Module 10

SIMPLE WAYS TO INCREASE HAPPY BRAIN CHEMICALS WITHOUT SUGAR!

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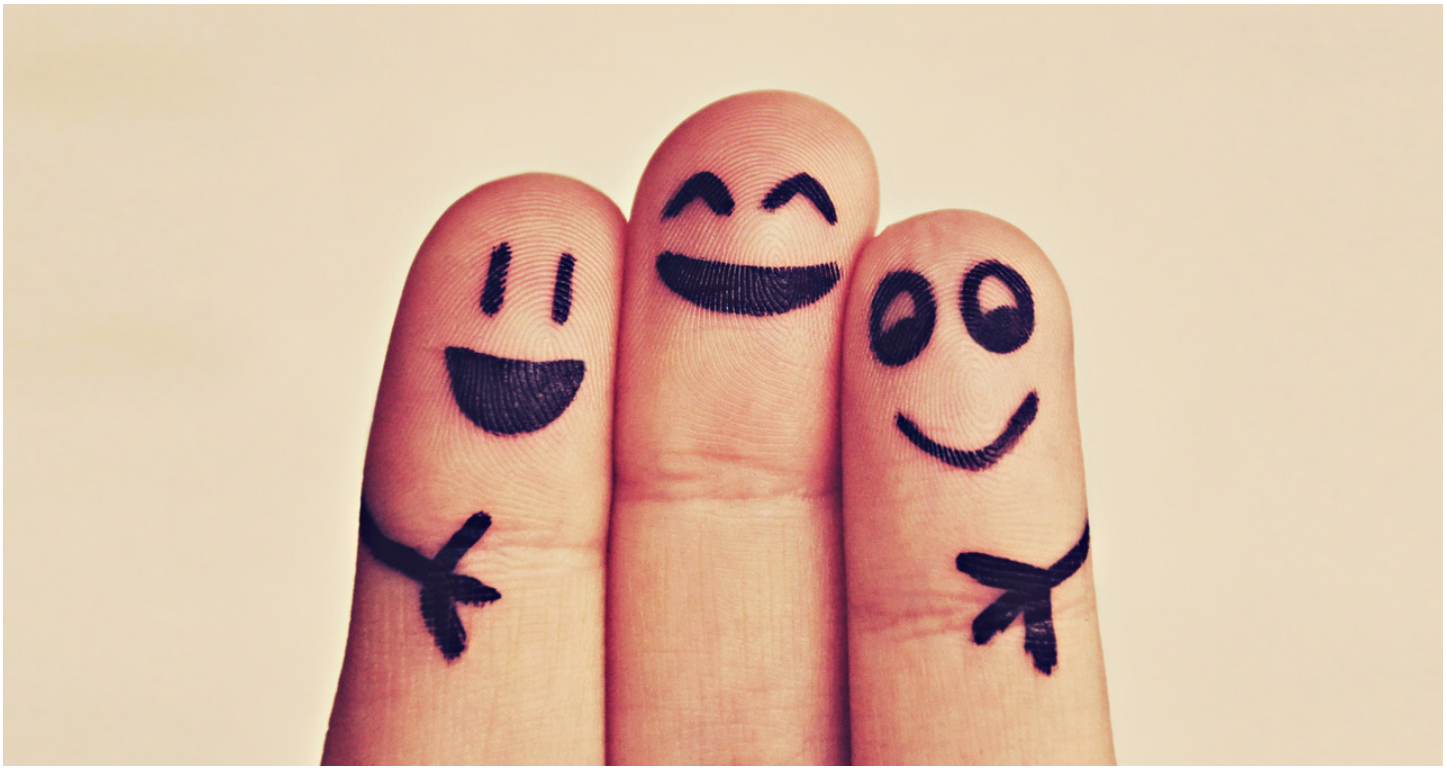
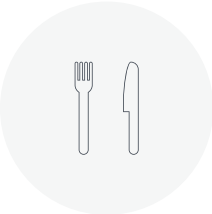
In this module, we touched on the three major "happy brain chemicals" that are most impacted by sugar: *Dopamine*, *serotonin*, and *beta endorphins*. Low levels of any of these hormones can contribute to a host of unpleasant symptoms. The good news? There are a variety of simple ways to boost dopamine, serotonin, and beta endorphins naturally! This handout will provide you with more details on the simple ways to increase happy brain chemicals – without sugar!



DOPAMINE BOOSTS

Dopamine is a neurotransmitter that helps one brain cell talk to another. To keep things easy to remember, you can use three words that start with the letter "D": Dopamine *delights* us, then it *dissipates*, *demanding* another dose. Eating sugar can simulate these "three Ds": It *delights* us by boosting dopamine, then dopamine *dissipates*, so we *demand* more sugar.

