Multimorbidity and Quality of Life Among Older People Living with HIV in Urban Tanzania

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BACKGROUND

- In Tanzania, 1.7 million people are reported to be currently living with HIV. 31% are aged >50 years with estimations that the population will grow by 25% by 2040.[1]
- Medical and geriatric comorbidities in older persons with HIV (PLWH) such as depression, cognitive dysfunction, and frailty are expected to substantially increase as life expectancy improves with widespread access to ART. These conditions have been shown to adversely impact quality of life and general wellbeing.[2]
- In Tanzania, like other parts of SSA, the ageing HIV population has not been well characterized. Data on the burden of medical and geriatric co-morbidities among older PLWH and their impact on quality of life remains extremely limited.
- The goal of this study is to assess the burden of medical and geriatric comorbidities such as frailty and cognitive dysfunction and their association with quality of life (QOL) in a cohort of PLWH aged ≥50 in urban Tanzania.

METHODS

- Cross-sectional analysis of baseline data collected from older PLWH enrolled in a longitudinal HIV ageing cohort (THALCs) at seven HIV clinics in Dar es Salaam, Tanzania.
- Inclusion criteria: aged ≥50 years; on ART for ≥3 years.
- Exclusion criteria: pregnant at study entry; unable to give informed consent.

Measure	Tool
QOL	World Health Organization Quality of Life Assessment for HIV Brief (WHOQOL-HIV-BREF)
Frailty	Fried's Frailty phenotype score
Cognitive functioning	Community screening interview for dementia (CSI-D)
ADL	World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0)
Social support	Lubben Social Network Scale
Depression	PHQ 9

- Additional data: sociodemographic characteristics (age, gender, marital status, education, employment status); anthropometrics; blood pressure; random blood glucose; lipid profile, serum creatinine; HIV-infection related characteristics; smoking and alcohol assessment
- Analysis plan: Primary outcome: QOL. Descriptive statistics to summarize characteristics of the study population, multivariable (MV) linear regression to identify determinants of QOL

Table 1. Demographics and HIV characteristics

Variable	N=400 n (%)
Sex	
Male	200 (50.0)
Age in years	
50-59	247 (61.8)
60-69	121 (30.2)
70+	32 (8.0)
Married	166 (41.5)
Education level	
No formal education	55 (13.8)
Primary occupation	
Retired or unemployed	104 (26.0)
Employed or self-employed	134 (67.0)
BMI	
Underweight (<18.5)	25 (6.3)
Normal (18.5-24.9)	168 (42.4)
Overweight (25-29.9)	110 (27.8)
Obese (30+)	93 (23.5)
Drinks alcohol	112 (28.0)
Tobacco user	28 (7.0)
Years lived with HIV	
<10	142 (35.6)
>=10	257 (64.4)
Years on ART	
<10	149 (37.4)
>=10	249 (62.6)
Current ART regimen	
TDF + 3TC + DTG (TLD)	333 (83.3)
Other	66 (16.5)
HIV viral load suppressed (< 50 copies/ml)	165 (73.3)
History of opportunistic infections	200 (50.0)

Table 2: Medical and Geriatric comorbidities

Variable	N=400 n (%)
Medical comorbidities	
Hypertension[1]	218 (54.5)
Diabetes[2]	47 (11.8)
Dyslipidaemia[3]	314 (80.9)
Renal dysfunction[4]	65 (17.1)
Geriatric comorbidities	
Frailty	
No frail (0)	146 (37.2)
Pre-frail (1-2)	193 (49.1)
Frail (≥3)	54 (13.7)
Cognition	
Cognitive	212 (53.0)
Mild cognitive impairment	164 (41.0)
Dementia	24 (6.0)
Number of ADL difficulties	
None	235 (58.8)
1-3	105 (26.2)
>4	60 (15)
At risk of social isolation	97 (24.2)
Depression (PHQ-9)	
None or minimal (0-4)	290 (72.5)
Mild (5-9)	77 (19.2)
Moderate/severe (10-19)	33 (8.3)

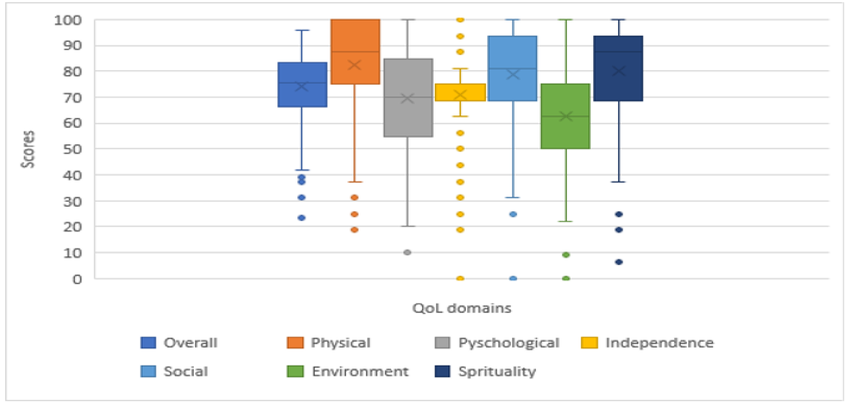
[1]Hypertension: SBP≥140 mmHg or DBP≥90 mmHg or on antihypertensive medication
[2]Diabetes: FBG≥7 mmol/L
[3]Dyslipidemia: At least one of these: LDL cholesterol: > 2.6 mmol/L or Triglycerides: > 1.7 mmol/L or Total cholesterol: > 5.2 mmol/L or HDL: < 1 mmol/l for men and < 1.3mmol/l for women
[4]Renal dysfunction: At least one of these: eGFR<60 ml/min/1.73m^2 or ≥ +1 proteinuria

Table 3. Risk factors associated with QOL

Variables	Multivariable analyses* β (95% CI)	p-value
Sex		
Male vs. Female	0.08 (-1.96, 2.12)	0.94
Age (in years)	0.13 (-0.01, 0.27)	0.08
BMI (Kg/m^2)		
Underweight vs. normal	-3.46 (-7.56, 0.65)	0.10
Overweight vs. normal	-0.92 (-3.22, 1.38)	0.43
Obese vs. normal	0.38 (-2.24, 3.01)	0.77
Frailty		
Pre-frail vs. No frail	-3.66 (-5.81, -1.48)	**0.001**
Frail vs. No frail	-5.01 (-8.56, -1.46)	**0.006**
Cognition		
Mild cognitive/dementia vs. normal cognition	-0.87 (-2.76, 1.01)	0.36
ADL difficulties (≥1) vs. none	-6.91 (-9.14, -4.67)	**<0.001**
At risk of social isolation vs. no risk	-1.19 (-3.47, 1.10)	0.31
Depression (PHQ-9)		
Mild (5-9) vs none/minimal	-8.41 (-10.87, -5.95)	**<0.001**
Moderate/severe (10-19) vs. none/minimal	-15.63 (-19.33, -12.93)	**<0.001**

*Adjusted for age and sex

Figure 1: Distribution of QOL scores



CONCLUSIONS

- A high burden of medical and geriatric comorbidities was observed in ageing PLWH in this urban Tanzanian setting
- Pre-frailty, frailty, ADL difficulties, and depression were all independently associated with worse self-reported QOL
- Our findings highlight the need for holistic management of multi-morbidities among PLWH as they age, to maintain their QOL

ADDITIONAL KEY INFORMATION

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