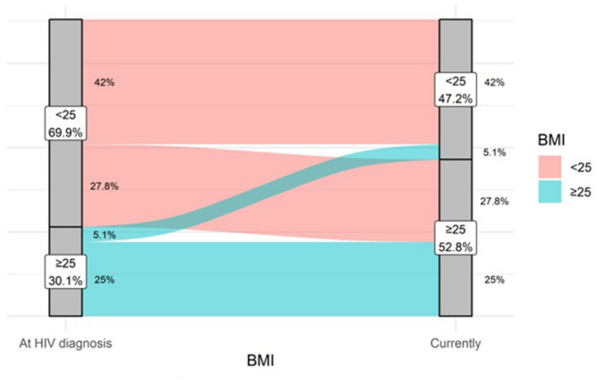

Abstract P153 Figure 1 Comparison of BMI at the time of HIV diagnosis and BMI at the time of the study (currently)

waist circumference was significantly greater in the BIC/F/TAF group (+2.11 cm) and in DOL/3TC group (+1.92 cm) compared to DOR/3TC/TDF one (+0.56 cm) (p<0.001). At month 12, changes in median values of all evaluated inflammatory and coagulation markers were comparable across all groups and no significant variations for each marker were reported in comparison with respective baseline values. During the 12-month follow-up, a significantly greater elevation in median concentrations of total cholesterol was reported in the BIC/F/TAF group (+34 mg/dL) than in the DOR/3TC/TDF (+6 mg/dL; p<0.001) and 3TC/DOL (+13 mg/dL; p=0.042) groups. After 12 months, the proportion of patients with HIV RNA <50 copies/mL was comparable in all groups: 90% (36/40) in the DOR/3TC/TDF group, 87.5% (35/40) in the BIC/F/TAF group, and 85% (34/40) in the DOL/3TC group. Treatment discontinuations were very uncommon and the incidence of adverse events was very low and comparable in subjects treated with DOR/3TC/TDF, BIC/F/TAF, or DOL/3TC.

Conclusions In our study, initial antiretroviral regimen with DOR/3TC/TDF led to a significantly lower increase in body weight in comparison with BIC/F/TAF and DOL/3TC after a 12-month follow-up, and to a significantly lower elevation in total cholesterol in comparison with BIC/F/TAF, while no significant differences were reported with regard to other metabolic parameters and serum inflammation markers.

P153 LIFESTYLE FACTORS ASSOCIATED WITH OVERWEIGHT AND OBESITY IN PEOPLE LIVING WITH HIV ON STABLE ART

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Background Following ART initiation, metabolic shifts may contribute to weight gain in PLWH. While early weight gain has been linked to integrase inhibitors (INSTIs), the relative impact of long-term stable ART versus modifiable lifestyle factors remains unclear. The LIFEH study investigated lifestyle associated with overweight/obesity (OO) vs normal weight (NW) in PLWH on stable suppressive ART.

Material and Methods We performed a cross-sectional analysis of LIFEH study. Adult PLWH (18–65 years) on stable ART with HIV-RNA <20 copies/mL for ≥24 months, followed at a tertiary center in Northern Italy (2023–2024), were enrolled. Individuals with metabolic/cardiovascular disease, cancer, opportunistic infections, substance abuse, or prescribed diets were excluded. Lifestyle factors were assessed using validated tools (24-hour recall diet, MediLite, IPAQ-SF, CAGE). OO was defined as BMI ≥25 kg/m^2. Multivariable logistic regression identified independent factors associated to OO.

Results Among 176 participants (median age 51 years; 22% female; median HIV duration 17 years), OO prevalence was 52.8%, slightly higher than that reported in the Italian general population (43%). Thirty percent had BMI ≥25 kg/m^2 at HIV diagnosis; 39.8% of initially normal-weight individuals developed OO over time, while 83% of those overweight/obese at diagnosis remained in the same BMI category at study entry (figure 1).

HIV-RNA at diagnosis was higher in OO vs NW (p=0.043), with similar current immunovirological parameters.

