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Motivational deficits in major depressive disorder: Cross-sectional and longitudinal relationships with functional impairment and subjective well-being

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Abstract

Background: Many individuals with major depressive disorder present with prominent motivational deficits; however, the effect of these symptoms on functional outcomes in the illness remains unclear.
Method: Individuals with major depression who participated in the Sequenced Treatment Alternatives to Relieve Depression study were included in the present investigation ($N = 1563$). Motivational deficits were evaluated using a derived measure from the Hamilton Depression Rating Scale, while functioning was assessed using the Work and Social Adjustment Scale. Subjective outcomes were also evaluated using the Quality of Life Enjoyment and Satisfaction Questionnaire.
Results: After treatment with citalopram, over 70% of participants continued to experience some degree of motivational deficits. These deficits were significantly associated with greater functional impairments both globally and in each domain of functioning evaluated. These symptoms were also linked to worse subjective outcomes such as overall life satisfaction and quality of life. Change in the severity of motivational deficits over time was significantly linked with changes in outcome. Motivational deficits continued to demonstrate a significant association with outcomes, even after controlling for potentially confounding variables such as duration of depressive episode and severity of other depressive symptoms.
Conclusions: Motivational deficits are significantly linked to the functional impairment present in many people with major depression, just as they are in other psychiatric illnesses such as schizophrenia. A greater understanding of the underlying mechanisms of these motivational deficits in particular, beyond other depressive symptoms, is critical to the development of strategies aimed at enhancing functional recovery and improved subjective well-being.

1. Introduction

Major depression is among the leading causes of disability worldwide [1,2], and is associated with significant impairments in social and occupational functioning [3,4]. Greater symptom severity is known to undermine functioning in patients with depression [3,5], and reduction in symptom severity is associated with functional gains [6]; however, whether specific symptoms, or indeed clusters of symptoms, impact patients' functioning independent of other clinical factors remains unclear. One recent study highlighted that this may be the case, with specific depressive symptoms each having a detrimental effect on functional outcomes [7]. More specifically, symptoms reflective of depressed mood, cognitive disturbances, and motivational deficits demonstrated the most robust impact on functional outcomes.

Drawing from the literature on community functioning in schizophrenia, where motivational deficits have emerged as a key predictor of functional outcome [8–11], we sought to examine whether a similar cluster of symptoms predict outcome in patients with major depressive disorder.

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Motivational deficits refer to a reduced interest and drive to initiate and maintain goal-directed activities. These impairments are referred to here as motivational deficits, but are synonymous with other terms used in the literature such as apathy [12]. Motivational deficits are, however, conceptually distinct from anhedonia per se, which refers more restrictively to the inability to experience pleasure [13,14].

Many individuals with major depressive disorder present with prominent motivational deficits [15–17], and these symptoms significantly impact clinical outcomes such as treatment response [18]. One recent study demonstrated that severity of motivational deficits was significantly associated with poorer functioning in patients with major depression, and moreover changes in motivation were linked to changes in functioning [19]. However, this study did not elucidate whether motivational deficits were predictive of functional impairment independent of other depressive symptoms, leaving open the possibility that motivational deficits may not offer any unique predictive value, beyond say depressed mood, in the determination of functioning in patients with major depression.

The present investigation sought to examine the effect of motivational deficits on functional outcomes in a large and heterogeneous sample of patients with major depressive disorder. First, it was determined whether change in the severity of motivational deficits was linked to changes in degree of functional impairment. It was then determined whether this relationship held after the effects of selected demographic and clinical variables on functioning were parsed out. Effects were examined in terms of global functional outcome as well specific domains of community functioning. Last, the impact of change in motivational deficits on changes in subjective outcomes such as life satisfaction was explored.

2. Method

2.1. Study design

Data were collected as part of the NIH-supported Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study [20]. STAR*D focused on non-psychotic major depressive disorder in adults seen in outpatient settings. The primary purpose of this research study was to determine which treatments work best if the first treatment with medication does not produce an acceptable response. The study was a multi-site clinical trial, overseen by 14 regional centers across the United States which in turn provided oversight to two to four clinical sites providing primary ($N = 18$) or psychiatric ($N = 23$) care to patients in both public and private sectors. Clinical research coordinators at each site assisted in protocol implementation and collection of clinical measures. A central pool of research outcome assessors conducted telephone interviews to obtain primary outcomes. The primary results of the first phase of treatment have been described elsewhere [21].

2.2. Participants

To increase generalizability of findings, only patients seeking medical care in routine medical or psychiatric outpatient treatment (as opposed to those recruited through advertisements) were eligible for the study. Minimal exclusion criteria and broad inclusion criteria were employed that, for example, did not exclude a majority of axis I and axis II disorders. Outpatients were 18–75 years of age and had a non-psychotic major depressive disorder determined by a clinical diagnosis and confirmed using a DSM-IV checklist. Only participants with a baseline 17-item Hamilton Depression Rating Scale (HAM-D) [22] total score of 14 or greater were eligible. The initial HAM-D at study entry was administered and scored by the clinical research coordinators. Patients with a primary diagnosis of schizophrenia, schizoaffective, bipolar, psychotic, obsessive-compulsive, or eating disorders were excluded from the study, as were those with substance dependence requiring inpatient detoxification.

Participants in the present analysis included individuals in the first phase of treatment, which involved open-label flexible-dose treatment with citalopram for up to 14 weeks [20].

The study was approved by the institutional ethics review board at each site, and written informed consent was obtained from the patients.

2.3. Instruments

The Work and Social Adjustment Scale (WSAS) [23] was employed to assess community functioning and impairments therein. The scale evaluates functioning in the following domains: work, home management, social leisure activities, private leisure activities, and close relationships. Participants are asked to determine how much their illness, in this case depression, impairs their ability to function. The primary outcome measure for the present study was total score, but individual functional domains were also examined. Data for this measure were collected using an interactive voice response system [24]. Scores for each item ranged from 0, indicating no impairment in functioning, to 8, indicating very severe impairment; therefore, higher scores reflect more severe functional impairment.

To complement the assessment of functional impairment, we also examined subjective quality of life (sQOL) as evaluated by the Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q) [25]. This measure is a 14-item self-report instrument designed to evaluate patients' satisfaction and enjoyment in various domains of functioning such as work, household duties, schoolwork or housework, leisure activities, social relations and general activities. The sum of these 14 items was used as an index of sQOL. In addition, a single item measure of overall life satisfaction, which asks participants to evaluate their overall life satisfaction and contentment, was also examined. The measure of sQOL was highly, but not redundantly, related