
TRENDS IN OBESITY AMONG PEOPLE LIVING WITH HIV: BEYOND RETURN TO HEALTH

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BACKGROUND

- Antiretroviral therapy enabled people living with HIV (PLWH) to maintain or regain weight as part of a “return to health” phenomenon.
- More recent trends suggest that many PLWH have gained excessive weight as compared to the general population.

METHODS

- The database of the Toronto General Hospital Immunodeficiency Clinic was screened for PLWH with more than one documented body mass index (BMI) between 2000-2021.
- When ≥ 1 BMI was recorded within a calendar year, the highest value was used.
- BMI was modeled using univariable and multivariable linear Generalized Estimating Equations with an exchangeable correlation matrix, adjusting for calendar year, age, gender, and race.

RESULTS

- A total of 2314 PLWH were included in the analysis.
- Median (IQR) age was 56 (46-62), 81% were male, and 51.6% were white.
- The proportion with obesity (defined as BMI ≥ 30) increased from 9.4% in 2000 to 28.5% in 2021.
- Increasing calendar year was associated with higher BMI (adjusted $\beta=0.1$, 95% confidence interval 0.08, 0.11, per year) after adjusting for age, gender, and race.

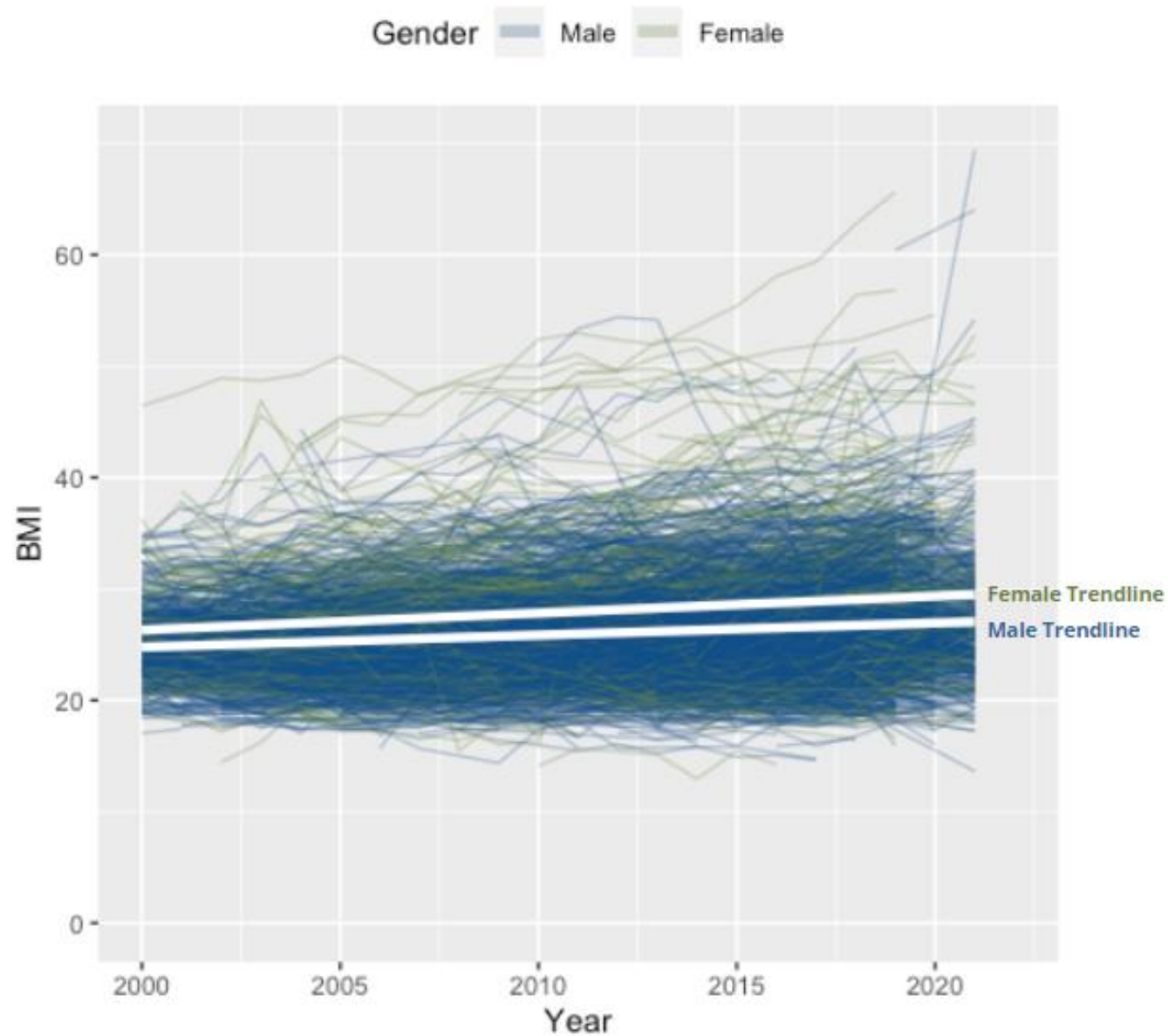
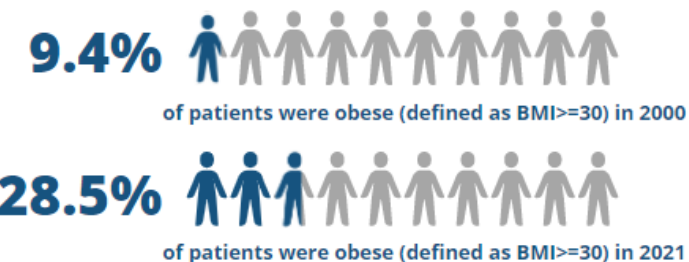