OO vs NW participants had lower fiber intake (14 vs 17 g/day; p=0.007) and lower Mediterranean diet adherence (MediLite 10 vs 11; p=0.009). Beer and aperitif consumption were more frequent in OO (p=0.022; p=0.002). Physical activity was comparable between groups. In multivariable analysis, BMI ≥25 kg/m2 at HIV diagnosis was strongly associated with current OO (OR 7.61, 95% CI 3.27–19.6; p<0.01). Conversely, each 1-point increase in MediLite score was independently associated with lower odds of OO (OR 0.80, 95% CI 0.67–0.94; p<0.01). ART regimen (INSTI-based or dual vs triple therapy) did not increase risk of current OO.

Conclusions In PLWH on long-term stable ART, overweight and obesity appear more strongly associated with modifiable lifestyle factors than with ART regimen. Integrating structured nutritional and lifestyle interventions into routine HIV care may be crucial to prevent metabolic complications.

P154 LOW-LEVEL VIREMIA IS ASSOCIATED WITH INCIDENT DIABETES IN OBESE PEOPLE WITH HIV

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Background The prevalence of obesity is increasing among people with HIV (PWH), which has significant implications for cardiometabolic health. This study aims to identify which fac-

tors are associated with the development of diabetes mellitus (DM) in obese PWH, including the role of antiretroviral treatment (ART), which is still debated in PWH and has never been studied specifically in obese PWH.

Methods This was a multicentre, prospective, observational study that enrolled obese PWH in two Italian multicentre cohorts: The Overweight and Obese People with HIV (OBHIV) Cohort and the Surveillance Cohort Long-Term Toxicity Antiretrovirals (SCOLTA) Cohort. Participants were enrolled from 2014 onwards, provided they had at least one follow-up visit and were not diagnosed with DM at enrolment. Factors associated with the onset of DM were estimated using a Cox proportional hazards model. Variables were included in the multivariate model through a forward model selection with p value set at 0.2. We defined low-level viremia as an HIV-RNA value between 50 and 199 copies/mL.

Results Three hundred and fourteen obese PWH were enrolled, with a mean BMI of 33.3 kg/m^2 (SD+/-3.7). The mean age was 49 years (SD +/- 11.4) and 70.4% were male. Among study participants, 8% were ART-naïve at enrolment, and 15% were in CDC stage C. Twenty-three developed DM during a mean follow-up of 24 months (IQR 11-38), with an estimated incidence of 3.1/100 PYFU (95%CI 2.0-4.6). Participants with incident diabetes had higher baseline values of blood glucose (p<0.0001), triglycerides (p=0.0003), and ALT (p=0.03) and lower HDL cholesterol (p=0.01). According to the multivariable analysis, incident diabetes was more probable in PWH with higher BMI (aHR 1.11 per each kg/m^2, 95%CI 1.003;1.24) and with low-level viremia at the time of DM occurrence, (aHR 4.12, 95%CI 1.5-11.42). Sex and statin use were not correlated to DM incidence in this population, as well as the type of ART (table 1).

Conclusions The presence of low-level viremia was strongly associated with the occurrence of DM in this cohort. These results underline a possible interplay between residual inflammation in uncontrolled low-level HIV replication and the risk of diabetes in obese people. No correlation was found between incident DM and exposure to different ART classes.

Abstract P154 Table 1 Factors associated with incident diabetes obese people with HIV

