

# Advances in Light Therapy



- Biological 'Clock' | Circadian Rhythm
- Light Therapy | Beneficial for Dementia?
- Photobiomodulation
- Promising Results
- Take Aways
- Virtual Reality Experience
- Resources

February 2024  
You are not alone.  
FOR ALL THOSE WHO ARE

*"Be a Rainbow in Someone Else's Cloud"*

— Maya Angelou

## Dementia Caregiver Support Group

Basehor Community Library:

Meets in person and by Zoom on the first Thursday of every month at 6:30 pm

Join us in this safe supportive environment for caregivers.

Dr. Maritza Buenaver, Geriatric Psychiatrist specializing in dementia education, will guide us as we share our experiences. Anyone is welcome to join us.

# Advances in Light Therapy

*Inside: Biological 'Clock', Beneficial For Dementia?, Photobiomodulation, Promising Results, On The Horizon, Take Aways, Virtual Reality, Resources*

## **Biological 'Clock'**

Each of us possesses a unique biological 'clock' responsible for overseeing our daily bodily processes, known as the **circadian rhythm**. In cases of dementia, this rhythm can be disturbed, leading to sleep problems and disruptive behavior at night.

Bright light therapy has proven effective in addressing these sleep disruptions. The treatment is thought to aid in regulating the circadian rhythm, offering a potential solution for individuals experiencing these challenges.

## **Beneficial for Dementia?**

Limited research studies have indicated potential benefits of bright light therapy for individuals with dementia. A well-executed small-scale study demonstrated encouraging effects of bright light therapy on restlessness and disrupted sleep among dementia patients.

A comprehensive research review, encompassing a substantial body of well-conducted studies, revealed that bright light therapy could lead to reduced daytime sleep and enhanced nighttime sleep.

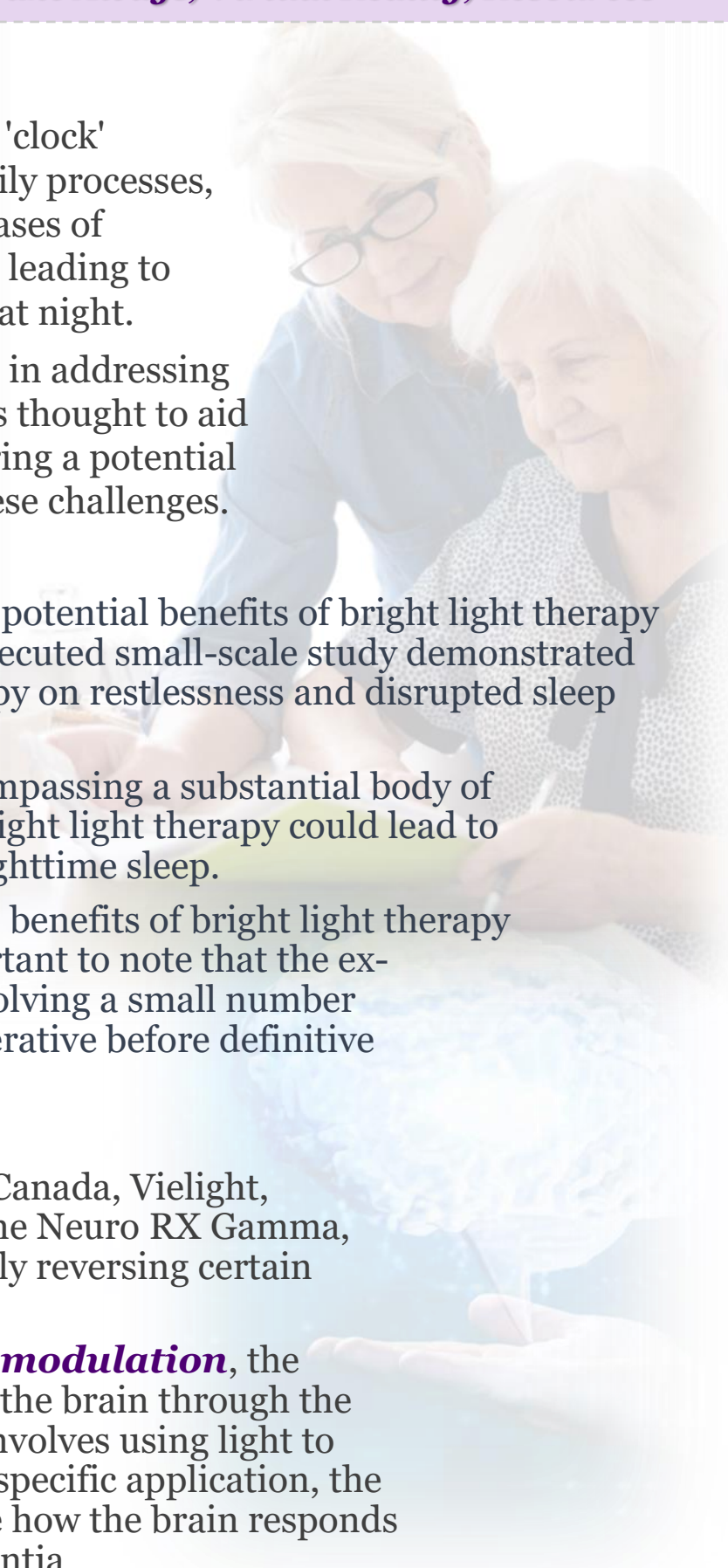
While current findings suggest potential benefits of bright light therapy for individuals with dementia, it's important to note that the existing research pool is limited, often involving a small number of participants. Further research is imperative before definitive conclusions can be drawn.

