

FACTORS ASSOCIATED WITH METABOLIC SYNDROME IN PEOPLE WITH HIV UNDER 40 YEARS OLD IN GUATEMALA

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BACKGROUND

- Metabolic syndrome (MetS) is a cluster of risk factors for cardiovascular disease and diabetes. Its components are fasting dysglycemia, dyslipidemia (elevated triglycerides and reduced HDL-C), hypertension and central adiposity.
- HIV infection and antiretroviral therapy (ART) can also contribute to the development of the metabolic abnormalities seen in MetS.
- As the prevalence of it and its components increases with age, young adults that develop MetS may be at greater risk of adverse health outcomes in the long term.
- Currently, the status of MetS in younger people with HIV (PWH) in Guatemala is unknown.

AIMS

- To assess the prevalence of MetS and its predictors in PWH under 40 years old participating in prospective cohort study at Hospital Roosevelt in Guatemala City.

METHODS

- We performed a cross-sectional analysis of PWH under 40 years old receiving ART for at least 6 months from July 2019 to March 2020.
- The harmonized criteria for MetS and the cut-off for waist circumference recommended by the Latin American Diabetes Association were used.
- Association between MetS and gender, place of residency, ethnicity, educational level, baseline and current CD4 count, smoking, alcohol consumption, physical activity, HIV viral load, body mass index (BMI), time on ART and current ART regimen was assessed in bivariate analysis. Clinically relevant (gender) and potential predictors (p -value < 0.1) were included in a multivariate binary logistic regression model.

- Almost 1 in 4 PWH under 40 years old in our cohort had metabolic syndrome (MetS).
- Obesity and low CD4 count were associated with MetS in this group.
- Dyslipidemia was the main driver of MetS in this group.

Characteristics	No MetS (n=297)	MetS (n=93)	P-value
Female*	109 (37%)	41 (44%)	0.21
Living in Guatemala City	183 (61.6%)	54 (58.1%)	0.54
Mayan ethnicity	45 (15.2%)	14 (15.1%)	0.98
Six or more years of education	202 (68%)	69 (74.2%)	0.26
Smoker	45 (15.2%)	14 (15.1%)	0.98
Excess alcohol consumption	11 (3.7%)	4 (4.3%)	0.79
150 min per week of physical activity	191 (64.3%)	57 (61.3%)	0.6
History of AIDS defining illness	74 (25%)	31 (33.3%)	0.91
BMI ≥ 25*	117 (39.4%)	74 (79.6%)	<0.01
Baseline CD4 <200	129 (43.4%)	43 (46.2%)	0.64
Current CD4 <200*	37 (12.5%)	19 (20.4%)	0.06
Current VL ≥ 200	38 (12.8%)	13 (14%)	0.77
On ART for 2y or more*	196 (66.0%)	70 (75.3%)	0.09
Currently on NNRTI*	179 (60.3%)	66 (71%)	0.06
Currently on PI	26 (8.8%)	8 (8.6%)	0.43
Currently on INSTI*	98 (33%)	21 (22.6%)	0.06

Table 1. Between group differences (No MetS vs. MetS) in PWH under 40 years of age.

*included in the multivariable analysis

RESULTS

- Of the total cohort of 757 participants enrolled, 390 (51.5%) were younger than 40 years. Of those under 40 years, 150 (38.5%) were women, 59 (15.1%) Mayan, median age was 32 years (IQR 27, 37). 93 (23.8%) had MetS. Between group differences in Table 1.
- Of those with MetS, 51 (54.8%) had elevated waist circumference, 87 (93.5%) elevated triglycerides, 83 (89.2%) low HDL-c, 56 (60.2%) elevated blood pressure and 35 (37.6%) elevated fasting glucose.
- BMI ≥ 25 kg/m² was more common in those under 40 years with MetS.
- On multivariable regression, MetS was associated with current CD4 count <200 (OR 3.1; CI 1.51, 6.34; p < 0.01) and BMI ≥ 25 kg/m² (OR; 6.53; CI 3.64, 11.73; p < 0.01).

CONCLUSIONS

Nearly one in every four PWH under 40 years old in our cohort was affected by MetS. Dyslipidemia (elevated triglycerides and low HDL-c) was the main driver of MetS. Lower CD4 count and overweight were predictors for MetS in PWH under 40.

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