Brain Health

Presented by:
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Addiction is a Brain Disease

We need to Assess for Brain Illness & Trauma

We need to provide treatment that supports healing of the Brain!
Brain and Trauma
Adverse Childhood Experiences

- Adverse childhood experiences (ACEs) are stressful or traumatic events, including abuse and neglect. They may also include household dysfunction such as witnessing domestic violence or growing up with family members who have substance use disorders.

- ACEs are strongly related to the development and prevalence of a wide range of health problems throughout a person’s lifespan, including those associated with substance misuse.

ACE Pyramid

- Death
- Early Death
- Disease, Disability, & Social Problems
- Adoption of Health-risk Behaviors
- Social, Emotional, & Cognitive Impairment
- Adverse Childhood Experiences

Conception
Whole Life Perspective
Scientific Gaps

Dual diagnosis is our sole focus

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Brain injuries can occur when the head strikes an object such as a windshield or the ground at a fast rate of speed, or when a flying or falling object strikes the head. Injury to the brain also can occur without a direct blow to the head, for example in cases of severe "whiplash."

- Mild: Loss of consciousness, if any, lasting for less than 30 minutes
- Moderate: A loss of consciousness that lasts for more than 30 minutes but less than 24 hours
- Memory loss after the traumatic event, called Post-Traumatic Amnesia or PTA, lasting for 24 hours to 7 days. A Glasgow Coma Score of 9 – 12
- Severe: A loss of consciousness that lasts for more than 24 hours, PTA lasting for 7 days or longer. A Glasgow Coma Score of 8 or less, which indicates that the patient is in a coma
Fetal Alcohol Effects Syndrome

National Organization on Fetal Alcohol Syndrome
Key Facts on Fetal Alcohol Spectrum Disorder

• No amount of alcohol and no time in pregnancy have been established as safe for the fetus.
• Fetal Alcohol Spectrum Disorders are the biggest single cause of mental disabilities in most industrialized countries, and could be totally prevented if all women abstained from alcohol in pregnancy.
• Less obvious and seemingly milder fetal alcohol damage is sometimes called Fetal Alcohol Effects (FAE). Alcohol-Related Neurodevelopmental Disorder (ARND), partial Fetal Alcohol Syndrome (pFAS) or Static Encephalopathy. These conditions can be equally damaging to babies but are rarely diagnosed. (To keep this simple, we're going to call it all FASD.)

National Organization on Fetal Alcohol Syndrome
Effects of Maternal Alcohol Use

• Of individuals with ARND between the ages of 12 and 51:
  • 95% will have mental health problems
  • 68% will have "disrupted school experience"
  • 68% will experience trouble with the law
  • 55% will be confined in prison, drug or alcohol treatment center or mental institution
  • 52% will exhibit inappropriate sexual behavior

National Organization on Fetal Alcohol Syndrome
Looking under the Hood: How Brain Science Informs Addiction Treatment

Posted By Elena H. Chartoff, PhD On November 15, 2017 @ 6:30 am
In Addiction, Behavioral Health, Brain and Cognitive Health

- Over the past 30-plus years, basic laboratory and translational research has expanded our understanding of the brain’s reward circuitry — specifically how dopamine, a neurotransmitter that is important in both our ability to feel pleasure and our brain’s ability to learn strong associations between cues in our daily lives that predict pleasure, operates.
Looking under the Hood: How Brain Science Informs Addiction Treatment

• We now understand that the brain’s reward circuitry regulates both the “feel good” effects of a drug as well as the extreme physical and emotional discomfort experienced during withdrawal. The emotional signs of withdrawal can flare up for months or even years after attempts to quit, and these factors play into drug taking, craving, and relapse.

• Each person struggling with a substance use disorder has his or her unique constellation of social, genetic, and psychological factors that make some treatments more or less effective than others.

• But the better we understand the brain science of addiction, the more likely we will come up with an array of treatments that can help a broader range of those with SUDs.

Harvard Health Blog - https://www.health.harvard.edu/blog
Neuroplasticity and Healing

Judy
• **Neuroplasticity**: The brain's ability to reorganize itself by forming new neural connections throughout life.

• **Neuroplasticity** allows the nerve cells in the brain to compensate for injury and disease and to adjust their activities in response to new situations or to changes in their environment.

• **Neuroplasticity** is disrupted in mood disorders and in stress.

