Wake therapy in depression

A 9-week randomized trial comparing a chronotherapeutic intervention (wake and light therapy) to exercise in major depressive disorder patients treated with duloxetine.

Abstract

OBJECTIVE: The onset of action of antidepressants often takes 4 to 6 weeks. The antidepressant effect of wake therapy (sleep deprivation) comes within hours but carries a risk of relapse. The objective of this study was to investigate whether a new chronotherapeutic intervention combining wake therapy with bright light therapy and sleep time stabilization could induce a rapid and sustained augmentation of response and remission in major depressive disorder. [...]

The study period had a 1-week run-in phase in which all patients began treatment with duloxetine. This phase was followed by a 1-week intervention phase in which patients in the wake therapy group did 3 wake therapies in combination with daily morning light therapy and sleep time stabilization and patients in the exercise group began daily exercise. This phase was followed by a 7-week continuation phase with daily light therapy and sleep time stabilization or daily exercise. The 17-item Hamilton Depression Rating Scale was the primary outcome measure, and the assessors were blinded to patients’ treatment allocation.

RESULTS: Both groups responded well to treatment. Patients in the wake therapy group did, however, have immediate and clinically significantly better response and remission compared to the exercise group. Thus, immediately after the intervention phase (week 2), response was obtained in 41.4% of wake therapy patients versus 12.8% of exercise patients (odds ratio [OR] = 4.8; 95% CI, 1.7-13.4; P = .003), and remission was obtained in 23.9% of wake therapy patients versus 5.4% of exercise patients (OR = 5.5; 95% CI, 1.7-17.8; P = .004). These superior response and remission rates obtained by the wake therapy patients were sustained for the whole study period.[...]

CONCLUSIONS: Patients treated with wake therapy in combination with bright light therapy and sleep time stabilization had an augmented and sustained antidepressant response and remission compared to patients treated with exercise, who also had a clinically relevant antidepressant response.
Here’s another article explaining wake therapy, formerly known as sleep deprivation. (Obvious PR move in changing the name.) Therapeutic use of sleep deprivation in depression.

Total sleep deprivation (TSD) for one whole night improves depressive symptoms in 40-60% of treatments. The degree of clinical change spans a continuum from complete remission to worsening (in 2-7%). Other side effects are sleepiness and (hypo-) mania. Sleep deprivation (SD) response shows up in the SD night or on the following day. Ten to 15% of patients respond after recovery sleep only. After recovery sleep 50-80% of day 1 responders suffer a complete or partial relapse; but improvement can last for weeks. Sleep seems to lead to relapse although this is not necessarily the case. Treatment effects may be stabilised by antidepressant drugs, lithium, shifting of sleep time or light therapy. The best predictor of a therapeutic effect is a large variability of mood. Current opinion is that partial sleep deprivation (PSD) in the second half of the night is equally effective as TSD. There are, however, indications that TSD is superior. Early PSD (i.e. sleeping between 3:00 and 6:00) has the same effect as late PSD given equal sleep duration. New data cast doubt on the time-honoured conviction that REM sleep deprivation is more effective than non-REM SD. Both may work by reducing total sleep time. SD is an unspecific therapy. The main indication is the depressive syndrome. Some studies show positive effects in Parkinson’s disease. It is still unknown how sleep deprivation works.

I’ve seen it said that increases in BDNF (brain-derived neurotrophic factor) are responsible for the efficacy of sleep deprivation, but I doubt if anyone knows for sure.

BTW, any of you who have ever worked a graveyard shift have likely experienced the strange mood uplift from deprivation of a night’s sleep, followed by a fitful 3 or 4 hours of sleep in the morning. I know I have.