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Seasonal Affective Disorder Treatment: Light Therapy versus SSRI Therapy

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Seasonal Affective Disorder Treatment: Therapy versus SSRI Therapy

Michaela Cisowski, Hannah Dyer, Gabi Hinde, Ash Werner
 Faculty Mentor: Dr. Valarie Herbert
 University of Maine School of Nursing

Introduction

- 41.6% of college students reported depression as a concern
- 24.5% reported taking psychotropic medications
- SAD begins in the fall months and peaks in the winter months due to a decrease in Vitamin D and ultraviolet (UV) ray exposure from the sun.
- Seasonal affective disorder is synonymously used with the terminology seasonal depression due to clinical manifestation similarity.
- Clinical Manifestations include:
 - Low energy
 - Feelings of sadness, loneliness, and/or emptiness
 - Fleeting or persistent hopelessness

PICO Question

In college students (ages 18-25) with seasonal affective disorder (SAD), how does SSRI (Selective Serotonin Reuptake Inhibitor) therapy compared to light therapy affect seasonal affective disorder?

P: college students with SAD
 I: SSRI therapy
 C: Light Therapy
 O: Improvement with SAD

Figure #1

Original Criteria for Seasonal Affective Disorder (1)	DSM-IV Criteria for "Seasonal Pattern"	Suggested Criteria for Seasonal Affective Disorder in DSM-V
Regularly recurring depressive episodes in the fall and winter	Relationship between the onset of major depressive episodes and a particular time of the year	Regularly recurring depressive episodes in the fall and winter
Full remissions in the spring and summer	Full remissions at a characteristic time of the year	Remissions in the spring and summer
At least one prior depressive episode met the criteria for major depressive disorder	In the last 2 years, two major depressive episodes showing the temporal relationship in the preceding criteria	At least two prior autumn/winter depressive episodes met the criteria for major depressive disorder
No regularly recurring psychosocial variable to account for the recurrent depressive episodes	Seasonal episodes outnumber non-seasonal ones	Seasonal episodes outnumber non-seasonal ones

Figure 1. DSM-I and DSM-V criteria for diagnosis of Seasonal Affective Disorder (Rosenthal, 2009)