(Stress, Depression, and Neuroplasticity: A Convergence of Mechanisms C. Pittenger & R. Duman; Neuropsychopharmacology Journal 2008 and published on line 9/12/07)
Neuroplasticity

- Disruption can contribute to deficits in concentration, memory, and anhedonia (inability to feel pleasure).
- Also dysregulation of the stress response.
- Chronic stress impacts neural circuits that control fear, anxiety, and emotion.

(Stress, Depression, and Neuroplasticity: A Convergence of Mechanisms C. Pittenger & R. Duman; Neuropsychopharmacology Journal 2008 and published online 9/12/07)
Inflammation in the Brain
Inflammation in the Brain

Regular consumption of foods such as the following are largely responsible for inflammation:

- Refined sugars;
- Processed and refined flours (white bread, cookies, pasta, crackers, and more);
- Foods high in acids;
- Dairy products;
- Animal fats;
- Caffeine;
- Alcohol; Stimulants, Depressants, etc.
- Food Allergens (hidden food allergies cause body and brain inflammation)

www.integrativepsychiatry.net/brain_inflammation.html
Inflammation in the Brain

Environmental and lifestyle factors also affect inflammation

- Exposure to toxic metals; (mercury, lead, cadmium)
- History of infections
- Environmental toxins (pesticides, herbicides, food additives and preservatives)
- Chronic stress
- Lack of exercise, sedentary habits
- Nutritional deficiencies; (B12, vitamin D, essential fatty acids, vitamin C)
- Overuse of antibiotics and acid blocking medications
- Poor sleep habits

www.integrativepsychiatry.net/brain_inflammation.html
How the Brain tells us it is inflamed

- The Brain sends warning signals through symptoms, just like a temperature change, blood pressure change, pain, etc.
  - Problems with **concentration**, **memory impairment**, **mood dysregulation** and **anxiety** impacting wellness skills, social skills, ADL skills, vocational/educational skills, recreation/leisure skills, recovery skills, etc.
How the Brain Tells us it is Inflamed

• **Function Digestive Issues:**
  • Dysbiosis—Improper Number Or Kind of Bacteria
  • Candida Overgrowth
  • IBS—Irritable Bowel Syndrome
  • Leaky Gut---Permeable GI Mucosa
  • SIBO—Small Intestine Bacterial Overgrowth

• **Symptoms of SIBO:**
  • Bloating, Abdominal Pain, Bad Breath, Constipation, Diarrhea Or Both
  • Difficulty Gaining Weight, Muscle Pain, Fatigue, IBS, Interstitial Cystitis, Restless Legs, Iron Deficiency, Food Intolerances

From WEBINAR by Addiction Professional “Gut Brain Connection”  5/10/17
Presented by Maureen Schehr, NMD at Sierra Tucson  American Association of Naturopathic Physicians
Stress and Inflammation in the Brain

- Stress activates the sympathetic nervous system, stimulating bone marrow to produce and release monocytes. They move throughout the body impacting injured tissue, bacteria, and bacteria products, activating additional inflammatory signaling pathways and stimulating the release of other pro-inflammatory cytokines that can enter the brain.

- Activated macrophages in the brain can perpetuate these inflammatory responses.

- Stress can create a Pro-inflammatory Feedback loop.

- The greater a person’s response is to psychosocial stressor, the more likely he/she is to develop depression over subsequent months. Depression can lead to use of substances!

Exploring Nonpharmacological Anti-inflammatory Strategies in Mental Health: Connecting Science to Clinical Practice by Rakesh Jain, MD, MPH in PsychU Virtual Form June 2017
Chronic Mild Inflammation may have lasting effects

Chronic Mild Inflammation may increase the risk of mental and physical disorders:

- Post Traumatic Stress Disorder
- Bipolar Disorder
- Major Depressive Disorder

- Cardiovascular Disease
- Cancer
- Diabetes

Exploring Nonpharmacological Anti-inflammatory Strategies in Mental Health: Connecting Science to Clinical Practice by Rakesh Jain, MD, MPH in PsychU Virtual Form June 2017
• The Brain experiences inflammation from a variety of factors: stress, unhealthy nutrition, poor sleep patterns, lack of exercise, over use of alcohol, drugs, chemicals in tobacco/nicotine, etc.
Summary of Inflammatory Process

• **Balance between Neuroprotection** *(Anti-inflammatory cytokines, Antioxidants, neurotrophic factors decrease Kynurenic Acid to block inflammation)* and **Neurotoxicity** *(Pro-inflammatory cytokines, increases Quinolinic acid)* impacts Serotonin, Tryptophan and Kynurenine.

