A Snapshot of Neuropsychological Health in “50-Something Aged” People Living with Chronic HIV Infection

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Introduction
The increased life expectancy of PLWH has intensified focus on age-related changes that may be associated with HIV infection. Neurocognitive impairment (NCI) may impact on health-related quality of life (HRQOL), activities of daily living, behaviour, mood and relationships. As such, discriminating assessment, over time, is an important component of HIV care.

As an initial assessment of neurocognitive difficulty, European AIDS Clinical Society (EACS) Guidelines¹ suggest asking the patient three questions²:

1. Do you experience frequent memory loss?
2. Do you feel that you are slower when reasoning, planning activities or solving problems?
3. Do you have difficulties paying attention?

Response options are: ‘never’, ‘hardly ever’ or ‘yes definitely’. Responding with ‘yes definitely’ on at least one question is considered ‘abnormal’ and initiates a cascade of decision-making i.e. an ‘actionable’ response is required.

These guidelines recommend that actionable responses are followed up by ascertainment of psychological distress to preclude depression or anxiety during the prior assessment, prior to undertaking any further assessment of cognitive function.

Methods
To determine the utility of the screening approach advocated by the EACS Guidelines we surveyed consecutive consenting patients attending the IID Academic Medical Centre at Murdoch University to assess NCI, psychological distress and impacts on HRQOL. Regardless of their initial responses, all patients answered 4 questionnaires.

Psychometric Questionnaires
• The EACS-recommended screening tool: responses to the 3-item self-report questions² are used to guide physician assessment of NCI.
• The DASS 42³ includes three scales designed to measure psychological distress (depression/anxiety/stress).
• The Montreal Cognitive Assessment (MoCA): a brief cognitive screening tool for mild cognitive impairment; assesses a range of cognitive domains.
• The PROQOL-HIV² measures health-related quality of life and provides a well-being score between 0-100; subscales are physical, emotional, social health and treatment impact.

The MoCA is administered by trained personnel and the other questionnaires are self-report measures.

Results
To date, baseline data have been collected from 52 patients (86.5% male), with a mean (SD) age of 57.6 (8.2) years and ranging from 2-32 (mean 19) years since diagnosis. All participants were receiving antiretroviral therapy (mean (SD) duration = 15.5 (7) years), and had undetectable viral load. All but one participant had a CD4 T cell count ≥250 cells/μL (mean (SD) CD4/CD8 = 1.0 (0.5)). Impaired neurocognitive function was indicated by responses to the screening questionnaire in 19 patients (36.5%), and associated with greater psychological distress (Figure 1). Notably, observed rates of clinically significant depression (21%) and anxiety (15%), as profiled by responses to the DASS-42 (respective scores ≥10 and ≥7), were substantially higher than general population age and gender matched rates (4.4% and 11% respectively, Figure 2). Although some degree of cognitive impairment was indicated by below-threshold MoCA scores in 50% of participants, actionable screening responses did not correlate with increased neurocognitive dysfunction as measured by the MoCA questionnaire, even after taking account of psychological distress (depression and/or anxiety) (Figure 3). HRQOL measures significantly correlated with the self-reported psychological distress scores and the NCI screening responses, but not neurocognitive impairment as measured by the MoCA (Table 1).

Conclusion:
Consistent with reports in other settings we found prevalent NCI in our participants. However this appeared to be largely symptomatic, as demonstrated by the lack of agreement between the self-report screening questions and the administrator-driven MoCA. Furthermore, depression and anxiety was unmasked by the DASS in patients who had not previously reported psychological difficulty. Self-reported cognitive deficits seem to better correlate with a reduced HRQOL, further affected by stress and anxiety. These data will be further examined in longitudinal analysis to inform clinical care and provide patients with meaningful feedback.


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