Figure #2

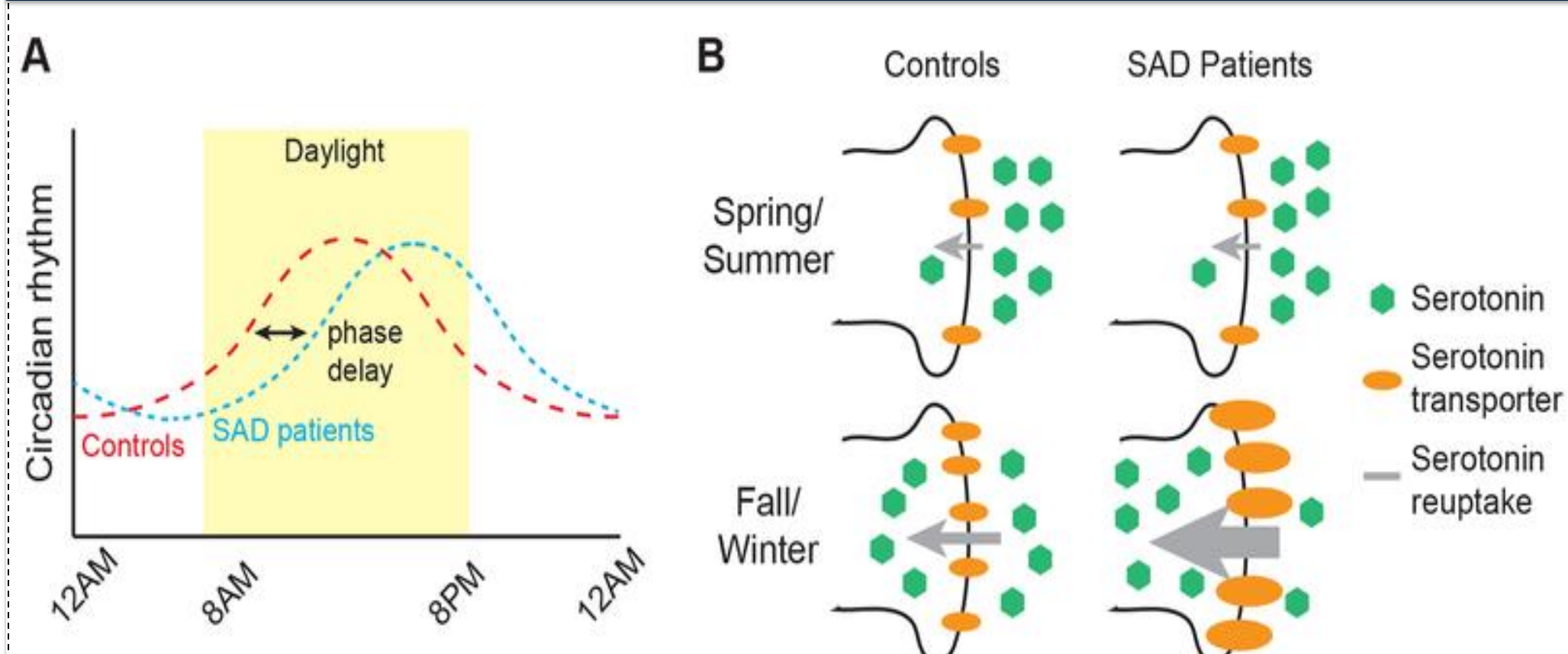


Figure 2. Pathological mechanism of Seasonal Affective Disorder (Campbell et al., 2017)

Methods

- Over 20 articles resulted from searching the keywords: light therapy, seasonal affective disorder, SSRI
- Articles within this review were required to match keywords and be published on or after January 1, 2017
- Databases such as CINAHL, PubMed, NLM, Gale Academic Library, and the American Journal of Psychiatry were utilized when conducting the literature review
- 11 articles were selected that fell into this criteria
- Articles that did not pertain to the aforementioned criteria were excluded

Results

- Evidence has shown that BLT is just as effective as SSRI therapy in treatment of SAD
- Fluoxetine had a higher remission rate of 66% compared to participants taking moclobemide (Nussbaumer-Streit et al., 2021)