• **Excitotoxicity** is the pathological process by which neurons are damaged and killed.

• **Bottom line:** Unchecked excitotoxicity can lead to cell death and eventual tissue atrophy, potentially making the brain unable to respond and adapt to stimuli and manifest as a mental illness.
Medications

Pharmaceutical grade medications have serious side effects on organs:

- Brain (Inflammation?)
- Heart
- Liver
- Blood
- Spleen
- Kidneys
- Stomach and Intestines

Can result in:

- Weight gain
- Diabetes
- Metabolic Syndrome
- Drop in White Cell Count (which can be life threatening)
- Tremors
- Sexual impairments
- GI issues, Cardiac issues, etc.
Brain Chemicals
• **Tryptophan** is an essential amino acid, used to process proteins and must be obtained in diet.

• **Instrumental in producing Serotonin.**
  - Serotonin, in turn, can be converted to melatonin.

• **Instrumental in producing Niacin, also known as vitamin B₃**

• It is particularly plentiful in chocolate, oats, dried dates, milk, yogurt, cottage cheese, red meat, eggs, fish, poultry, sesame, chickpeas, almonds, sunflower seeds, pumpkin seeds, buckwheat, spirulina, and peanuts.
Tryptophan

• The Food and Nutrition Board of the U.S. Institute of Medicine set Recommended Dietary Allowances for essential amino acids in 2002. For tryptophan, for adults 19 years and older, the recommendation is 5 mg/kg body weight/day

• Due to the lack of high-quality studies and preliminary nature of studies showing effectiveness and the lack of adequate study on their safety, the use of tryptophan and 5-HTP is not highly recommended or thought to be clinically useful as a supplement.
Kynurenine

- Is a metabolite of the amino acid tryptophan used in the production of niacin.
- Kynurenine and its further breakdown products carry out diverse biological functions, including dilating blood vessels during inflammation and regulating the immune response.
- Cognitive deficits in schizophrenia are associated with imbalances in the enzymes that break down kynurenine.
- Kynurenine production is increased in Alzheimer's disease and Cardiovascular disease where its metabolites are associated with cognitive deficits and depressive symptoms.
Kynurenine is also associated with:

- HIV Dementia
- Tourette Syndrome
- Tic Disorders

• **Psychiatric Disorders** (e.g. Schizophrenia, Depression, Anxiety Disorders, Addictive Disorders)
  - Multiple Sclerosis
  - Huntington's Disease
  - Encephalopathies
  - Lipid Metabolism
  - Liver Fat Metabolism
  - Systemic Lupus Erythematosus
  - Glutaric Aciduria
  - Vitamin B6 Deficiency

American Society of Addiction Medicine
Serotonin

• Biochemically derived from tryptophan, serotonin is primarily found in the gastrointestinal tract (GI tract), blood platelets, and the central nervous system.

• Approximately 90% of the body's total serotonin is located in the GI tract, where it is used to regulate intestinal movements.

• Serotonin modifies proteins.

• If irritants are present in the food, the cells release more serotonin to make the gut move faster
  • Causes diarrhea, so the gut is emptied of the noxious substance.
  • This can also stimulate vomiting.
Serotonin

- Alterations in serotonin levels and signaling have been shown to regulate bone mass and affects organ development.
- Defective signaling of serotonin in the brain may be the root cause of Sudden Infant Death Syndrome (SIDS).
- Drugs that alter serotonin levels are used in treating depression, generalized anxiety disorder and social phobia.
• Extremely high levels of serotonin can cause a condition known as serotonin syndrome, with toxic and potentially fatal effects. In practice, such toxic levels are essentially impossible to reach through an overdose of a single antidepressant drug, but require a combination of serotonergic agents, such as an SSRI with an MAOI.

