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# Cognitive & Affective Features of Bipolar Disorder: An Examination of Residual Deficits in Euthymic Bipolar Patients

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## Discussion will focus on...

- Euthymic mood states in Bipolar Illness
- Cognitive Deficits
- Affective Functioning
- Treatment Implications

## Bipolar Disorder & Its Deficits

- Deficits including (Malhi, et al., 2007)
  - Executive Functioning
  - Memory
  - Mental flexibility
  - Decision making
  - Verbal fluency
  - Attention deficits
- Brain Areas Implicated
  - Frontal lobe (Malhi, et al., 2004)
  - Dorsolateral prefrontal cortex (Malhi, et al., 2004; Smith, Muir & Blackwood, 2006)
  - Temporal lobe (Malhi, et al., 2004)
  - Hippocampus (Malhi, et al., 2004; Smith, et al., 2006)
  - Thalamus (Malhi, et al., 2004)
  - Connections between several regions (Torres, Boudreau, & Yahtam, 2007)
    - Prefrontal-striatal
    - Frontotemporal
    - Anterior-limbic

## Euthymia and “Residual Deficits”

- Euthymia is a “normal mood state”; non-depressed; relatively positive mood (Malhi, et al., 2007)
- Not synonymous with recovery from bipolar disorder (Malhi, et al., 2004; 2007)
- Deficits that exist during euthymic states point to underlying functionality of bipolar illness

## Cognitive Deficits

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- Executive Functioning
  - Prospective decision making
  - Shifting set
  - Planning
  - Using and managing auditory working memory
  - Inhibiting responses
  - Possible contributor to broader cognitive and psychosocial difficulties (Torres, et al., 2007)
  
- Memory
  - Most often reported cognitive deficit (Malhi, et al., 2007)
  - Explicit memory deficits in recall and verbal and working memory

## Cognitive Deficits (cont.)

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- Recall
  - Immediate and delayed free recall (Torres, et al., 2007)
  - Poor verbal immediate recall (Malhi, et al., 2007)
  - No recognition deficits
    - Retrieval, not encoding
  
- Verbal Memory
  - More impaired than MDD patients and controls (Smith, et al., 2006)
  
- Working Memory (Thompson, et al., 2007)
  - Explained by difficulty monitoring and integrating material (executive deficit)
  
- Attention & Information Processing
  - Slower visual-motor processing, decreased accuracy, and reaction time (Torres, et al., 2007)

## Affective Functioning

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- Subclinical mood symptoms despite “remission”
  - Rated experiencing symptoms significantly above controls (Thompson, et al., 2007)
    - Echoed in ratings of professionals (Malhi, et al., 2007)
  - Decrease subjective quality of life (Goossens, Harton, Knoppert, van der Klein & Achterber, 2008)
- Difficulty comprehending and responding to affect-laden stimuli
  - Accurate but slower reaction times; less prefrontal activation (Malhi, et al., 2005)
  - Increased amygdala activity, reduced prefrontal activation (Malhi, et. al., 2004)

## Is there a correlation?

Relationship between Cognitive & Affective Sequelae

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- Residual affective symptoms causing cognitive deficits?
- Psychosocial functioning not purely attributed to cognitive deficits

## Treatment Implications

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- Importance of multi-disciplinary intervention
  
- Medication
- Compensatory Strategies
  - Executive-task lists, self-instructional routines, cognitive plans (Sohlberg & Mateer,2001)
  - Recall-mnemonic, visualization, and rehearsal
- Individual Therapy
- Involvement of Support Systems

## Concluding Remarks

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