

### Modafinil's effects

In "Modafinil: Not just for sleep disorders?" (CURRENT PSYCHIATRY, November 2007, p. 67-79) the authors reviewed evidence-based studies of off-label use of modafinil in several psychiatric disorders.

Two double-blind studies that were not cited in the article assessed the effect of modafinil in healthy volunteers.<sup>1,2</sup> Modafinil improved vigilance, decreased fatigue, and induced a general sense of well-being, but these volunteers overestimated their cognitive and physical capacities. The study's authors postulated that the self-perception of enhanced vigilance might distort the cognitive appraisal of one's actual cognitive and physical capacities.

There is a similarity between the effects of modafinil in healthy volunteers and the reported improved vigilance, decreased fatigue, and global improvement of symptoms in patients with major depressive disorder (MDD). The extent and role of distorted self-appraisal—which paradoxically might be positive—in depression has yet to be explored. Also, the parameters of modafinil discontinuation in remitted MDD and the possible outcome of this discontinuation on the sense of well-being and

fatigue needs to be determined.

Unlike patients with MDD, those with bipolar disorder (BD) have persistent impairment of verbal memory and executive functions during euthymic states between episodes.<sup>3</sup> Patients in the depressive phase of BD might exhibit cognitive impairments different from those found in MDD patients. Studies assessing the effect of modafinil on the mood of depressed BD patients also need to evaluate its effect on cognitive impairments.

Modafinil improved set shifting in schizophrenia, sustained attention in attention-deficit/hyperactivity disorder, and increased short memory span in both disorders. Set shifting has been linked to norepinephrine and sustained attention and short memory span to dopamine. These neurocognitive correlates provide further information about modafinil's pharmacologic actions.

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#### References

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3. Smith DJ, Muir WJ, Blackwood DH. Neurocognitive impairment in euthymic young adults with bipolar spectrum disorder and recurrent major depressive disorder. *Bipolar Disord* 2006;8(1):40-6.