	Univariable			Multivariable analysis		
Variable	**HR**	**95% CI**	**P value**	**Adjusted hazard ratio**	**95% CI**	**P value**
Age (by 1 year)	**1.04**	**1.002-1.09**	**0.04**	1.04	0.99-1.05	0.055
Sex (ref. F)	0.72	0.28-1.84	0.5			
BMI (by 1 kg/m^2)	1.07	0.98-1.17	0.12	**1.11**	**1.003-1.24**	**0.045**
Weight gain from baseline (by 1 kg increase)	1.31	0.36-4.78	0.7			
Rik factor for HIV acquisition (ref. sexual)						
IDU	1.19	0.40-3.55	0.8			
Other/unknown	1.07	0.31-3.69	0.9			
steatosis	1.60	0.21-11.94	0.6			
hypertension	1.82	0.80-4.16	0.1			
dyslipidemia	2.77	0.82-9.33	0.1	2.72	0.76-9.70	0.12
CDC stage (ref. A)						
B	1.01	0.39-2.63	0.9			
C	0.65	0.18-2.26	0.5			
ART naïve at enrolment	0.52	0.07-3.90	0.5			
HIVRNA (ref. <50 copies/mL)						
50-199 copies/mL	**4.12**	**1.52-11.19**	**0.005**	**4.12**	**1.29-11.42**	**0.006**
>200 copies/mL	0.38	0.05-2.89	0.3	0.54	0.07-4.13	0.76
Ongoing statin (ref. no)	2.11	0.89-4.97	0.08			
ART duration (by 1 year)	1.01	0.95-1.06	0.8			
Treatment with TAF	0.81	0.34-1.91	0.6			
Treatment with NNRTI	1.14	0.46-2.81	0.8			
Treatment with PI	0.00	0.00-.	0.9			
Treatment with INSTI	0.86	0.29-2.55	0.8			
Cohort (ref. SCOLTA)						
OBHIV	1.36	0.46-4.04	0.6			

95%CI: 95% Confidence Interval; ART: antiretroviral therapy; F: female; HR: Hazard Ratio; IDU: intravenous drug use; INSTI: integrase inhibitors; NNRTI: non-nucleoside reverse transcriptase inhibitors; PI: protease inhibitors; PWH: people living with HIV; TAF: tenofovir alafenamide.

Variables were included in the multivariate model through a forward model selection with p value set at 0.2

Bold font indicates the variables significantly associated with incident diabetes.

P156 METABOLIC IMPACT AND CARDIOVASCULAR RISK AFTER SWITCHING TO BIC/FTC/TAF VS DOR/3TC/TDF IN A REAL-WORLD COHORT OF VIROLOGICALLY SUPPRESSED PLWH

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Background In people living with HIV (PLWH), the choice of antiretroviral regimen should take into account not only the maintenance of antiviral efficacy, but also long-term metabolic impact. Although highly effective, integrase strand transfer inhibitor (INSTI)-based regimens have been associated with weight gain and metabolic alterations. Regimens based on doravirine (DOR), a newer-generation non-nucleoside reverse transcriptase inhibitor (NNRTI), have shown a favorable lipid profile in clinical trials, but comparative real-world data after switching to DOR/3TC/TDF versus BIC/FTC/TAF remain limited. The aim of this study was to assess changes in lipid profile at 48 and 96 weeks.

Methods This is a retrospective single-center observational study including treatment-experienced PWH virologically suppressed (HIV-RNA <50 copies/mL), switching either to BIC/FTC/TAF (BIC) or DOR/3TC/TD (DOR) between 2019 and 2025, and followed up to week 48 (48W) and for a smaller proportion to week 96 (96W). We assessed change in lipid profile and blood glucose over time. We also evaluated probability of experiencing virological failure (VF, i.e. two consecutive HIV-RNA ≥ 50 copies/mL or a single HIV-RNA ≥1000 copies/mL), the rate of treatment discontinuation (TD) and change in both CD4 cell count and CD4/CD8 over time. A repeated-measures mixed model was used to evaluate the dynamic of parameters over time. Time to VF and TD were assessed by survival analysis.

Results We enrolled a total of 519 PLWH, of whom 429 switched to BIC and 90 to DOR. Baseline characteristics including lipid parameters were similar between groups, but participants in BIC were younger (p=0.005) with higher zenith HIV-RNA (p=0.048) and higher CD4 cell counts (p=0.002) (table 1). At 48W, a significant decrease in both total cholesterol and LDL was observed (-7.9 and -6.0, respectively, both p<0.001), with no significant differences between regimens (p=0.764 and 0.364, respectively). At 96W, the reduction in LDL cholesterol persisted (-5, p=0.003), while no significant changes were observed in the other metabolic parameters. At both 48W and 96W, triglycerides and blood glucose showed no variation in either group. Regarding immunological profile, CD4 cell count