An evaluation of the metabolic needs of people living with HIV/AIDS in Milton Keynes: A growing cohort

Sir,

People living with HIV (PLWHIV) are living longer due to early diagnosis and early initiation of effective combined antiretroviral therapy (cART). As a result, PLWHIV are more likely to develop age-associated noncommunicable comorbidities (AANCCs) than the general population (metabolic syndrome [MetS], Type 2 diabetes mellitus, dyslipidemia, and cardiovascular heart disease).[1-3] In addition, cART also associated with these metabolic changes.[4] Due to increasing prevalence of AANCCs in PLWHIV, a weekly HIV Metabolic Clinic was established within the HIV Department of Milton Keynes University Hospital in 2014 to focus on the metabolic complications brought in by the infection and its treatment (the total HIV patients was 595). In this study, we report our experience of a Joint HIV/Metabolic Clinic and review the benefits of establishing a Joint HIV/Metabolic Clinic. Retrospective data were collected over the last 2 years from 2016 to 2018 using our standard HIV/AIDS electronic patient records, the Blithe System. The demographic characteristics of our patients and the reasons for referral to HIV Metabolic Clinic are shown in Table 1. The metabolic clinic (doctor and dietician) provided the regular monitoring of the weight and required interventions. In this cohort of patient. The range of weight loss and the reduction in lipid profile and glycemic control is presented in Table 2.

Table 1: Demographic features of HIV patients in HIV metabolic clinic

Variable	Features	*n* (%)
Sex	Male	58 (61.7)
	Female	36 (38.3)
Age	≥30-<40	11 (11.7)
	≥40-<50	39 (41.5)
	≥50-<70	41 (43.6)
	≥70	3 (3.2)
Ethnic group	Black African	63 (67)
	Zimbabwe	23 (36.5)
	Ghana	9 (14.3)
	Tanzania	6 (9.5)
	Zambia	5 (7.9)
	Kenya	3 (4.8)
	Burundi	3 (4.8)
	Other	
	South Africa	2
	Rwanda	2
	Nigeria	2
	Malawi	2
	Ethiopia	1
	Angola	1
	Congo	1
	Namibia	1
	Togo	1
	Unknown	1
	White British	20 (21.3)
	Other white background	4 (4.3)
	Mixed background	3 (3.2)
	Black Caribbean	2 (2.1)
	Indian	2 (2.1)
BMI	18-24.9 (normal)	21 (22.3)
	25-29.9 (overweight)	24 (25.5)
	30-34.9 (obese)	24 (25.5)
	≥35 (grossly obese)	13 (13.8)
Reason for referral to metabolic clinic	Obesity	37 (39.4)
	Dyslipidemia	37 (39.4)
	Vitamin D deficiency	32 (34)
	Prediabetes	18 (19.1)
	Diabetes	15 (15.6)
	HTN	8 (8.5)
	Low testosterone	11 (11.7)
	Fatty liver	5
	Iron deficiency	3
	B12 deficiency	1
	Folate deficiency	1
	Primary hyperparathyroid	1
	Significant weight gain	1
	Unintentional weight loss	1
	Abnormal LFT	1
	Lipodystrophy	1
	Underweight	1
Duration of HIV (years)	<5	8 (8.5)
	≥5-<10	30 (31.9)
	≥10	54 (57.4)
Viral load	<50	85 (90.4)
	>50	7 (7.5)
CD4 count	>250	83 (88.3)
	<250	8 (8.5)

Contd...

Table 1: Contd...

