Evaluating a novel treatment for opioid use disorder based on dual-brain psychology and photobiomodulation

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Dr. Fredric Schiffer, founder and CEO of MindLight, LLC, looks at treatments for opioid use disorder based on Dual-Brain Psychology and photobiomodulation. Dr. Schiffer is also a part-time assistant professor in psychiatry at Harvard Medical School

Opioid Use Disorder or opioid addiction is a devastating illness that leads to failed lives, overdoses and other medical catastrophes, family agony, crime, and social dysfunction. Although we have medications such as methadone, buprenorphine and naloxone) and self-help associations (such as Alcoholics Anonymous and Narcotics Anonymous), still the epidemic is only growing with a skyrocketing number of overdose deaths.

We are evaluating, with the aid of the FDA and the US NIH National Institute on Drug Abuse and its HEAL Initiative (Helping to End Addiction Long Term), a novel treatment for addiction that so far appears to be extremely safe, comfortable, and effective. Our positive evidence comes from a private clinical practice and two randomized, placebo-controlled formal clinical trials. I will discuss our hypothesis on the major cause of addiction that comes out of the clinical practice of in-depth psychotherapy of addiction and the development of Dual-Brain Psychology, which is the theory and its application on which our novel treatment is based.

Results from treating patients with opioid use disorder

Dr Schiffer wanted to present his results and discuss how they were achieved. In his private practice over the past 5 years, he treated about 100 patients with a present or past history of opioid addiction and opioid use disorder, all of whom he treated with buprenorphine and dual-brain psychotherapy. Of those who did not drop out after 1 or 2 sessions – which were the great majority – all were successfully treated, except for 2 who relapsed after over 3 years of abstinence (1; 2). He will describe dual-brain psychology below and will begin teaching it to clinicians through CEU symposiums.

The first controlled trial applied either an active LED or a sham to the forehead over the hemisphere (left or right brain), which by dual-brain psychology, was determined to be the healthier brain hemisphere. Seventeen participants in a within-subject trial were treated with 2 different treatments a week apart, with 1 follow-up a week after the second treatment. In the first week, the participants were randomly treated for 4-minutes with

either active or sham special LED treatments (called transcranial photobiomodulation) over the brain hemisphere determined by Dual-Brain Psychology to be the positive hemisphere and the 2nd week, with the other treatment.