Figure 1: BMI over time among PLWH attending the Toronto General Hospital Immunodeficiency Clinic

RESULTS

Table 1: Generalized Estimating Equations models of BMI over time

	Univariable		Multivariable	
	β (95%CI)	p	β (95%CI)	p
Per Calendar Year	0.1 (0.08, 0.11)	<0.0001	0.1 (0.08, 0.11)	<0.0001
Age (per year)	0.02 (0.01, 0.04)	<0.01	0.04 (0.02, 0.06)	<0.0001
Female/Trans (Ref. Male)	1.75 (1.15, 2.36)	<0.0001	1.34 (0.68, 2)	<0.0001
Race				
White	Ref.		Ref.	
Black	1.6 (1.1, 2.11)	<0.0001	1.18 (0.63, 1.73)	<0.0001
Other	-0.57 (-1.03, -0.12)	0.01	-0.72 (-1.18, -0.26)	<0.01
Unknown	1.24 (-1.72, 4.2)	0.41	0.6 (-2.34, 3.54)	0.69



Comparators:

- Canada (general population): the proportion of adults aged 18-79 with obesity (based on BMI) increased from 23.9% in 2009, to 24.3% in 2019¹.
- United States (PLWH): average BMI among PLWH increased from 32.6 in 2006 to 33.5 in 2016².

¹ STATISTICS CANADA. TABLE 13-10-0373-01 OVERWEIGHT AND OBESITY BASED ON MEASURED BODY MASS INDEX, BY AGE GROUP AND SEX DOI: [HTTPS://DOI.ORG/10.25318/1310037301-ENG](https://doi.org/10.25318/1310037301-ENG)

² SILVERBERG M, LEYDEN W, ALEXEEFF S, ET AL. CHANGES IN BODY MASS INDEX OVER TIME IN PERSONS WITH AND WITHOUT HIV. AIDS 2020: 23RD INTERNATIONAL AIDS CONFERENCE VIRTUAL. JULY 6-10, 2020. ABSTRACT OAB0603.

CONCLUSIONS

- Obesity rates are increasing among PLWH.
- This could contribute to an increased risk of metabolic syndrome and associated complications.
- The role of HIV-specific contributors to weight gain, such as ART is under investigation.
- PLWH need regular counselling on strategies to achieve and maintain healthy weight.

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