

# High comorbidity burden despite effective antiretroviral therapy in long-term HIV survivors



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## Conclusions

- A considerable proportion of long-term HIV survivors experiences multidomain non-AIDS comorbidity during the course of their HIV infection
- Clinicians should be aware of the vulnerability of this patient population
- Further studies are needed to evaluate if HIV diagnosis made before cART era should be included as a specific parameter in the comorbidity screening programs in HIV patients.

## Background

Due to considerably longer life expectancy of HIV-infected patients, increasing attention has been paid to the non-AIDS comorbidities in these patients. However, the majority of research has focused on specific groups of illnesses and less data has been published about the comorbidity burden in individual patients with long-term HIV infection.

## Methods

- Retrospective analysis of clinical and immunological outcomes of patients diagnosed with HIV prior to January 1<sup>st</sup> 1996 and still alive as on 1/1/2018, under follow up in UMC Utrecht.
- Data collected from patient files.
- Ten comorbidity domains defined to overlook the patients' medical situation up to Dec 31<sup>st</sup>, 2017.

Table 2. Comorbidity burden long-term survivors

Comorbidity domains	n=87
<b>Cardiovascular</b>	65 (74.7)
Dyslipidemia	48 (55.2)
Hypertension	41 (47.1)
Cardiovascular disease	21 (24.1)
<b>Oncological</b>	23 (26.4)
<b>Neurological</b>	22 (25.3)
<b>Musculoskeletal</b>	42 (48.3)
Arthropathy/osteoarthritis	21 (24.1)
Decreased bone density	29 (65.9)*
<b>Psychiatric/cognitive</b>	31 (35.6)
Psychiatric disorder	20 (23.0)
Cognitive disorder	14 (16.1)
<b>Gastroenterological/liver</b>	16 (18.4)
<b>Pulmonary</b>	5 (5.7)
<b>Renal</b>	13 (14.9)
eGFR 50-70	8 (9.2)
eGFR 30-50	4 (4.6)
eGFR <30	1 (1.1)
<b>Lipodystrophy</b>	39 (44.8)
<b>Diabetes mellitus</b>	7 (8.0)
<b>Mean domains scored per patient</b>	3.0 ± 1.5

Results are presented as absolute number and percentage of patients  
\*Percentage calculated from the number of total DEXA-scans (n=44)

## Results

Eighty-seven patients met the inclusion criteria. Patient characteristics, data on comorbidities and subgroup analyses are summarized in the tables below.

Table 1. Baseline characteristics of the study population.

Patient characteristics	n=87
Male (%)	87.4
Age	56.0 ± 8.3
Age at diagnosis	31.0 ± 8.7
Years of HIV infection	26.0 ± 3.3
Nadir CD4 count	103.0 ± 127.9
AIDS on presentation (%)	17.2
History of AIDS defining illness (%)	47.1
Use of antiretroviral monotherapy (%)	52.3
Use of antiretroviral dual therapy (%)	62.8
Recent CD4 count 2016-17	629.8 ± 320.0
Recent HIV RNA <50 c/mL 2016-17 (%)	93.1

Table 3. AIDS vs non-AIDS

	AIDS (n=41)	Non-AIDS (n=46)	P-value
Hypertension (%)	48.8	45.7	0.770
Dyslipidemia (%)	63.4	47.8	0.144
Neuropathy (%)	26.8	19.6	0.422
Lipodystrophy (%)	48.8	41.3	0.484
Decreased bone density (%)	78.3	52.4	0.070
Nadir CD4 count	33.0 ± 104.0	163.5 ± 129.1	0.000
CD4 count 2016-2017	584.5 ± 341.5	729.8 ± 296.9	0.049
Months to initial therapy	19.0 ± 45.4	48.0 ± 45.9	0.022
Mono/dual therapy use (%)	90.2	58.7	0.000
<b>Mean comorbidity domains</b>	3.4 ± 1.4	2.6 ± 1.5	0.010

Table 4. Mono-/dual antiretroviral therapy vs exclusively triple therapy use

	Mono/dual (n=64)	Triple (n=21)	P-value
Hypertension (%)	51.6	33.3	0.146
Dyslipidemia (%)	56.3	52.4	0.757
Neuropathy (%)	26.6	4.8	0.034
Lipodystrophy (%)	53.1	23.8	0.019
Decreased bone density (%)	69.4	50.0	0.294
Nadir CD4 count	74.0 ± 113.8	221.0 ± 119.3	0.002
CD4 count 2016-2017	629.8 ± 326.3	676.0 ± 297.6	0.949
Months to initial therapy	22.0 ± 42.6	78.5 ± 44.2	0.001
History of AIDS (%)	57.8	9.5	0.000
<b>Mean comorbidity domains</b>	3.3 ± 1.5	2.0 ± 1.1	0.001