

## A Cheap Add-On Treatment for Depression: Sleep Deprivation Therapy

Hilal Uygur 

Department of Psychiatry, Erzurum City Hospital, Erzurum, Turkey

Dear Editor,

Major depressive disorder (MDD) is a significant health problem that causes disability on a global scale. It leads to adverse health consequences and imposes enormous costs on society.<sup>1</sup> Antidepressant drugs are the primary treatment for MDD. However, a considerable percentage of MDD patients do not respond to antidepressant therapy, and unfortunately, for those who do respond, a period of time must elapse before optimal effect is achieved. This time delay is crucial because it is associated with an increased risk of suicidal behaviour. Therefore, identifying treatment options to alleviate depressive symptoms rapidly should be a priority goal in psychiatric studies.<sup>1</sup>

Sleep deprivation (SD) is a chronobiological method used in the treatment of depression that was discovered in the 1970s.<sup>2</sup> Clinical research has demonstrated that SD can lead to rapid antidepressant effects within 24-48 hours, including the possibility of experiencing these effects during the same night or the following day. The most well-documented SD method for treating depression is total sleep deprivation (TSD). During a single cycle of TSD, patients are instructed to stay awake for approximately 36 hours, starting in the daytime and continuing through to the following evening. The standard treatment protocol typically involves the administration of 1-6 rounds.<sup>2</sup> Another form of SD is partial sleep deprivation (PSD). Sleep is typically limited to 4-5 hours, occurring either late in the night (PSD-late) or earlier in the night (PSD-early) in PSD.<sup>2</sup> TSD provides improvement in all depression symptoms in 40%-60% of MDD patients.<sup>3</sup> PSD-late is found to be as beneficial as TSD in the treatment of depression. SD's antidepressant effect lasts for up to 4-6 days. Therefore, it is not advised to use it alone.<sup>3</sup> Several combination techniques, including bright light treatment, sleep phase advance, and repetitive transcranial magnetic stimulation, have been developed to maintain the effects of SD.<sup>4</sup> The favorable treatment response rate of SD is twice as high for endogenous depression than for neurotic depression.<sup>2</sup> SD provides better treatment outcomes in patients with bipolar depression than in patients with endogenous recurrent depression.<sup>2</sup> SD can lead to manic episodes in patients with bipolar depression. It should therefore be used with caution in patients with bipolar depression. The mechanism of the antidepressant effect of SD is not fully understood, but it has been emphasized that monoaminergic neurotransmission increases with SD.<sup>5</sup> SD also has an antidepressant effect by reducing the intensity of rapid eye movement sleep. As a result, clinicians should consider SD therapy as a treatment option for patients with MDD. SD offers a rapid antidepressant effect and is a low-cost, effective alternative.

**Corresponding author:**

Hilal Uygur

**E-mail:**

atilahilal@yahoo.com

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