Disability in late-life major depression: Patterns of self-reported task abilities, task habits, and observed task performance

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ABSTRACT

This article describes patterns of concordance/discordance between self-reported abilities ("can do") and habits ("does do") and observed task performance of daily living tasks in three groups of older adults: late life depression with mild cognitive impairment ($n = 53$), late life depression without mild cognitive impairment ($n = 64$), and non-depressed, cognitively normal controls ($n = 31$). Self-reported data were gathered by interview in participants' homes, followed by observation of task performance. Significant differences in the patterns of response were found between controls and respondents with both late life depression and mild cognitive impairment for the cognitive instrumental activities, and between the two depressed groups and controls for the physical instrumental activities. For both sets of activities, controls exhibited the greatest overestimation of task performance. No differences were found among the groups for the less complex functional mobility and personal care tasks. However, for the more complex instrumental activities, concordance was close to, or less than, chance. The findings led us to conclude that when performance testing is not feasible, self-reports of functional status that focus on habits may be more accurate than those that focus on abilities.

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1. Introduction

Functional status, that is, an individual's ability to perform daily tasks routinely, is an integral component of mental healthcare. It enters into diagnostic decisions as Axis V of the Diagnostic and Statistical Manual of Mental Disorders, fourth Edition, Text Revision (DSM-IV-TR™) (American Psychiatric Association, 2000) and is particularly useful in gauging the severity of illness, the effectiveness of psychiatric interventions (pharmacologic, psychotherapeutic, and behavioral), and the need for supportive services (e.g., meals-on-wheels and chore services). From the perspective of patients, the ability to carry out daily living activities directly influences their ability to live independently in the community and their quality of life. Hence, the accurate assessment of functional status is of paramount importance because an overestimation places patients at risk, while an underestimation increases their dependency beyond that warranted by their functional status.

Information about functional status is most often obtained through interviews or questionnaires, whereby patients rate their task perfor-

mance. Questions typically inquire about patients' ability, as in "Can you take your own medicine" or "Can you do your housework" (Fillenbaum, 1988, p. 144). Alternatively, questions are phrased to ask about patients' usual or habitual performance, as in "Do you take your own medicine?" or "Do you do your housework?" (Rogers and Holm, 2000). In contrast to "Can you" questions, which aim at understanding patients' ability to perform specific activities, "Do you" questions aim at understanding patients' habitual performance of these activities in the context of their daily lives (Bruce, 1999).

"Can" and "do" questions provide information about patients' perceived abilities and habits, respectively. These data are essential for planning rehabilitation because deficits in abilities require different interventions than deficits in habits. Rehabilitative interventions for deficits in abilities emphasize retraining through guided practice and adaptation, while those for deficits in habits focus on reconstituting daily living routines through practical problem solving and engagement in progressively challenging, but personally meaningful, activities (Rogers and Holm, 1991). To ascertain if task performance problems are attributable to deficits in ability or habit or a combination of ability and habit, an objective measure of functional status is needed. Hence, rehabilitation professionals supplement self-report measures with observation-based ones. Observation allows clinicians to examine how various physical (e.g., balance,

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dexterity), sensory–perceptual–cognitive (e.g., vision, planning) and affective (e.g., willingness to participate) capacities enable or hinder task initiation, continuation, and completion. Typically, observational assessment yields an index of task ability, which is a prerequisite for habits.

In this study, we sought to elucidate the concordance among three indices of functional status – self-reported task ability, self-reported task habits, and observed task performance. As most of what we know about depression-related disability is based on data from self- or proxy reports, our study makes a unique contribution to the literature by anchoring this information in objective measurement. It provides an estimate of the accuracy with which patients can describe their ability to carry out routine tasks. To fulfill our aim, we used an innovative observational instrument, the Performance Assessment of Self-Care Skills (Holm and Rogers, 2008). This enabled us to measure independent living skills in patients' homes (e.g., instrumental activities of daily living (IADLs)) as well as basic activities of daily living (ADLs; e.g., ADLs). We further examined self-reported ability, self-reported habits, and observed performance in three samples of community-dwelling older adults – those post treatment for major depression with no cognitive impairment (Depressed + No mild cognitive impairment (MCI)), those post treatment for depression with mild cognitive impairment (Depressed + MCI), and elderly with no history of depression or cognitive impairment (Controls). We included the Depressed + MCI sample because our data indicate that approximately 38% of patients with remitted depression have MCI and we were interested in evaluating the influence of these comorbidities on disability (Bhalla et al., 2009). Hence, these samples provided a range of emotional and cognitive health, thus allowing us to broaden our consideration of functional status. We would expect the greatest concordance between self-reported and observed function to emerge in the Control participants, because they have no potentially disabling impairments. In the Depressed + No MCI sample, even though depression has remitted, residuals of the depression – reduced interest, apathy, lack of confidence, anxiety, sadness, and pessimism – may still be operational (Fava et al., 2002; Hybels et al., 2005; Menza et al., 2003). This led us to expect that self-report measures would underestimate observed performance, as typically these patients perform adequately during observational testing (Rogers and Holm, 2000). However, in our depressed sample with documented mild cognitive impairment, methodologic research (Chisholm, 2005) led us to speculate that their self-reported function would be overestimated rather than underestimated, because their observed performance would be deficient.

2. Methods

The research protocol was approved by the University of Pittsburgh IRB, and written informed consent was obtained from all participants.