• The intensity of the symptoms of serotonin syndrome vary over a wide spectrum, and the milder forms are seen even at nontoxic levels.
Treating Inflammation

Mary
Treating Inflammation

• **Anti-inflammatory tools:**
  • Nutrition with Wellness Focus
  • Mindfulness
  • Exercise
  • Proper Sleep habits
  • Avoid introducing inflammatory substances, *such as tobacco/nicotine, caffeine and sugar* (High fructose corn syrup, artificial sweeteners, etc.)
Treating Inflammation

**Nutrition**

- Importance of eating a high protein breakfast every day
- Decreasing use of processed food, artificial sweeteners
- Limit caffeine intake
- Trans fats can be found in items including fried foods, packaged cookies, crackers, margarines and more.
- Eat more lean proteins, such as fish, white-meat poultry and plant-based proteins like beans
- Mediterranean-based diet emphasize foods with anti-inflammatory effects
Treating Inflammation

- Routine Physicals, Dental Exams, Eye Exams, LABS, etc.
- Stress Reduction

Stress reduces the size of the Brain!
Treating Inflammation

Curry
Celery
Broccoli/Cauliflower
Walnuts Crab
Garbanzo beans
Red meats
Blueberries
Health fats

Per Dr. Mercola
13 Brain Foods-Boosts Your Brain and Memory

1. Almonds: Increase blood flow to the brain
2. Brussel sprouts: Has tryptophan which converts to serotonin in the brain
3. Blueberries: Improve learning & motor skills
4. Lettuce: Helps increase blood flow to the brain & cleans blood plaque
5. Ginger: Anti-inflammatory, may help protect from brain diseases
6. Walnuts: High in omega 3
7. Watermelon: Targets brain function
8. Cantaloupe/Rockmelon: Supports the brain
9. Cabbage: High intake of cruciferous may lower risk of brain, lung & prostate cancer
10. Apples: Power food from mind, body & emotions
11. Cauliflower: Assists in cleansing white matter in brain & spine
12. Pine Nuts: Helps stimulate brain activity

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**Green tea** is full of **potent antioxidants** that help quell inflammation. In fact, researchers from Texas Tech University Health Sciences Center in Lubbock recently found that green tea can inhibit oxidative stress and the potential inflammation that may result from it.

A recent study in the journal *Brain, Behavior, and Immunity* found that people who have a strong emotional reaction to stressful tasks (you bite your nails when you have to make a presentation at work or get tense when someone presses your buttons) experience a greater increase in circulating interleukin-6 during times of stress than those who take stressful tasks in stride. While stress harms your body in many ways, Cannon puts it like this: “**Stress** increases blood pressure and heart rate, making your blood vessels work harder. Essentially, you’re pounding on them more often and creating damage. If that damage happens over and over, **inflammation persists.”**
Treating Inflammation

• EXERCISE:
  • Walking
  • Basket ball, tennis, etc
  • Swimming

• Losing excess weight via exercise (or eating better) is a great way to lower inflammation.

• Working out, however, can lower inflammation even if you don’t drop one single pound. The reason? Exercising at about 60 to 80 percent of your maximum heart rate—think brisk walking where you can still talk but it would be difficult to carry on a conversation—**lowers levels of the key inflammation marker CRP.**
Treating Inflammation

• MINDFULNESS:
  • Grows the Brain!!!
  • Just 10 Minutes a day — Pay attention to what you are doing, how you are breathing
Sleep:

• If you’re not clocking at least 6 hours of restful sleep a night, you’re more susceptible to inflammation than those who have a solid night of slumber.

• According to research presented at the American Heart Association 2010 Scientific Sessions in Chicago: *Getting less than 6 hours of sleep was linked to significantly increased levels of three key inflammatory markers—interleukin-6, CRP and fibrinogen.*
Treating Inflammation

• **Best anti-inflammatory is:**
  - Fish Oil

• **Omega 3**
  - 3000 U of DHA
  - 2000 to 4000 U of CPA
  - Per Day

*Per Dr. Diego Coria, Psychiatrist, Hackensack University Medical Center, NJ*
Treating Inflammation

Magnesium:

• **Essential for Mental Health:** especially useful for Anxiety, Bipolar, ADHD, Anger/Irritability, and in associated pain syndromes such as Headaches, Migraines, Fibromyalgia, Back Pain and Sciatica.

• **Emotional Signs of possible deficiency:** Anxiety, Panic Attacks, Difficulty Focusing, Poor Sleep, Heightened Sensitivity to Pain and Irritability and Anger.