Figure #3

Minimal side effects were noted with BLT but included

- Eye strain
- Headache
- Nausea

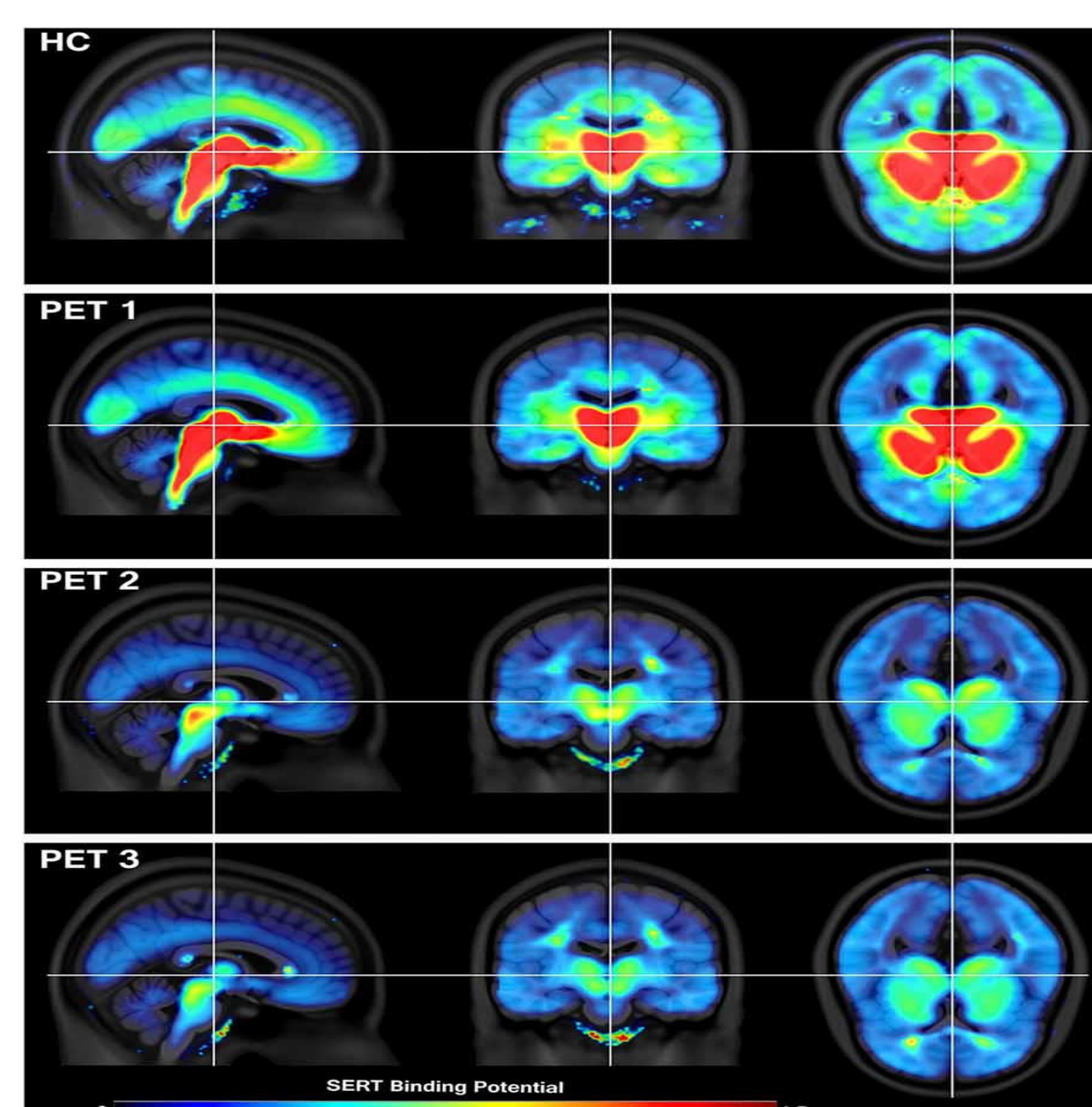


Figure 3. PET scan of the brain before, during, and after SSRI therapy for SAD (James et al., 2017)

- Lifestyle changes such as increased physical activity and balanced diet were suggested but only found to be effective if the providing physician and patient had a firm concept of SAD's pathophysiology and clinical manifestations.
- Homeopathic resources, such as massages and osteopathy were recommended but noted to be limited in access or high in cost.

Literature Review

Ultraviolet Light Therapy

Ultraviolet (UV) light therapy, or Bright Light Therapy (BLT) has been a proven, inexpensive effective approach for the treatment of SAD. 6 out of the 11 articles solely focused on light therapy and found that BLT corrected winter circadian rhythm delays and increased the function of synaptic serotonin (Campbell et al., 2017). When BLT was used simultaneously with cognitive behavior therapy (CBT), clinical manifestations of SAD, alongside hypersomnia, insomnia, and social withdrawal decreased at a faster rate (Meyerhoff et al., 2018). However, when BLT was the primary module of treatment with SAD, remission rates showed improvement faster than CBT alone (Meyerhoff et al., 2018). Out of 33 participants diagnosed with SAD, 61% reported remission of their depression during the 4-week study period, proving that BLT is not only effective treatment but powerful enough to bring depression into remission (Campbell et al., 2017).

