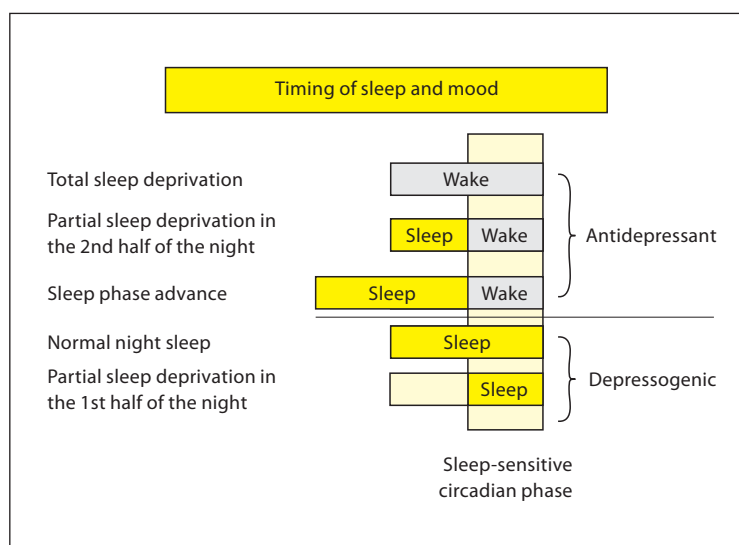


Fig. 10. Schematic representation of different manipulations of sleep timing and duration on the response of depressed patients (based on 30 years of clinical trials). A sleep-sensitive circadian phase in the second half of the night appears to be crucial in that being awake at this time can trigger improvement.



around the world have conducted studies using bright light in various protocols and applications [27, 28]. These studies have refined the clinical issues involved in use of bright light therapy, showing, for example, that it is not necessary to mimic the length of a spring or summer day for a remission of depressive symptoms, but merely to deliver the light pulse (which can be as short as 30 min) to signal a springtime sunrise to the brain. More than twenty years of clinical and neurobiological research support the diagnosis of SAD (Bipolar or Major Depressive Disorder, Recurrent, with Seasonal Pattern, by DSM-IV criteria) (table 3).

The response to light in SAD is often remarkable and consistent, as exemplified by a patient whose depression ratings were followed weekly for 4 years (fig. 11).

1.8

Light Therapy – Beyond SAD

Daniel Kripke was the pioneer who proposed and tested light therapy for non-seasonal depression [30, 31], but it is only now, more than 20 years

Table 3. Features of winter seasonal affective disorder*

- Two or more consecutive episodes of major depression in autumn or winter
- Spontaneous remission in spring or summer
- Atypical neurovegetative symptoms
 - Daytime sleepiness
 - Increased sleep need/hypersomnia
 - Increased appetite
 - Carbohydrate craving
 - Weight gain

* DSM-IV criteria do not specify atypical symptoms.

later, that there are adequately controlled longer-term studies to support his predictions.

A new generation of clinical trials has begun to establish the therapeutic efficacy of light for a variety of psychiatric disorders [27, 32]. Recent double-blind, placebo-controlled studies show that light therapy combined with an SSRI leads to more rapid (within a week) and more profound (by approximately 30%) improvement in patients with non-seasonal major depression [33, 34]. The need for efficacious treatment of depression dur-

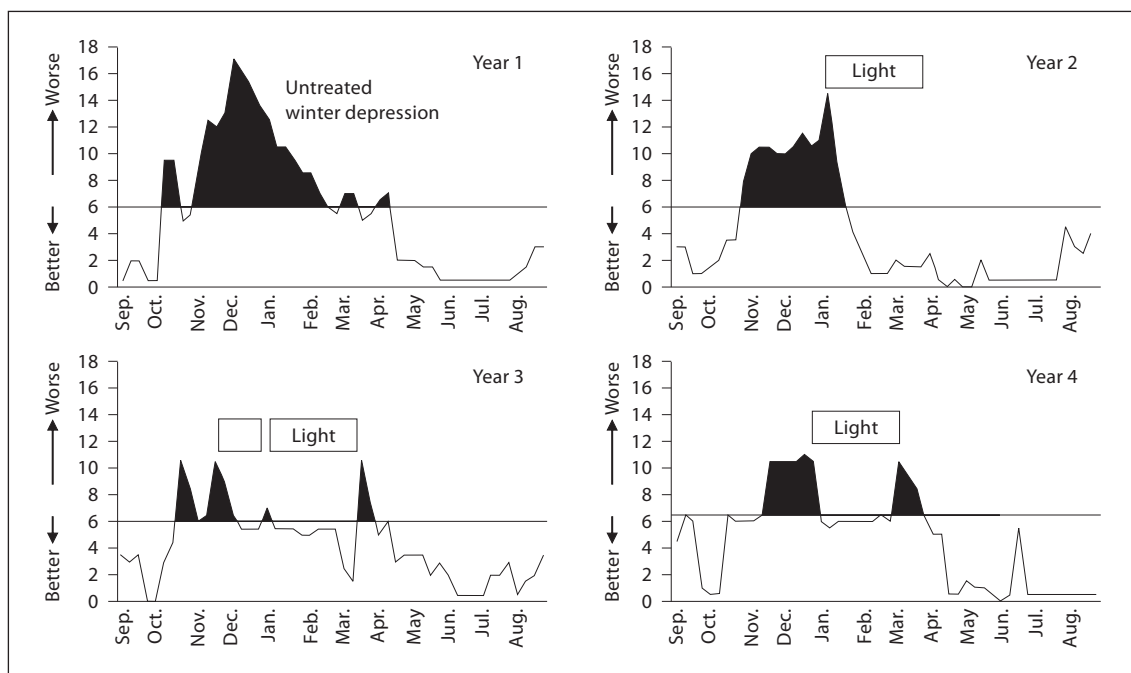


Fig. 11. Weekly depression self-ratings in a female SAD patient over 4 years (6 = threshold for depressive mood). Her winter depression episode began regularly in October. The first year illustrates the untreated natural course of the illness, with maximum depression ratings in December and January, declining to normal values in April. Light therapy begun in January of the second year induced a lasting euthymia. In year 3, light therapy began earlier, thus cutting off most of the depressive episode. Note that stopping light treatment in March resulted in a return of minor symptoms until the spontaneous remission in April. This is even more clearly seen in year 4, underlining the strongly seasonal nature of the illness. From Wirz-Justice and Staedt [29], with permission.

Table 4. Promising indications for light therapy

- SAD
- Sub-syndromal SAD
- Non-seasonal recurrent depression
- Bipolar depression
- Chronic depression
- Premenstrual dysphoric disorder
- Antepartum depression
- Attention deficit/hyperactivity disorder
- Chronic fatigue syndrome
- Schizophrenia
- Borderline personality disorder
- Parkinson's disease
- Alzheimer's disease
- Circadian rhythm sleep disorders (advanced and delayed sleep phase disorder, irregular sleep-wake cycles)

ing pregnancy without side effects for the foetus has led to trials of monotherapy with light [35]. Bulimic patients also respond to light with improvement of both depressive and bulimic symptoms [36, 37]. Light is useful in improving sleep, mood and cognition in dementia [38–40]. Most impressively, treatment of chronic depression (greater than 2 years' duration) with light has yielded impressive results in this often treatment-resistant group [41].

Thus, light is emerging as a broad-spectrum antidepressant 'drug', with an effect size equal to or better than medication, and the ability to shorten the latency to response. Even though evidence continues to accumulate in ongoing clinical trials, there is sufficient strong support for the