

Pilot Study Assessing the Rotterdam Healthy Aging Score in a Cohort of HIV-Positive Adults

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Background

- An objective measure of healthy aging is needed to identify factors predictive of health and facilitate evaluation of interventions
- The Rotterdam Healthy Aging Score (HAS) [Jaspers et al., J Am Med Dir Assoc. 2017; 18(3)] is a validated multidimensional index of 5 health domains (Figure 1)
 - It was constructed using factor analysis from a prospective population based study of 3500 Dutch participants ≥ 55 years
 - The cohort was 39.8% men and 97% of Caucasian descent
 - A number of socioeconomic and health behavioral factors were considered as covariates
 - In the Dutch cohort the mean (SD) HAS was 11.2 (2.2) in men and 10.7 (2.3) in women
 - Men had poorer scores in the chronic diseases domain
 - Women had poorer mental health, physical function, more pain, and lower quality of life
 - In this population the HAS was validated to mortality data; the age adjusted hazard ratio (95%CI) for mortality per unit of HAS was 0.86 (0.83, 0.89) in men and 0.89 (0.87, 0.91) in women

Objective

We describe the HAS distribution among a cohort of older HIV-positive adults in Toronto, Canada

Methods

- Prospective pilot study of 101 adults attending a tertiary HIV clinic, aged ≥40, on combination antiretroviral therapy with HIV RNA <50 copies/ml for ≥6 months
- The HAS was calculated according to Figure 1
- Demographics, overall HAS, and domain scores were compared by age group and sex

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Results

Table 1: Demographics by Age Group

	40-50 (n=30)	51-60 (n=35)	≥61 (n=36)	p
Male	22 (73%)	29 (83%)	31 (86%)	0.40
Caucasian	14 (47%)	21 (60%)	27 (75%)	0.06
Years of HIV	16 [11, 19]	22 [8, 29]	25 [18, 29]	<01
CD4 Nadir	267 [170, 368]	180 [80, 320]	153 [48, 266]	0.05
Current CD4	690 [550, 869]	535 [362, 822]	544 [404, 678]	0.06

Figure 1: Calculation of Healthy Aging Score

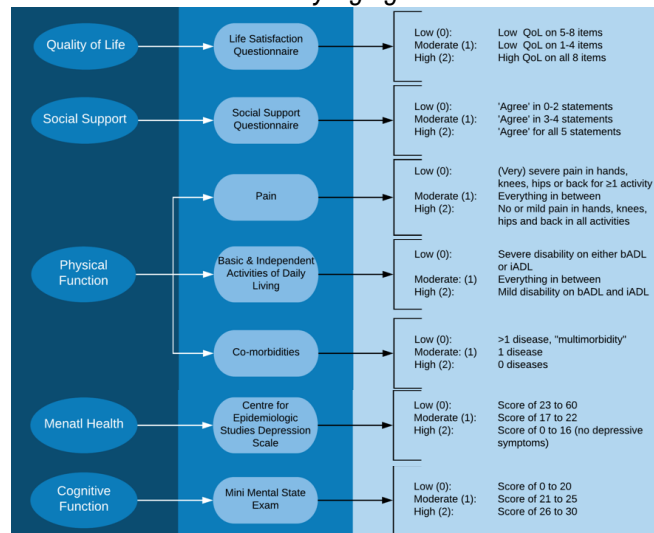


Figure 2: Healthy Aging Score by Age and Sex

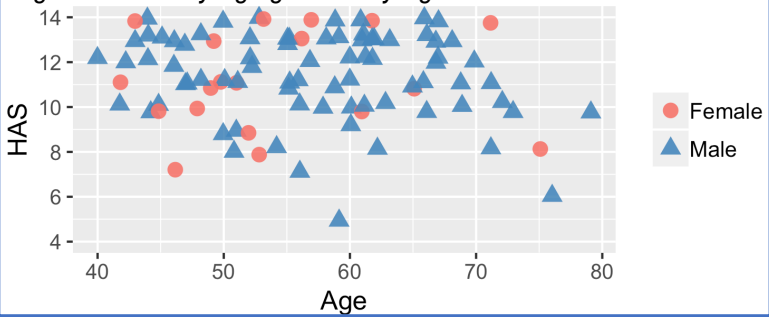


Table 2: Healthy Aging Score by Age Group

	40-50 (n=30)	51-60 (n=35)	≥61 (n=36)	p
HAS	12 [11, 13]	11 [10, 13]	12 [10, 13]	0.79
HAS Category				0.91
Poor	7 (23%)	11 (31%)	12 (33%)	
Intermediate	11 (37%)	11 (31%)	10 (28%)	
Healthy	12 (40%)	13 (37%)	14 (39%)	
Mental Health				0.04
Poor	8 (27%)	9 (26%)	2 (6%)	
Intermediate	3 (10%)	9 (26%)	10 (28%)	
Healthy	19 (63%)	17 (49%)	24 (67%)	

Table 3: Healthy Aging Score by Sex

	Male (n=82)	Female (n=19)	p
HAS	12 [10, 13]	11 [10, 14]	0.73
HAS Category			0.99
Poor	22 (27%)	5 (26%)	
Intermediate	28 (34%)	7 (37%)	
Healthy	32 (39%)	7 (37%)	
Pain			0.02
Poor	1 (1%)	3 (16%)	
Intermediate	20 (24%)	6 (32%)	
Healthy	61 (74%)	10 (53%)	

Discussion & Conclusions

- Limitations of applying the HAS to an HIV cohort:
 - Different demographics compared to the Rotterdam cohort
 - Chronic disease domain may not capture all those relevant to HIV
 - Other factors might impact healthy aging with HIV (i.e. stigma, trauma, discrimination, and social determinants)
- In our HIV cohort the HAS scores ranged from 5–14 with median of 12 (IQR 10, 13), similar to that of the Rotterdam cohort
- No differences were found by gender which may be due to small the small sample size
- The HAS requires further study to determine if the score is responsive to change and hence its ability to be used as an outcome measure in interventional studies or in patient care