2.1. Subjects

Participants in the present study were enrolled in a randomized clinical trial to investigate maintenance pharmacologic strategies for stabilizing emotional and cognitive functioning in late-life depression and preventing or minimizing functional disability (MH043832). For the randomized clinical trial, subjects with remitted depression were recruited from other studies of treatment for depression and from referrals by mental health practitioners. Control subjects were recruited using flyers posted in primary care physician offices. Eligible participants with remitted depression (a) had completed open, protocolized treatment for non-psychotic, non-bipolar major depression, which had been diagnosed using DSM-IV-TR criteria, and (b) were ≥65 years of age. Time 1 testing for the maintenance phase of the study (data for the current study) was conducted prior to randomization, and was based on a clinical determination of readiness for maintenance therapy. Control participants were eligible if they were ≥65 years of age and had no history of major depression. Based on Time 1 testing data, all participants could present without or with mild cognitive impairment (MCI), but could not be diagnosed with dementia by the University of Pittsburgh's Alzheimer's Disease Research Center (ADRC). For the present analyses, we categorized the depressed patients into those who were post treatment for depression and had MCI (Depressed + MCI), and those post treatment for depression but without MCI (Depressed + No MCI). Eight control participants with evidence of MCI were dropped from the analyses due to small sample size.

2.2. Procedures

The study team performed interviews, neuropsychological tests, and observations of actual task performance in participants' homes. All measures had established validity and reliability. Clinical measures were the 17-item Hamilton Depression Rating scale (Hamilton, 1960; Miller et al., 1985) (higher scores = greater depressive symptom severity), the Mattis Dementia Rating Scale (Coblentz et al., 1973; Mattis, 1976) total and scaled scores (lower scores = greater impairment), the Cumulative Illness Rating Scale for Geriatrics (Miller and Towers, 1991; Miller et al., 1992) (higher scores = greater medical burden), and the Medical Outcomes Study - Short Form (Ware and Sherbourne, 1992) (lower scores = poorer health-related quality of life). Physical measures were the Keitel Functional Test (Eberl et al., 1976) (higher scores = greater range of motion and strength impairments), and Body Mass Index (National Heart Lung and Blood Institute, 2008) (higher indices are associated with overweight or obesity). Functional status was assessed with the Performance Assessment of Self-Care Skills (PASS) self-report and observational tools (Holm and Rogers, 2008; Rogers et al., 2003). The PASS self-report tool has two scales: Abilities (can do) and Habits (does do), which are rated on a 0 - 3 scale, with higher scores indicating greater independence. The PASS observational tool is criterion-referenced and is designed to be administered in participants' homes, thus enabling them to be tested in a familiar setting. A trained therapist provides standardized instructions for each task, observes task performance, and rates performance, on the same 0–3 rating scale used in the self-report tool.

The PASS is not timed, and when participants experience difficulty, the therapist provides cues as necessary to facilitate task completion. For medication management, for example, participants use their own medications. First, they are asked to state when they will take the next dose of each medication, according to the directions on the labels, and then they are asked to sort their medications for the next 2 days using a medication organizer divided into morning, afternoon, evening, and bedtime. If the therapist needs to cue the participant for any part of the task, this lowers the independence rating. Some tasks are simulated. For shopping, for example, participants are given a shopping list and asked to select grocery items from an array that varies brand names and type of vegetables. Paying for the items requires a series of cash exchanges to account for regular pricing and pricing using coupons. The two PASS self-report scales (can do, does do) were administered first, followed by the PASS observational tool. For each of the two self-report scales and the observational tool, we calculated 4 PASS domain independence scores: functional mobility, personal care, IADLs with a cognitive emphasis, and IADLs with a physical emphasis (see Table 1).

2.3. Data analysis

Data were analyzed using SAS version 9.2 (SAS Version 9.2, 2007). Demographic and clinical between-group differences were analyzed using one-way analysis of variance (ANOVA) for continuous variables and the Fisher's exact test for categorical variables. Significant group findings ($P<0.05$) were followed by pairwise analyses using Tukey's *post hoc* tests. PASS measures were examined as continuous variables for descriptive purposes only, as well as for the percent of participants whose self-reported ability and self-reported habit ratings equaled, overestimated, or underestimated their PASS observed task performance. These latter analyses used Fisher's exact tests. *Post hoc* pairwise comparisons were performed for PASS variables with significant group differences.

Table 1
Tasks in both the Performance Assessment of Self-Care Skills (PASS) self-report and PASS observed task performance tools.

Functional Mobility	Personal Care	Cognitive IADL	Physical IADL
Bed transfers	Oral hygiene	Shopping	Cleanup after
Indoor walking	Dressing	Bill paying by check	meal preparation
Toilet transfers		Checkbook balancing	Sweeping
Bathtub and		Mailing bills	Carrying the
shower transfers		Telephone use	garbage
Stair use		Medication management	
		Obtaining critical	
		information from a radio	
		Obtaining critical	
		information from	
		a newspaper	
		Small repairs	
		Home safety	
		Stovetop use	
		Use of sharp utensils	
		Playing bingo	

IADL = Instrumental Activities of Daily Living. Holm, M.B., & Rogers, J.C. (2008). The Performance Assessment of Self-Care Skills (PASS). In B. Hemphill-Pearson (Ed.), *Assessments in Occupational Therapy Mental Health* (2nd ed., pp. 101-110). Thorofare, NJ: SLACK.