Here are 10 suggestions on how can you boost dopamine without sugar:



1. Eat foods rich in tyrosine.

Your body needs it to make dopamine. Tyrosine-rich foods include:

- Drinks: Coffee, green tea
- Fruits: Apples, avocados, bananas
- Grains: Wheat germ, oatmeal
- Protein: Almonds, beef, chicken, eggs, fish, lima beans, sesame and pumpkin seeds
- Snacks: Chocolate
- Spices: Turmeric
- Vegetables: Beets, green leafy vegetables, watermelon

2. Exercise.

Exercise is one of the best things you can do for your emotions. It boosts production of new brain cells, slows down brain cell aging, and improves the flow of nutrients to the brain. It also increases your levels of dopamine, serotonin, and beta endorphins. And, it doesn't have to be strenuous. Taking walks or doing gentle, no-impact exercises like walking[1], yoga[2], or tai chi[3] all provide powerful mind-body benefits.

3. Meditate.

Meditate, mindfulness, prayer, and self-reflection have been shown to increase dopamine, improving both focus and concentration. Just a few minutes a day can make a difference![4]

4. Get a massage.

Massage therapy increases dopamine levels by nearly 30% while decreasing cortisol levels, helping to reduce stress.[5]

5. Create something.

Dopamine allows us to "feel the flow." Creative hobbies of all kinds – knitting, quilting, sewing, drawing, photography, woodworking, and home repair – bring the brain into a meditative state. These activities increase dopamine, ward off depression, and protect against brain aging.[6]

6. Seek and ye shall find...increased dopamine!

Did you know that the act of seeking and finding activates your reward circuits? Each new discovery provides a dopamine burst. You can forage for new music to download, specialty ingredients to cook with, a bargain travel package, a hard-to-find collector's item, or that perfect gift for a loved one. You can engage in specifically quest-oriented hobbies, like geocaching, bird watching, rockhounding, amateur archaeology, and collecting of all kinds.

Another idea: Keep a visual reminder of how many days in a row you achieved a goal so you can document your "streak." Pick something you're excited to commit to, and mark the days on the calendar. Keep the streak going to keep the dopamine coming![7]

7. Get enough sleep.

Lack of sleep has been shown to reduce concentrations of neurotransmitters, including dopamine and their receptors.

8. Listen to music.

Listening to music can increase pleasurable feelings, improve mood, boost energy, and help with focus and concentration. You don't even have to hear music to get this neurotransmitter flowing – just the anticipation of listening.[8]

9. Set goals, and achieve them.

Dopamine is released when we achieve a goal! Create your own dopamine rewards by setting a goal, then take small steps toward it every day. And, by breaking big goals into little pieces, we can reach the finish line more often, which will cause dopamine to be released when we complete each little goal. This can be as simple as starting a new exercise program, learning French, or challenging yourself to drive home from work a different way every day. Working on a goal for 45 days trains your brain to stimulate dopamine production in a new way, according to Dr. Graziano Breuning, author of *Habits of a Healthy Brain*.

10. Drink golden milk.

This soothing beverage gets its golden color from turmeric, which contains curcumin. Research has found that curcumin may help to reduce symptoms of depression because it may help to stimulate both dopamine and serotonin production. Bonus: It's easy to make at home![9]

Here's a basic single-serving recipe:

GOLDEN MILK

V VG DF GF

Cooking time: 5 minutes | **Servings:** 1

Ingredients

- 1/2 tsp of ground turmeric
- 1 tsp of ground cinnamon
- 1 tsp of ground ginger
- 1 tsp of maca powder
- 1-1.5 cups of almond milk
- 3-4 drops of stevia, or sweetener of your choice.
- Add a little pepper to increase the absorption of turmeric.

Directions

1. Combine all ingredients in a small saucepan, and heat for 3-5 minutes over medium heat, stirring constantly, until hot – but not boiling. Enjoy!

SEROTONIN BOOSTS

It has been estimated that up to 90% of all serotonin is produced in the gut; although, the brain can also produce some. Serotonin is produced from the amino acid, tryptophan. This neurotransmitter calms us down, satisfies/satiates us, and also helps us stop and "say no." It shuts off appetite, and it helps with impulse control. Low serotonin can lead to intense sugar cravings, lack of impulse control, and a host of other unwanted symptoms.

Here are seven suggestions on how can you boost serotonin without sugar:

1. Think happy thoughts.

Focus on a happier state of mind if you want to raise your serotonin. Studies have shown that serotonin synthesis can be affected by changing your own mood. While your mood can affect serotonin levels, serotonin levels can also affect mood.[10]

2. Get a massage.

Several studies have demonstrated the benefits of massage in boosting serotonin (and dopamine, too). Massage increases serotonin, which will likely improve your mood. Massage is also shown to reduce cortisol and stress, so it's a "two-fer" in it's impact on our moods.[5]

3. Meditate.

Meditate every day for 5 minutes, focusing specifically on your mood. Ask yourself these questions directed at how you feel:

- Do I feel content?
- Do I feel happy?
- Do I feel that the world is a good place?