## **Photobiomodulation**

A biotechnology firm headquartered in Canada, Vielight, has engineered an innovative headset, the Neuro RX Gamma, with the objective of halting or potentially reversing certain symptoms associated with dementia.

Operating on the principle of **photobiomodulation**, the headset transmits near-infrared light to the brain through the skull and nostril. Photobiomodulation involves using light to modify biological processes, and in this specific application, the intention is to leverage light to influence how the brain responds to the damage that can precipitate dementia.

*Source: Paraphrased from Alzheimers.org.uk*





## ***Promising Results***

The outcomes of these preliminary studies show promise, prompting the initiation of a more extensive investigation. The ongoing trial seeks to enroll 228 participants across eight locations in the United States and Canada.

Half of the volunteers will undergo the light therapy regimen for 20 minutes, six days a week, spanning a total of 12 weeks. The remaining participants will receive a placebo treatment. The assessment of cognitive ability, daily functioning, and quality of life will be conducted for all participants over the subsequent 24 weeks following the commencement of treatment.

This technology could mark a groundbreaking achievement as the first treatment capable of reversing certain dementia symptoms. Additionally, it would represent a pioneering non-invasive, non-pharmacological approach effectively addressing these symptoms.

## ***On The Horizon***

There is a growing trend among companies exploring noninvasive approaches to stimulate the brain. One notable example is the application of brain stimulation devices to address neurodegenerative diseases such as Parkinson's, with the aim of impeding the degeneration of brain cells.

## ***Take Aways***

Hope! The research exploring light therapies is promising and suggests that bright light therapy and photobiomodulation could benefit people with dementia and Parkinson's Disease.

The Alzheimer's Association is financing several initiatives investigating noninvasive treatments for Alzheimer's disease which will include two clinical trials examining deep brain stimulation and photobiomodulation.

The research is still in its infancy, however, this gives us hope about a brighter future and alternatives that can help our loved ones with dementia. More clinical studies around each type of light therapy are needed to fully understand the benefits. ***But, there is no doubt that research is moving in the right direction at light speed.***

# Resources



## A JOURNEY THROUGH ALZHEIMER'S DISEASE "VIRTUAL REALITY EXPERIENCE"

*Find out what everyone is raving about!*

**"Enlightening" "Eye-Opening" "Empowering" "Informative"**

**Free Distance Learning Experience Through Zoom..**

**(Alzheimer's/Dementia/Lewy Body/Parkinson's)**

**Experience a journey through their eyes.**

*(A must for caregivers, families, doctors/fellows/residents/staff.)*

Free Virtual Reality Distance Learning is made possible  
by Dr. Maritza Buenaver's Iowa-GWEP/HRSA Grant.



**It's easy to schedule a  
Virtual Reality Session.  
Just email your preferred  
VR Session date and time!  
VAcaregivereducation@gmail.com**

**Also, ask about our  
Lewy Body Dementia, Parkinsons,  
Vision/Hearing Loss, and End-of-Life  
Virtual Reality Experiences.**

- [www.Facebook.com](http://www.Facebook.com)—Basehor Library—Dementia Caregiver Support Group
- [www.LeavenworthCounty.gov](http://www.LeavenworthCounty.gov)—Council on Aging
- [www.VA.gov/eastern-kansas-health-care/health-services/caregiver-support/](http://www.VA.gov/eastern-kansas-health-care/health-services/caregiver-support/)
- [www.ALZ.org](http://www.ALZ.org)—Alzheimer's Association
- [www.TeepaSnow.com](http://www.TeepaSnow.com)—A Dementia-Care Education Specialist
- [www.mountosb.org/ministries/keeler-womens-center/](http://www.mountosb.org/ministries/keeler-womens-center/)  
(913-906-8990) Free Services in Kansas City, KS
- [www.ptsd.va.gov/gethelp/help\\_for\\_veterans.asp](http://www.ptsd.va.gov/gethelp/help_for_veterans.asp)
- **CRISIS LINE: 800-273-8255—Free and Confidential**