Nutrition and Complementary Medicine

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Introduction

• In the last decade researchers have made great advances in linking nutrition with disease, suggesting that a full lifestyle “makeover” can improve the way your brain works.
• A study performed by AARP found that while over 90 percent of American believe brain health to be important, however, few know how to maintain or improve it.
• The Journal of the American Medical Association reports it takes seventeen years on average for scientific discoveries to be put into day-to-day clinical practice.
• Many of our current nutritional and practice guidelines are extremely outdated or conflicting with current information.
The Brain Gut Connection

2009 NIH Human Biome Project
1. There are 100 trillion microbes in the gut
2. Now deemed the 2\textsuperscript{nd} Brain
   • 80-90\% of Serotonin (the happy neurotransmitter) is found in the gut.
   • Healthy = Happy
1. 70-80\% of your immune system is in your gut
2. Diet optimizes the microbiome
   1. Prebiotics
   2. Probiotics
   3. Healthy fats
   4. Gluten free
   5. Antioxidants
Effects of Inflammation on the body

1. Dementia
2. Autoimmune Disorders
3. Cancer
4. Depression
5. ADHD
6. Respiratory Disorders

The Blue Zones

1. Okinawa, Japan
2. Sardinia, Italy
3. Nicoya, Costa Rica
4. Ikaria, Greece
5. Loma Linda, California
You Are What You Eat

What we eat is one of the most important decisions we make in a day. It regulates our health and disease states; a factor which we can control.

The state of your microbiome determines if you are fanning the flame of inflammation or squelching it.

Best Foods: Mediterranean Lifestyle and eating Anti Inflammatory
The Mediterranean Diet

The FINGER trial (Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability): The worlds first ongoing, large scale, long-term randomized control trial to measure the impact that our dietary and lifestyle choices have on our cognitive health, led by neurobiologist, Milia Kivipelto, at Stockholm’s Karolinska Institutet.

Goal: Reduce psychosocial risk factors for cognitive decline such as depression, loneliness, and stress using nutritional counseling and exercise.

After two years: Overall cognitive function of those in the intervention group increased by 25% compared to the controls, executive function increased by 83%, and a 150% improvement in brain processing speed.

According to the Center, these nutrition recommendations are in line with the Mediterranean diet. A diet rich in vegetables, extra virgin olive oil, nuts, and legumes, low intake of red meat, low intake of dairy, and mild to moderate alcohol consumption.
Brainiac Foods

**Dark Leafy Greens**: Vegetables are your brains best friend! A recent study has shown that people who ate just two servings of dark leafy greens per day had brains that looked eleven years younger on scans!

**Wild Alaskan Salmon**: King Salmon is highest in long-chain omega-3 fatty acids, which have been shown to reduce inflammation, lower blood pressure and decrease risk factors for disease.

**Avocados**: They have more potassium than bananas and are high in fiber. Avocados contain healthy monounsaturated fat that when eaten with other vegetables, increases the absorption of their nutrients.

**Blueberries**: Have the highest antioxidant capacity and help with brain memory.

Extra-Virgin Olive Oil: Contains oleocanthal that stimulates our body to repair itself. It has the same anti-inflammatory effect as taking a small dose of Ibuprofen, without the potential side-effects.
Brainiac Foods Continued

**Eggs**: Packed with vitamins and nutrients, eggs, especially the yolks, are complex and assist in the flexibility of our cell membranes, increase acetylcholine (a learning and memory neurotransmitter), and contain lutein and zeaxanthin (two carotenoids shown to protect the brain and increase neural processing speed).

**Grass Fed Beef**: When it comes to animal proteins, keep in mind, we eat what they ate. Grains increase inflammation, so if the animal ate it, so are you. Grass fed beef is higher in Omega 3 fatty acids (good fatty acids) and has less Omega 6 (you want this to be low). Beef from grass-fed cows contains a certain beneficial fatty acid called CLA (conjugated linoleic acid). CLA can help prevent several diseases and conditions like obesity and diabetes.

**Cruciferous vegetables**: such as broccoli, brussel sprouts, cabbage, kale, bok choy, arugula, radishes. Broccoli contains a compound called sulforaphane, which is a powerful activator of antioxidants to help detoxify by mopping up harmful free radicals in our body.
Dark Chocolate: Yes, I said chocolate!! Cocoa flavanols have been shown to reverse signs of cognitive aging and improve insulin sensitivity, vascular function and blood flow to the brain. Make sure its not processed with alkali, known as Dutch processing. Also, the cacao content should be above 80%. Consume one bar per week. Opt for organic or fair-trade source, which is usually ethically sourced.

Nuts: All nuts are healthy. They are rich in antioxidants, are a powerful source of Vitamin E (which protects synaptic membranes from oxidation, supporting neuroplasticity), and contain polyunsaturated fat. Pistachios contain more lutein and zeaxanthin (boost brain speed) than any other nut. They also contain resveratrol; an antioxidant shown to protect and enhance memory function. Fresh or dry roasted only. “Roasted” means deep fried in oil and lost nutrients.