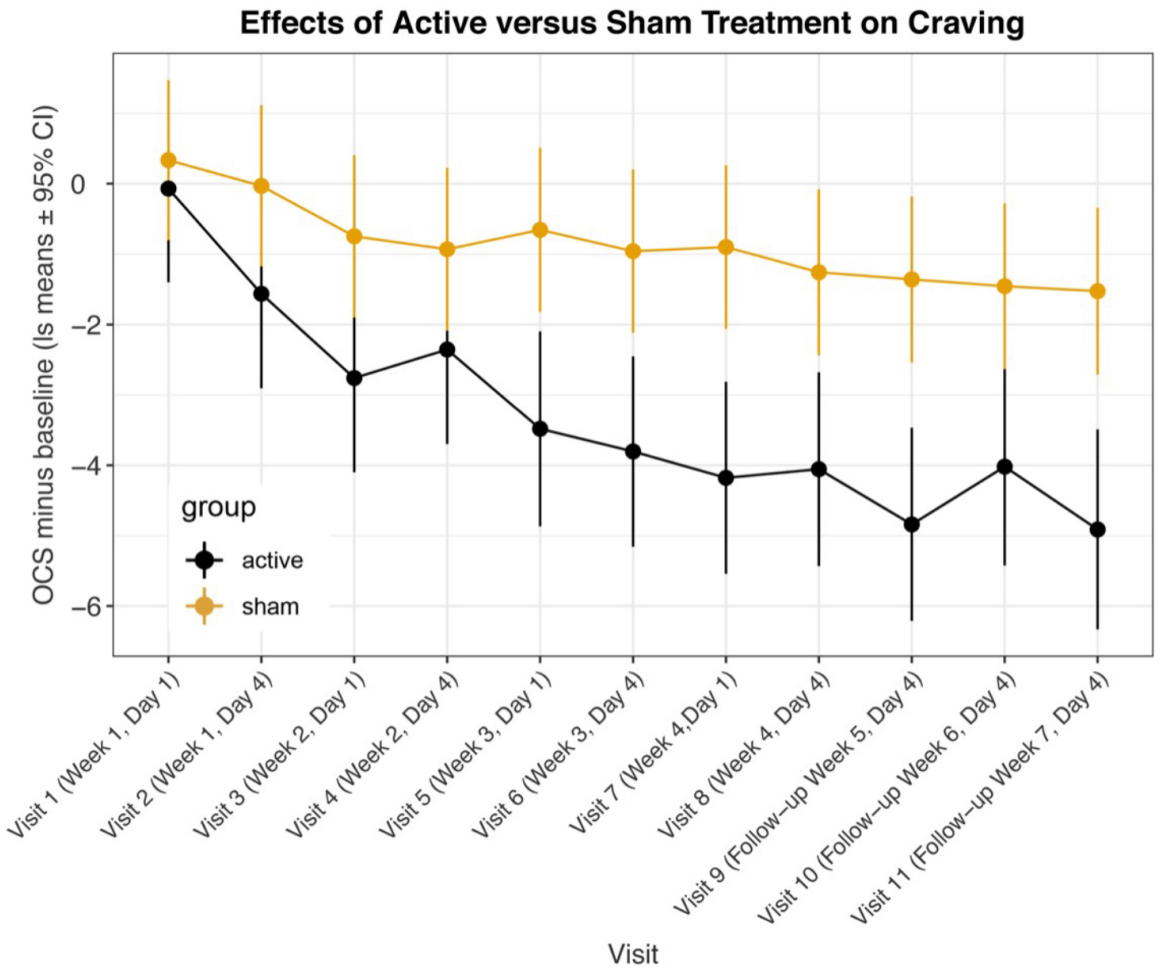

Figure 1. The results of our NIH study [4] show a decrease in cravings for the placebo group of 20 in yellow and for the active LED-treated group of 19 in blue. On the 10-point craving scale, the actively treated group had a 5.0 of 10 average decrease compared to a 1.5-point drop for the placebo group. At the last follow-up, the active group had an average 71% decrease in cravings from baseline.

Decreasing opioid cravings by 71%

The active treatment 1 week later had a decrease in opioid cravings of 71%, while the sham had only a 16% decrease. There also were large decreases in depression and anxiety with the active treatment (but not the sham) (3). The 2nd controlled trial was sponsored by NIH/NIDA/HEAL and studied 39 participants, 19 of whom received 4 weeks of active LED treatment with 3 weekly follow-ups (4). Twenty participants were given the sham or placebo treatment. The study was done at 2 sites, MindLight LLC and McLean Hospital/Harvard Medical School and both got nearly identical decreases in opioid cravings. The active group had a 71% decrease in cravings at the first follow-up, and the sham had a 35% decrease. We observed no side effects, consistent with the literature.

How we achieved our positive results for opioid addiction

Dr Schiffer found through his in-depth psychological work with those people with opioid use disorder that the primary cause of their addiction is usually childhood distress that is usually long forgotten or underappreciated by the time the person comes for help, but which in 1 brain hemisphere (either the left or right brain) is still alive and active, causing the present mental pain which drives the addiction. So, he believes that their results come out of their treating the underlying distress that usually originated in painful childhood experiences. To explain this, we need to introduce Dual-Brain Psychology.

What is Dual-Brain Psychology?

Dual-Brain Psychology (DBP) is the first psychological theory to come out of rigorous experimentation and to be supported by it in many peer-reviewed publications. The theory (2) comes from discoveries that revealed that one brain hemisphere (either the left brain or the right brain) in a person with psychological problems including addictions is more affected by past distress and has a personality that is more childlike and more prone to destructive behaviours. The other hemisphere is healthier but may be suppressed. DBP in-depth psychotherapy uses 2 simple techniques to stimulate each hemisphere and its personality with the aim of helping the injured personality with the help of the therapist and that of the healthier personality.

Unilateral near-infrared LED treatments to stimulate the positive hemisphere

We discovered that near-infrared light, which travels through the forehead, stimulates the brain, and when the LED is placed over the positive brain hemisphere, it induces the positive personality and usually relieves the patient's anxiety, depression, and opioid cravings in about 80% of people. It is used to augment DBPs psychotherapy and it is used by itself as a solo treatment, as in the 2 controlled trials (3; 5). In our experience, this 4-minute treatment is safe, easy to apply, and comfortable. Using the unilateral LED treatment in Dr Schiffer's clinical practice, he reported that 62% had remarkable responses, another 19% had positive but not remarkable responses, and 19% did not benefit (6).

Continuing evaluation and LED treatment

To be certain of the safety and efficacy of the LED treatment, we are continuing further controlled trials and have been awarded a Phase II NIH/NIDA/HEAL grant to study 130 participants for 26 weeks. We have been granted also an FDA Breakthrough Designation.

1. F. Schiffer, Unilateral transcranial photobiomodulation for opioid addiction in a clinical practice: A clinical overview and case series. J Psychiatr Res 133 (2021) 134-141.
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4. F. Schiffer, A. Khan, E. Bolger, E. Flynn, W.P. Seltzer, and M.H. Teicher, An Effective and Safe Novel Treatment of Opioid Use Disorder: Unilateral Transcranial Photobiomodulation. Front Psychiatry 12 (2021) 713686.
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6. F. Schiffer, Unilateral Transcranial Near Infrared Treatments for Opiate Addiction in a Clinical Practice. J Psychiatr Res 133 (2021) 134-141.

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