A Systematic Review of Neurocognition and Functional Outcomes in Major Depressive Disorder
Raymond W. Lam; Vanessa C. Evans; Grant L. Iverson; Lakshmi N. Yatham
Department of Psychiatry, University of British Columbia, Vancouver, BC, Canada; email: r.lam@ubc.ca
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Abstract

Objective: Individuals with Major Depressive Disorder (MDD) experience significant impairments in life functioning, not only during depressive episodes, but also during remission. The severity of mood symptoms does not fully account for the extent of functional impairment in this population. As in other psychiatric disorders such as schizophrenia and bipolar disorder, neurocognitive deficits are a well-established component of MDD and may affect functional outcomes. Our objective was to systematically review the evidence regarding neurocognitive deficits and their impact on psychosocial and occupational functioning in MDD.

Methods: We searched for published peer-reviewed papers in electronic databases (e.g., MEDLINE, EMBASE, Science Direct, and PsycInfo electronic databases) (Figure 1).

Search terms consisted of three sets of general and Medical Subject Headings (MeSH) terms: (1) “Depressive Disorder” or “Depressive Disorder, Major”; (2) permutations of cognitive, neurocognitive, and neuropsych* with impairment, deficit, performance, and test; and (3) “quality of life” or “functional outcomes” or “Outcome Assessment”

Study inclusion criteria:
(1) non-patient adults meeting validated diagnostic criteria for MDD (e.g., defined according to the DSM-IV or IC-D-9);
(2) an objective measure of neurocognition testing (i.e., neuropsychological tests); and
(3) a specific assessment of social, occupational, or instrumental or daily functioning.

Conclusion: Neurocognitive functioning is associated with functional impairment in individuals with MDD. Further longitudinal studies with larger sample sizes would help clarify the relationship between neurocognitive and life functioning in MDD.

Background/Objectives

Major Depressive Disorder (MDD) is a leading cause of functional disability world-wide.

Life functioning is not always well-correlated with symptom improvement, and functional impairments may persist even when patients are in symptom remission from a major depressive episode.

Neurocognitive deficits are likely to mediate functional impairments in MDD. Cognitive deficits have been demonstrated in domains including:

- Processing and psychomotor speed
- Sustained and selective attention
- Executive function
- Verbal and non-verbal learning and memory
- Verbal and ideational fluency, and
- Visuospatial skills.

The objective of this study was to systematically review studies on neurocognitive deficits and their impact on aspects of life functioning in adults with MDD.

Results

We performed a comprehensive search of the English-language literature up to and including February 15, 2013 using the MEDLINE, EMBASE, Science Direct, and PsycINFO electronic databases (Figure 1).

Search terms consisted of three sets of general and Medical Subject Headings (MeSH) terms:

- “Depressive Disorder” or “Depressive Disorder, Major”;
- permutations of cognitive, neurocognitive, and neuropsych* with impairment, deficit, performance, and test; and
- “quality of life” or “functional outcomes” or “Outcome Assessment”

Study inclusion criteria:

(1) non-patient adults meeting validated diagnostic criteria for MDD (e.g., defined according to the DSM-IV or IC-D-9);
(2) an objective measure of neurocognitive functioning (i.e., neuropsychological tests); and
(3) a specific assessment of social, occupational, or instrumental or daily functioning.

Studies reviewed relevant papers from the initial search, which were then reviewed by inclusion for two reviewers.

Conclusions

This systematic review found evidence that neurocognitive deficits are significant and clinically important factors in the life functioning of individuals with MDD.

However, there are relatively few studies and even fewer have adequate sample sizes, longitudinal designs, perform mediation analyses, or use sensitivity assessments of life functioning.

Further studies on the relationship between neurocognition and life functioning and other factors are warranted, with clinical research directed at developing interventions to improve neurocognitive functioning in people with MDD.