Selective Serotonin Reuptake Inhibitors

Two randomized control trials consisted of 136 participants who either received second-generation antidepressants (SGA) such as fluoxetine, escitalopram, nefazodone, BLT, or a placebo (Nussbaumer-Streit et al., 2021). A meta-analysis showed that Fluoxetine and BLT were equally comparable to the treatment of SAD (Nussbaumer-Streit et al., 2021). Another study consisted of 183 participants administered 20mg to 40mg of fluoxetine a day compared to 300mg to 450mg of moclobemide and concluded that fluoxetine was the first-line treatment for SAD (Nussbaumer-Streit et al., 2021). Research suggests continuing SGA therapy during the summer months to prevent the sudden or rapid onset of SAD during the fall/winter months (Nussbaumer-Streit et al., 2018).

Figure #4

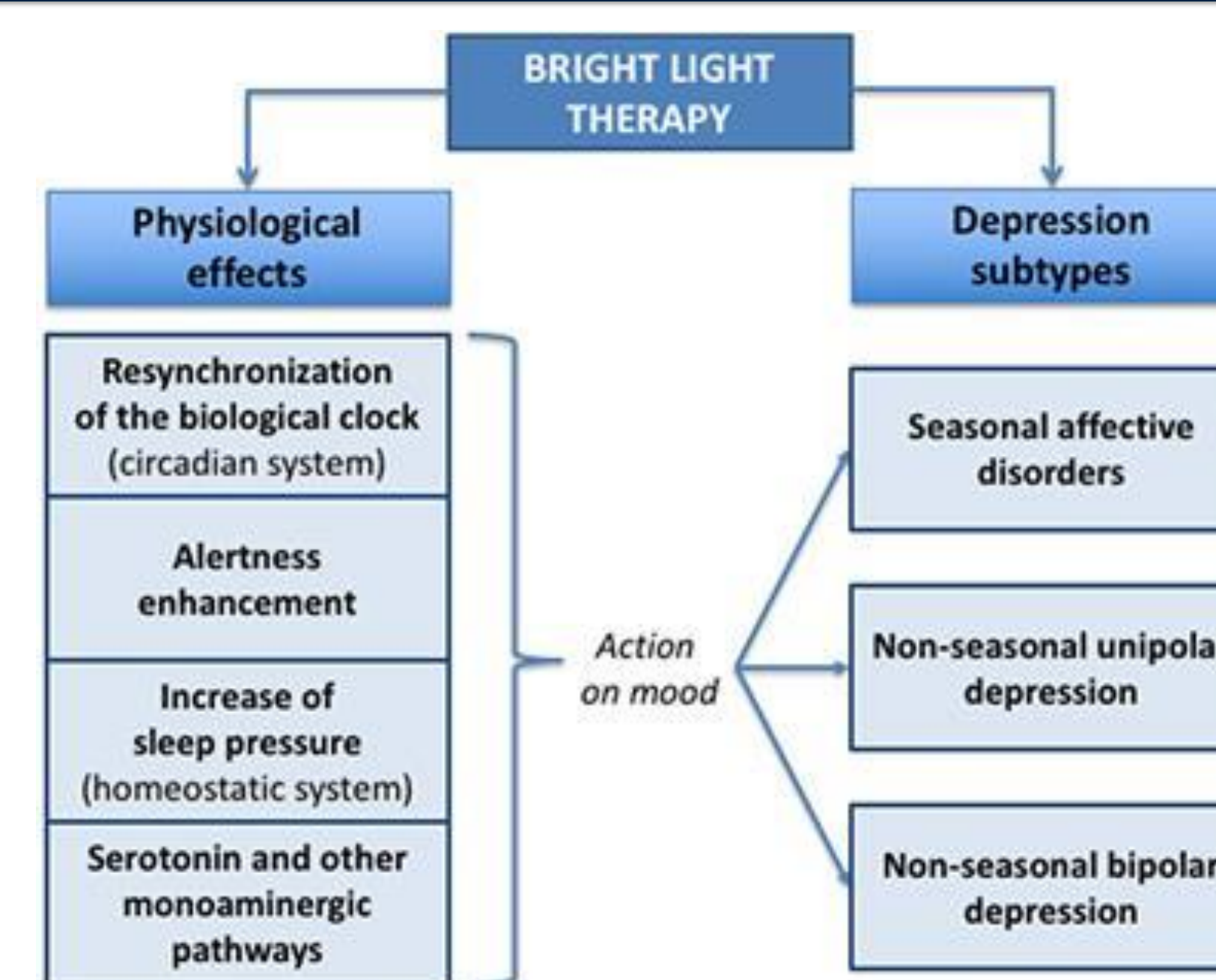


Figure 4. Overall psychological effects of BLT on mental health disorders. (Maruani & Geoffroy, 2019)

