

Effects of information processing impairment on everyday tasks in people with HIV-1 dementia

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Introduction

A common and clinically important complication of late HIV-1 infection is a dementia^{1,2}. HIV dementia (HIV-D) is characterized by ataxia, gait difficulties, slowness of hand movements, impaired memory and concentration, apathy and incontinence. Research conducted outside medicine has focused on identifying the type of neuropsychological or information processing impairment present in people with HIV-D. Correlations of neuropsychological profiles with measures of function have produced a preliminary staging of the disease³. However, little is known about the exact impact on the functional capacity of people as they perform meaningful everyday tasks in typical performance contexts. The aim of this study is to identify and describe the impact of information processing impairment on task performance in real-world contexts in people diagnosed with HIV-D using an ecological measurement model.

Method

Twenty men between the ages of 25-45 who are diagnosed with HIV-D, living in a home environment in the Sydney metropolitan area and currently being seen by an occupational therapist are being recruited by letter of invitation. The instrument to be used is the Perceive, Recall, Plan and Perform (PRPP) System of Task Analysis⁴. The PRPP System was selected because it is a reliable, criterion-referenced measure that has been used successfully to identify the impact of information processing impairment on everyday tasks in other studies. Task performance is assessed in terms of how well a person performs a task to expected levels according to set criteria. Information processing is assessed in terms of the impact impairments make on task performance. This occurs through the use of behavioural *descriptors*. *Descriptors* are verbs that denote observable dimensions of information processing for each of 12 categories; that, in turn, represent four stages of information processing (Figure 1).

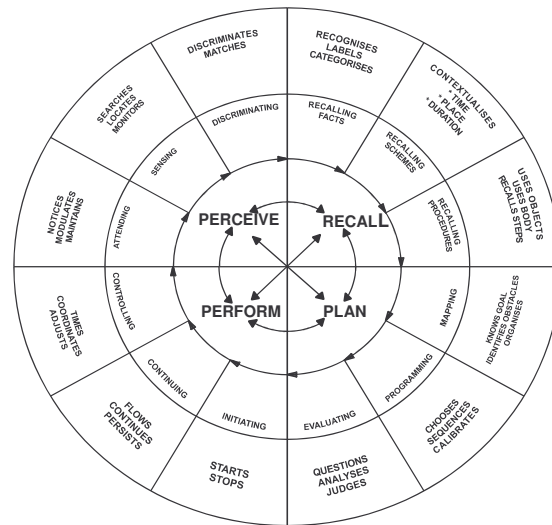


Figure 1: Information processing measurement model

Performance of each *descriptor* behaviour is scored according to set criteria ranging from no difficulty to definite difficulty. Consenting participants are being videotaped performing two self-selected tasks that pose difficulty and are desired goals. Tasks being assessed include, for example, personal care tasks, using public transport, calculating expenses, shopping, work-related duties. Videotaped performances are being reviewed and scored by two raters trained in the use of the PRPP System.

Analysis

PRPP studies have used traditional statistical models as well as Rasch analysis methods. Similar analysis methods are being used in this study.

Results

Preliminary results obtained reveal that this group of clients have difficulty with several dimensions of information processing during task performance but that plan operations are the most significant.

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3. Marder, K. et al. Inter-rater reliability of a clinical staging of HIV-associated cognitive impairment. *Neurology* 60, 1467-1473 (2003).
4. Chapparo, C. & Ranka, J. in *Occupational performance model (Australia): Monograph 1* (eds. Chapparo, C. & Ranka, J.) 189-199 (OP Network, School of OLS, USyd., Lidcombe 2141, Sydney, 1997).

Identifying the impact of information processing impairment on real-world performance of tasks using a criterion-referenced measurement model will enable occupational therapists to more specifically tailor therapy to the individual performance needs of clients as they live and age with HIV/AIDS