2005 to 2017.

Methods: This was a secondary data analysis of the 2005, 2008 and 2017 South African National HIV Prevalence, Incidence, Behaviour and Communication surveys. HIV positive participants who were above the age of 24 years were included in the study. All analyses were done on weighted data. Descriptive statistics were used to summarise the characteristics and trends of the study population. Multivariate survey logistic regression analysis was used to determine factors associated with hypertension and diabetes.

Results: The total study population of South African adults living with HIV aged 24 years and above was 978, 1023 and 2483 for 2005, 2008 and 2017 respectively. The overall prevalence of hypertension was 11.8% in 2005, 9.5% in 2008 and 14.3% in 2017 indicating an increasing trend, while that of diabetes was 3.3% in 2005, 2.8% in 2008 and 3.2% in 2017, indicating a stagnant trend. Also, 2017 had the highest median ages (interquartile range) of the three years of 48 (38 - 55) years and 49 (42 - 57) years for hypertension and diabetes. Similar to 2005 and 2008, in 2017 females (16.6%); (3.6%), the age group 45+ years (30.6%); (6.8%), Non-Black Africans (20.3%); (5.6%), urban areas (15.9%); (3.5%), Gauteng province (29.0%); (29.4%) and primary education and below (18.9%); (7.1%) were characteristics with the highest prevalence of hypertension and diabetes respectively. Factors associated with hypertension in 2017 were being female (aOR = 2.33; 95% CI = 1.60 to 3.42), being 45 years and older (aOR = 7.32; 95% CI = 4.78 to 11.21), pensioners and the sick (aOR = 2.27; 95% CI = 1.09 to 4.73), urban area living (aOR = 1.61; 95%

CI = 1.16 to 2.23), high risk of hazardous alcohol consumption (aOR = 4.43; 95% CI = 1.67 to 11.76), diabetes (aOR = 5.17; 95% CI = 2.69 to 9.96), and heart disease (aOR = 3.36; 95% CI = 1.59 to 7.10). For diabetes the associated factors in 2017 were being 45 years and older (aOR = 7.90; 95% CI = 2.11 to 29.58), poor health (aOR = 6.48; 95% CI = 1.65 to 25.41), hypertension (aOR = 4.60; 95% CI = 2.34 to 9.07) and having a secondary education and above (aOR = 0.31; 95% CI = 0.16 to 0.59).

Conclusion: From 2005 to 2017, the prevalence of hypertension increased, while the prevalence of diabetes was low and remained the same. As with other studies from different countries the odds of hypertension and diabetes was high in women, the age group 45+ years, urban areas, and individuals with heart disease. Moreover, the demonstrated elevated risk for the age group 45+ years, further increases their risk of developing severe disease due to COVID-19. Hence, the risk of hypertension and diabetes in adults living with HIV remains a cause for concern, particularly in circumstances such as the COVID-19 pandemic, where NCDs have been identified as risk factors. In summary, findings from this study not only provide population-based estimates but help in supporting the importance of the integrated chronic disease management model where chronic disease care and HIV care are provided together to reduce risk.