• **Physical Signs of possible deficiency:** Restless Leg Syndrome, Muscle Cramps, High Blood Pressure, Heart Palpitations, Constipation, Headaches/Migraines, Muscle Achiness, Fibromyalgia, and possibly Back Pain and Sciatica.
Treating Inflammation

Magnesium Deficiency is common because:

• We consume too much processed foods that do not contain it
• Food sources contain less than in the past due to modern farming practices
• Over consumption of Calcium induces it

(Children can experience this too)
Treating Inflammation

**Magnesium:**

- Low levels of Magnesium are associated with inflammation in the Brain! Body requires at least 500 mgs per day

- Natural sources:
  - Green Leafy Vegetables, Peas, Beans
  - Nuts,
  - Soybeans
  - Whole grain cereals
The Brain – Gut Connection

Judy
• Beginning to understand the connections between the Gut and the Brain takes us to a different way to look at the importance of assessing overall health, especially GI issues.

• Also prescribing Fish Oils, Probiotics, Magnesium, etc.

• The importance of nutrition for recovery from MH & SUD’s.
The Gut has millions of “Good” bacteria and “Bad” bacteria that impact the body/Brain’s health AND are affected by stress, unhealthy nutrition, poor sleep patterns, lack of exercise, over use of alcohol, etc.

The Gut has neurons that produce neurotransmitters like serotonin, which impacts moods.

Brain-Gut connection

Can explain why some people experience depression or anxiety after experiencing problems with the gut.
**“Good” Bacteria**

- **Attacked by**
  - AND
  - Chlorinated and/or fluoridated water
  - *Antibacterial soap*
  - Agricultural chemicals

- **Thrives on**
  - Fermented, unpasteurized whole food
  - Fruits, vegetables, legumes
  - Take a good probiotic if not eating fermented foods

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**“Bad” Bacteria**

- **Thrive on**
  - Lots of sugar, refined grains, genetically engineered food (*processed foods & beverages—High fructose corn syrup and/or soy*)
  - *Alcohol*
  - *Antibiotics too* (*Use a probiotic when taking them*)

- ** Conventionally raised** (*low dosed antibiotic fed*)
  - Meats & other animal products
Brain–Gut Connection

• Enteric Nervous System
  • Two thin layers of more than 100 million nerve cells lining your gastrointestinal tract from esophagus to rectum.
  • “Its main role is controlling digestion, from swallowing to the release of enzymes that break down food to the control of blood flow that helps with nutrient absorption to elimination,”

Jay Pasricha, M.D., director of the Johns Hopkins Center for Neurogastroenterology
Comorbidity with IBS AND MH Concerns

- IBS overlap with GERD (65.5%)
- Dyspepsia (48.7%)
- Chronic Headache (40.7%)
- Fibromyalgia (22.1%)

**Anxiety and/or Depression (81.5%)**

- IBS may increase the risk of subsequent depression, anxiety, insomnia and bipolar disorder. The risk ratios are highest for these disorders within 1 year of IBS diagnosis, but the risk remains statistically significant for more than 5 years.

From WEBINAR by Addiction Professional “Gut Brain Connection” 5/10/17
Presented by Maureen Schehr, NMD at Sierra Tucson American Association of Naturopathic Physicians
Brain – Gut Connection:

- **Use of Probiotics to support Good Bacteria and decrease brain inflammation**
  - At least 10 different Strains and 50 Billion Organisms
  - Take on Empty Stomach
  - Refrigerate, if not room temp stable
  - Use Fiber as a Prebiotic to support it

*Per Dr. Diego Coria, Psychiatrist, Hackensack University Medical Center, NJ*
Prebiotics

- A specialized plant fiber that beneficially nourishes the good bacteria already present in the colon/large bowel.
- Acts as a fertilizer for GOOD bacteria in the colon.
- Improves Good to Bad bacteria ratio.
- This ratio has direct correlation between health and overall wellness from stomach to Brain!

Recent studies show good bacterial gut balance play a direct role in mental health.

*Emily Deans, MD* Psychology Today 4/6/14
Prebiotics

• People who consume prebiotics daily have fewer issues with anxiety, depression and stress.
• Saliva test show lower levels of Cortisol in these individuals
• Cortisol, in high levels, is linked to mental health disorders
• Good bacteria stifle production of bad, disease-causing bacteria.

