Prevalence of Diabetes and associated factors among people living with HIV in Harare, Zimbabwe

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Introduction

The emergence of non-communicable diseases among people living with HIV (PLWH) has increased the risk for cardiovascular disease in this population. While countries in sub-Saharan Africa have successfully rolled out antiretroviral therapy (ART) there is still a need to identify and address multimorbidity in PLWH

Objective of the study

To investigate the prevalence of type 2 Diabetes Mellitus (DM) among HIV-positive patients attending primary care facilities in Harare, Zimbabwe and determine modifiable risk factors.

Methods

This cross-sectional observational study was conducted across eight primary care health facilities in Harare, Zimbabwe. Non-probability convenience sampling was applied to recruit adult HIV-positive patients attending the facilities for ART between January 2022 and March 2023..

Results

There were 450 participants recruited of whom 57.6% were female. The prevalence of DM was **14.9%** in the sample (Table 1).

Table 1. Characteristics of participants

VARIABLE	Total participants N=450	HIV only n (%) 383 (85.1)	T2DM/HIV n (%) 67 (14.9)	P value
Gender				
• **Male**	259 (57.6)	209 (80.7)	50 (19.3)	**<0.05**
• **Female**	191 (42.4)	174 (91.1)	17 (8.9)	
Age in years				
• **<35 years**	89 (19.8)	71 (79.8)	18 (20.2)	**0.11**
• **>35 years**	361 (80.2)	312 (86.4)	49 (13.6)	
Marital Status				
• **Married**	332(73.8)	302 (91.0)	30 (9.0)	**<0.05**
• **Unmarried**	118(26.2)	81 (68.6)	37 (31.4)	
Occupation				
• **Unemployed**	140(31.1)	130(92.9)	10 (7.1)	**<0.05**
• **Employed**	310(68.9)	253(81.6)	57 (18.4)	

Majority of participants were older than 35 years old (89.2%), employed (68.9%) and married (73.8%).

Table 2. Clinical and behavioural factors

VARIABLE	Total participants N=450	HIV only n (%) 383 (85.1)	T2DM/HIV n (%) 67 (14.9)	P-value
Body mass index (kg/m2)				
• ***Not obese***	370 (82.2)	308 (83.2)	62 (16.8)	**<0.05**
• ***(obese)***	80 (17.8)	75 (93.8)	5 (6.2)	
Smoking history				
• ***No***	355 (78.9)	293 (82.5)	62 (17.5)	**<0.05**
• ***Yes***	95 (21.1)	90 (94.7)	5 (5.3)	
History of alcohol use				
• ***No***	239 (53.1)	193 (80.8)	46 (19.2)	**<0.05**
• ***Yes***	211 (46.9)	190 (90.1)	21 (9.9)	
Exercise > once/week				
• ***Yes***	331 (73.6)	271 (81.9)	60 (18.1)	**<0.05**
• ***No***	119 (26.4)	112 (94.1)	7 (5.9)	

A significantly greater number of individuals who were obese (BMI>30kg/m^2) had DM comorbidity. (Table 2) Furthermore, PLWH with DM comorbidity were significantly more likely to have a history of smoking or alcohol consumption. Those participants that exercised had statistically lower DM comorbidity.

Conclusion: Health providers should be vigilant for the increased risk of DM among PLWH. An integrated primary care approach is advocated to screen for and address diabetes. Health providers should proactively identify and address sedentary lifestyle, alcohol use and smoking history in all adult patients on HAART.

Take home message:

REFERENCES

1. Kaluvu L et al. Multimorbidity of communicable and non-communicable diseases in low- and middle-income countries: A systematic review. Journal of Multimorbidity and Comorbidity. 2022;12. doi:10.1177/26335565221112593

2. Duguma F et al. Diabetes Mellitus and Associated Factors Among Adult HIV Patients on Highly Active Anti-Retroviral Treatment. HIV AIDS (Auckl). 2020;12:657-65. https://doi.org/10.2147/hiv.S279732

3. da Cunha GH et al. Diabetes mellitus in people living with HIV/AIDS: prevalence and associated risk factors. AIDS Care. 2020;32(5):600-7. https://doi.org/10.1080/09540121.2019.1695727

4. Gonah L, Moodley I, Hlongwana K. Prevalence of diabetes mellitus and hypertension in people living with human immunodeficiency virus on antiretroviral therapy in Gweru district, Zimbabwe. Afr J Prim Health Care Fam Med. 2020;12(1):e1-e6. https://doi.org/10.4102/phcfm.v12i1.2473