As you do this for a while, you'll eventually learn to spot what influences your serotonin "mood" – foods, weather, light levels, etc.

4. Soak in the sun.

Human evolution occurred, for the most part, outside. People got their light from the sun, which holds three distinct advantages over other forms of light. It has ultraviolet (UV) light; it is much brighter than standard man-made light; and it occurs at the appropriate time.

Lastly, timing of the light is also important. You may notice that the sun is only out during the day. Thus, you want to make sure you are exposed to bright light in daytime – and not at night. Bright lights at night block the conversion of serotonin into melatonin, and melatonin is essential for a good night's sleep.

5. Exercise.

Physical exercise can improve your mood by raising all of your happy brain chemicals, including serotonin. In numerous studies, exercise has been shown to increase both serotonin production and secretion. In particular, aerobic exercises, like running and biking, are the most likely to boost serotonin. However, yoga works, too.

Interestingly, if you try to do too much exercise or feel forced into doing it, it may not have the right effect. Recognizing that you are choosing to exercise changes it's neurochemical effect.

The biggest problem with exercise is that when people don't feel like doing it, they don't do it. But, sometimes, the reason they don't feel like doing it is because their serotonin activities are low, and they'd rather eat for comfort and watch TV. So, it's important to go against what you're feeling at the moment, and remind yourself of what's important to you.

Exercise has been found to work even better for depression if you do it outside.

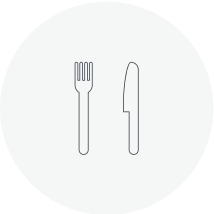
- Exercise to reduce stress[11]
- Yoga to increase serotonin[12]
- Benefits of exercising outside[13]

6. Remember happy events.

All you need to do is remember happy events in your life. Remembering positive events has a two-fold effect: It directly increases serotonin and also keeps you from thinking about negative events.

Using a PET scan, psychologists Elizabeth Perreau-Linck, et al., found brains of those focusing on happy memories had an increased uptake of the serotonin building blocks, whereas sad memories led to a lower uptake. These results support the conclusion that by choosing to focus on happy thoughts, we can self-regulate our brain's neurotransmitters, changing its chemical balance to encourage happiness.

If you're having difficulty remembering happy events, talk to an old friend, look at photographs, or read your journal (or someone else's).[10]



7. Eat tryptophan-rich foods.

Try turkey, black eyed-peas, black and English walnuts, almonds, sesame or pumpkin seeds, and cheddar, gruyere, or Swiss cheeses. Also, helping to a lesser extent are whole grains, rice, and other dairy products.[14]

BOOST ENDORPHINS

Endorphins are powerful natural painkillers for both physical and emotional pain. They produce a sense of well-being, reduce pain, ease emotional distress, increase self-esteem, and can even create a sense of euphoria.

Here are seven suggestions on how can you boost endorphins without sugar:

1. Give.

Volunteering, donating, and helping others may also make a person feel good. Researchers at the National Institutes of Health found that people who gave money to a charity activated pleasure centers in their brain. This may lead to improved endorphin levels.[15]

2. Do yoga and meditate.

Meditation and yoga are known for their stress-relieving and relaxing effects. This may be partially due to an endorphin release. Some research suggests that yoga and meditation can decrease stress markers and increase endorphins.[16]

3. Exercise.

For years, researchers suspected that endorphins caused the so-called "runner's high," a feeling of euphoria that happens after lengthy, vigorous physical activity. However, measuring endorphins in humans was not possible until 2008 when new imaging technology became available. Researchers used positron emission tomography (PET) scans to view athletes' brains both before and after exercise. They found an increase in the release of endorphins after exercise. As exercise boosts mood and increases endorphins, some medical professionals prescribe regular exercise as a treatment for mild to moderate depression and anxiety.[17]

4. Eat spicy food.

People who enjoy spicy foods may find that they can get an additional boost from their favorite dishes. Some research suggests that the spicy components in hot peppers and similar foods may trigger a pain sensation in the mouth, which prompts an increase in endorphins.[18]

5. Eat dark chocolate.

Research suggests that eating dark chocolate could boost endorphin levels. Cocoa powder and chocolate contain chemicals called *flavonoids* that appear to be beneficial to the brain. However, many commercial chocolate products contain only small amounts of real cocoa and often contain generous amounts of added sugar and fat. Look for products that contain at least 70% cocoa to benefit your endorphins.[19,20]

6. Laugh.

Plenty of research has been written about the health benefits of laughter, and studies suggest that laughing increases endorphins. A 2017 study found that social laughter releases endorphins in the brain.[21]

7. Practice self-care every day.

Simple small acts of self-care every day elevate endorphins gently. Light a candle, read a book, or walk outdoors in nature.

FOOTNOTES

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