Conclusion

- BLT and SSRI therapy were both proven effective in the treatment of SAD
- SSRIs were more effective than MAOIs
- SAD symptoms are improved with a healthy diet and exercise
- BLT has also been proven to be successful in the treatment of bipolar disorders and non-seasonal depression
- Bupropion (an NDRI) is the only FDA-approved pharmacological treatment for SAD
- Continuing SGA therapy during the spring and summer months prevents rapid onset of SAD during the fall and winter months
- BLT is a first-line treatment for SAD
- The pathophysiology of SAD needs to be explored by providers and patients
- BLT can bring SAD into remission with consistent usage

References

1. Campbell, P. D., Miller, A. M., & Woesner, M. E. (2019). Bright Light Therapy: Seasonal affective disorder and beyond. *Einstein Journal of Biology and Medicine*.
2. Magovern MK, Crawford-Faucher A. Extended-release bupropion for preventing seasonal affective disorder in adults. *Journal of American Family Physicians*. 2017 Jan 1;95(1):10-11. PMID: 28075103.
3. Nussbaumer-Streit, B., Thaler, K., Chapman, A., Probst, T., Winkler, D., Sönnichsen, A., Gaynes, B. N., & Gartlehner, G. (2021). Second-generation antidepressants for treatment of seasonal affective disorder. *Cochrane Database of Systematic Reviews*, 2021(3). <https://doi.org/10.1002/14651858.cd008591.pub3>
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The University of Maine School of Nursing mission statement is to prepare caring, innovative, professional nurses who are leaders in addressing the evolving healthcare needs of all people and in advancing the profession of nursing. Professional nurses' identity and implement evidence-based care for their patients and share their findings with other professionals. The purpose of this project was to conduct evidence-based research around a nursing related topic, organize our findings, and present our results with other nursing professionals. Nursing 456: Professional Nursing Practice through the Lifespan was designed to integrate knowledge, skills, and professional behaviors with best available evidence in clinical reasoning.

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PICO Question

P

Population

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I

Intervention

P: college students (ages 18-25) with SAD

C

Comparison

I: SSRI therapy

O

Outcome

C: Light Therapy

O: Improvement with SAD

METHODS

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RESULTS

- Evidence has shown that BLT is just as effective as SSRI therapy in treatment of SAD
- Fluoxetine had a high remission rate of 66% compared to participants taking moclobemide (Nussbaumer-Streit et al., 2021)
- Minimal side effects were noted with BLT but included
 - Eye strain
 - Headache
 - Nausea
- BLT is first-line treatment in acute SAD episodes