Live Science, 12/24/14  Rachel Rettner, SR Writer
**Fibers**

**Soluble Fiber:**
- Dissolves in water
- SLOWS digestion
- Beans, greens and other complex carbs contain them
- Some have both: Potato skin has insoluble and inside is soluble
- Produces gases and acids that support good bacterial growth

**Insoluble Fibers**
- Won’t dissolve in water
- SPEEDS digestion

**2 Types:**
- Fermentable- produces healthy gas and acids like soluble fiber
- Non-fermentable- bulking agent
Resistant Starches:

- Resistant refers to this starch’s ability to resist digestion
- Produces same benefits as other fibers
- Found in seeds, unprocessed whole grains, legumes, and potatoes
- Use in moderate amounts does not add weight
- Makes you feel fuller longer so eat less calories
- Helps burn fat while avoiding fat storage and boost metabolism
- Helps diabetics by decreasing glycemic response and increasing insulin sensitivity
Other Supplements to Support Brain Health

Balancing Minerals:

- Calcium, Magnesium, Potassium, Zinc, Chromium, Boron
  - **Best way is whole food diet** rich in vegetables, especially Green Leafy Vegetables, Peas, Beans, Nuts, and small amounts of organic dairy and soy
  - If supplementing Calcium, supplement other minerals as well—Magnesium equal to Calcium usually
  - Supplement the others too
- Calcium—**More is not better** and total consumption of Calcium (food, drinks, and supplements) should not be more than 1200 mgs per day. *Taking more than 500 mgs in pills per day increases risk of heart disease and dementia!*
Other Supplements to Support Brain Health

**Vitamin B Complex:**

- Insufficient amounts of all Vitamin B compromises the brain’s ability to cope with stress
- We get little Vitamin B in our foods
- Use for anyone with stress, especially if it leads to fatigue and/or depression - Safe to use
- Improves energy and mood, often with in days
- Reduces caffeine dependence
- Look at label for 50mgs of B1, B2, B3 and B6
Other Supplements to Support Brain Health

• Vitamin D
• Vitamin B (B Complex & Folate)
• For Sleep:
  • Magnesium 500 mgs with Omega 3’s at night
  • Melatonin
Other Supplements to Support Brain Health

Folate and not Folic Acid: Recent research shows FA may build up and increase the risk of breast cancer! Check your Multivitamin!!

- Is required in many neurological functions, including making serotonin, dopamine and norepinephrine
- Still do not know a lot about it and amounts needed
- 5-MTHF—Activated form of Folic Acid is helpful in those with genetic issues impacting using it from foods. They demonstrate signs of deficiency despite eating foods with Vitamin B
• Stages of Change
  • Precontemplation
  • Contemplation
  • Preparation
  • Action
  • Maintenance
  • Recycling
Change Tools

• Motivational Interviewing
• Contingency Management
• Peer Support
• Mutual Help Groups

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Simple suggestions for implementing interventions toward achieving wellness

Text or call a family member or friend (sponsor) daily for 30 days

Exercise 30 mins. 6 or 7 days for 30 days at moderate intensity

Practice Mindfulness > 8 mins. Each day for 30 days

Implement prosleep hygiene practices each day for 30 days

Log what you eat daily for 30 days
Initiate and Maintain Anti-inflammatory Wellness Habits

**Initiate**
- Provide Encouragement
- Provide resources
- Recommend Daily practice

**Maintain**
- Continue to provide encouragement
- Check in at regular intervals on progress
- Be a gentle coach
- Remind them of the studies demonstrating benefits of practice
- Recommend increasing practice with early signs of stress
How do we help our participants change?

• Need at least a **90 day plan!!**
• Needs to be **structured**
• Partner with staff and others in **support network**
• Can use rewards
• Educate about Stages of Change
Brain Health Supports Recovery:

- Improved Concentration and Focus
- Improved memory and participation in cognitive treatment
- Remembering what is taught in Groups & Self-Help meetings (AA/NA, etc.)
- Reducing the risk of mental health symptoms (especially anxiety & depression) and need for medications or able to manage with lower doses
- Developing coping skills to manage stress
- Decreasing cravings and the risk of relapse
- Increasing the chances of sustained recovery from SUD and MH Disorders with fewer hospitalizations
- Increasing overall wellness
The Center for Disease Control reports that nearly half the population in the United States of America lives with at least one chronic disease. These diseases are the leading cause of death and disability. They are also the most costly and preventable of all health conditions in the country.

Food As Medicine’ follows the growing movement of using food to heal chronic disease. From individuals empowering themselves to change what is on their plates, to hospital groups administering vegetable programs, we can already see the change happening around us. Join us on the journey of food, health, community, and hope!
Thank You for your attention

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