Variable	Features	*n* (%)
Anti-retroviral drug group	2*NRTI + NNRTI	46 (48.9)
	2*NRTI + integrase inhibitor	24 (25.5)
	2*NRTI + protease inhibitor	10 (10.6)
	NRTI + integrase inhibitor + protease inhibitor	2 (2.1)
	NNRTI + integrase inhibitor	2 (2.1)
	NNRTI + integrase + protease inhibitor	1 (1.1)
	NNRTI only	1 (1.1)
	Protease inhibitor + integrase inhibitor	1 (1.1)
	2*protease inhibitor	1 (1.1)
	Elite suppressor	1 (1.1)
	NA	5 (5.3)
Pill regimens	Single pill	63 (67.02)
	Dual pill	20 (21.35)
	Triple pill	4 (4.3)
	Quadruple pill	1 (1.1)
Occupation	Manual jobs	30 (31.9)
	Health care	14 (14.9)
	Office	12 (12.8)
	Unemployed	11 (11.7)
	Student	3 (3.2)
	Unknown	24 (25.6)

HTN=Hypertension; LFT=Liver function test; NRTI=Nucleoside reverse transcriptase inhibitors; NNRTI=Non-nucleoside reverse transcriptase inhibitors; NA=Not applicable; BMI=Body mass index

Table 2: Summary of changes in weight, lipid profile and HbA1c achieved by the metabolic clinic

Obesity classification	Weight loss range (kg)
Grossly obese	0.5-8
Obese	1.5-13.2
Overweight	1.4-5.7
Lipid profile (mmol/L)	**Within normal range limits (%)**
Cholesterol (<5.2)	71
Triglyceride (<2)	77
HDL (>1.2)	87
HBA1c (%)	**Percentage of changes**
Prediabetes progress to diabetes	14.28
HBA1c (<7.5)	46.1

HBA1c=Hemoglobin A1c; HDL=High-density lipoprotein

In this study, we showed that the majority, 90.4%, were in the state of HIV remission (viral load <50) and had been under the care of the clinic for more than 2 years. Importantly, patients monitored by metabolic clinic appeared to have early identification of prediabetes, hence encourage early lifestyle interventions to decrease modifiable risk factors. This decreased the rate of conversion from prediabetes to diabetes. The opportunity to intervene before the development of diabetes is usually not available to those at risks, as it is suspected that 90% of patients with prediabetes are unaware of their condition and also 70% of this population will progress to diabetes.[4,5] Consequently, we can implement positive lifestyle changes which can achieve 40%–70% relative risk reduction in the development of diabetes. Interestingly, weight reduction, improvement in both dyslipidaemia and glyceamic control were achieved by the metabolic clinic. The benefit of running HIV metabolic clinic with the presence of HIV specialists and dietician has come with many benefits. For instance, the interaction between HIV medication and different statins and antidiabetes medication was significantly decreased. Second, the dietician was able to provide face-to-face advice for patients with regular monitoring for weight and conduct anthropometry measurements to ascertain accurate waist and hip changes. Other benefits we need to assess in future audits are patient satisfaction with service provided in HIV Metabolic Clinic. Another limitation for the current study is the small number of patients reviewed.

Specialist clinics for HIV have shown success in patients care in terms of a holistic approach. For instance, a London HIV Cardiology Clinic has published similar audit with 120 patients reviewed with different cardiac diseases.[6] This audit thus shows the challenges of identifying and managing metabolic issues in an aging HIV/AIDS population, which is clearly associated with an increased risk of high prevalence of diabetes, dyslipidemia, and risks factors for cardiovascular diseases.

Ethical clearance

We declare that all data were anonymized and patients aware anonymized. Audit was carried out for the purposes of education.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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Access this article online

Quick Response Code:	Website: www.ijstd.org
	DOI: 10.4103/ijstd.IJSTD_32_20

How to cite this article: Halai H, Johnson N, Choi JS, Ahmed MH, Woodward C, Mital D. An evaluation of the metabolic needs of people living with HIV/AIDS in Milton Keynes: A growing cohort. Indian J Sex Transm Dis 2023;44:179-82.

Submitted: 06-Apr-2020 **Revised:** 22-Dec-2020
Accepted: 23-Feb-2021 **Published:** 06-Dec-2023