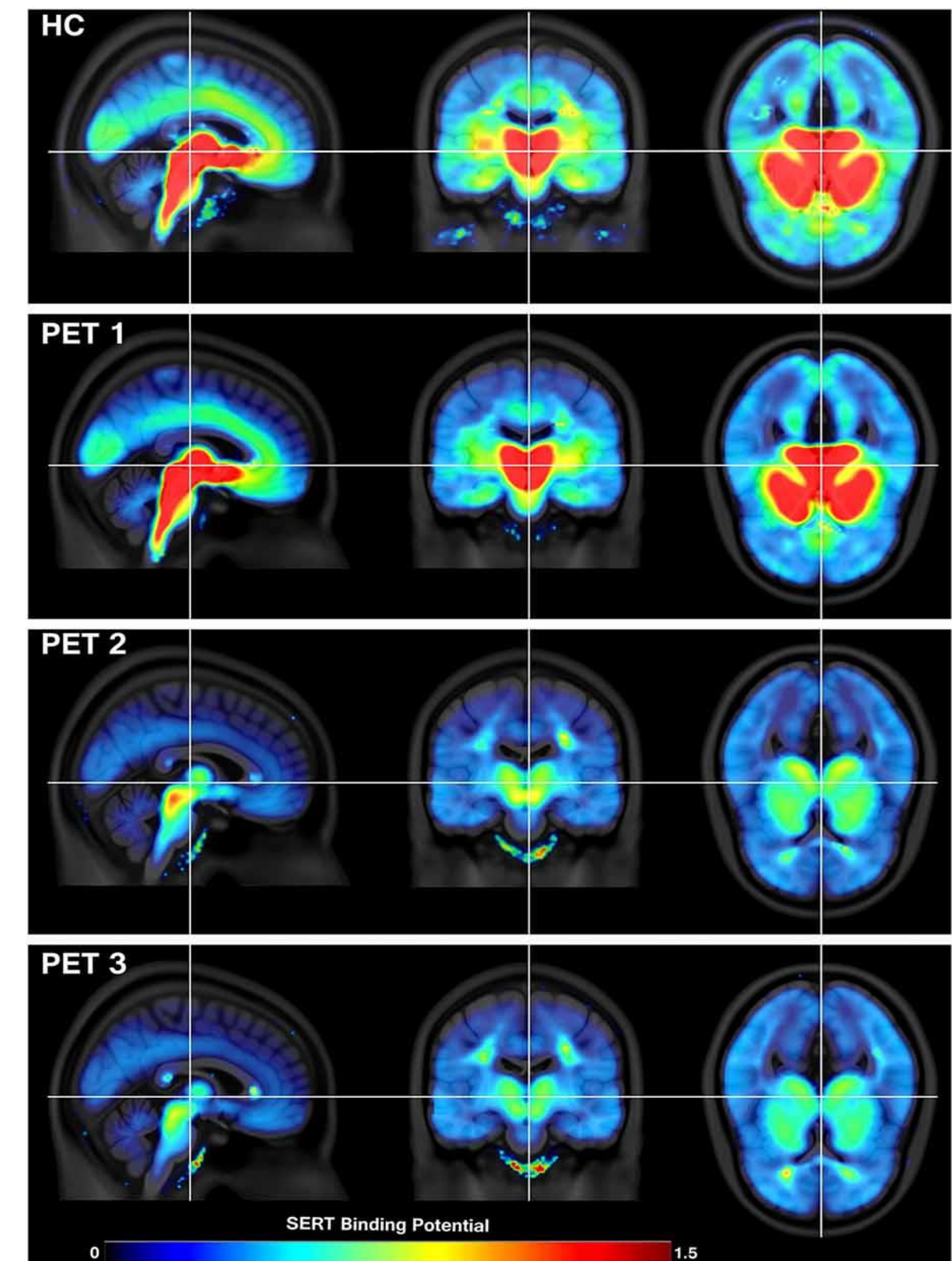


Figure 3. PET scan of the brain before, during, and after SSRI therapy for SAD (James et al., 2017)

CONCLUSIONS

- BLT and SSRI therapy were both proven effective in the treatment of SAD
- SSRIs were more effective than MAOIs
- SAD symptoms are improved with a healthy diet and exercise
- BLT has also been proven to be successful in the treatment of bipolar disorders and non-seasonal depression
- No evidence has been linked to preventing SAD
- Bupropion (an NDRI) is the only FDA-approved pharmacological treatment for SAD
- Continuing SGA therapy during the spring and summer months prevents rapid onset of SAD during the fall and winter months
- BLT is a first-line treatment for SAD
- The pathophysiology of SAD needs to be explored by providers and patients
- BLT can bring SAD into remission with consistent usage

REFERENCES

- 1 • Campbell, P. D., Miller, A. M., & Woesner, M. E. (2019). Bright light therapy: seasonal affective disorder and beyond . *Einstein Journal of Biology and Medicine*.
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