Shoppers Tip: Shop the perimeter of the supermarket for fresh vegetables, fruits, and meats. The inner isles are full of processed, sugar filled products with un-natural additives to increase shelf life that are harmful to your body.
Feeble Foods

These are known to “gum” up the brain

**Grains:** Are a hidden sugar source. Gluten is a sticky protein found in wheat, barley and rye. It’s present in breads, pizza and beer.

Goal: Minimize frequent and extended insulin spikes throughout the day. Spike cause a protein build up of Beta Amyloid known to cause Alzheimers disease (plaques).

40% of Alzheimers cases may be owed to chronically elevated insulin which may begin **decades** prior to diagnosis.

Hint: Stop eating 2-3 hours before bedtime to optimize this process by reducing circulating insulin.
Feeble Foods Continued

**Refined Sugar:** Our most concentrated source of carbohydrates and largest cause of insulin spikes.

Increased sugar = increased glycation = increased risk of dementia

Clear your pantry and read labels

Hidden offenders include: cane juice, fructose, malt dextrose, honey, maple syrup, molasses, sucrose, coconut sugar, brown rice syrup, fruit juice, lactose, date sugar, glucose solids, agave syrup, barley malt, maltodextrin, and corn syrup

Fructose makes you hungrier rather than full and causes you to over eat. It also goes right to your liver and induces fat creation called lipogenesis.
Feeble Foods Continued

**Cheap Oils/Bad Fat**: Are processed and modified into formulations that cause oxidation.

Oxidation = Free Radicals

Free radicals are 10,000x stronger and damage your bodies good lipids, proteins, DNA, hormones and enzymes.

Excessive oxidation is a primary mechanism for aging and inflammation, leading to Alzheimers, Parkinsons, Multiple Sclerosis, Lewy Body Dementia and Autism.

**Avoid**: Canola oil, corn oil, peanut oil, soybean oil, vegetable oil, safflower oil, sunflower oil, rapeseed oil, grapeseed oil and rice bran oil.

**Use**: Extra virgin olive oil, grass fed tallow, organic grass-fed butter/ghee, avocado oil or coconut oil.
Nutritional Supplements

Supplements do NOT replace food sourced nutrients!

Glutathione

• The bodies “master antioxidant”.
• Composed of cysteine, glycine, and glutamate.
• Found in virtually every cell of the human body
• Alleviates oxidative stress.
• Found in fish, poultry, broccoli, brussel sprouts, cauliflower, kale, mustard greens, watercress.
• Cannot be taken orally (N-Acetyl Cysteine or NAC) and absorbed, researching an “amine” that would allow it to cross the blood brain barrier
• IV glutathione has some anecdotal value but is invasive, requires 3x week infusions and very expensive (not covered by insurance)
• A study in mid 1990’s with 9 PD patients showed 600mg IV twice daily x 1 month demonstrated reduced PD symptoms by 42%
Nutritional Supplements Continued

**Homocysteine**
Studies show elevation measured in blood above 10 are linked to Parkinson disease, atherosclerosis, vascular disease, Alzheimer's disease, depression and dementia. Directly linked to meat consumption.

Can be lowered with Mediterranean or Inflammatory diet
Folic Acid 400 mcg/day
Vitamin B12 1000 mcg/day
Vitamin B6 10 mg/day
Nutritional Supplements Continued

Choline
- Essential for neuroprotection and neuro-repair.
- Found in egg yolks, soy, wheat germ, and liver.

A late 1980’s Spanish study showed 500mg could improve slowness by 23% and stiffness by 33%.

A recent CDP-choline study showed patients could reducing the need for levodopa by 33-50% by taking 500-1200mg daily.

CDP-choline (Citicholine) supplement is thought to improve the functionality of the dopamine system.
Nutritional Supplements Continued

**Prevagen**

- Claims to support neuronal cells and improve cognitive function, marketed for Alzheimer's disease and head injury

- A synthetic version of the active ingredient, apoaequorin, a protein found only in the jellyfish species Aequorea Victoria

- Currently under legal investigation initiated by the FDA for claims it is an unproven drug and doesn’t fall into the dietary supplement category because it is in fact synthetic, not naturally derived.

- Only two of over 1,000 adverse events were reported

- No regulated scientific evidence to support the claims
Summary

Make it nutritious!
High Fiber
High Antioxidants (repair free radicals)
  Brightly colored fruits and vegetables
  Green and Black tea
  Beans & legumes
Fish- 5 servings per week
Moderate protein consumption
  Mostly from beans/plants
  Minimal from animal (poultry)
  Reduce red meats and make them grass-fed
Spices: turmeric, cinnamon, cloves
Egg yolks- 5-6 per week for choline source
Reduce Dairy (use coconut, almond or hazelnut milk)
Eliminate fried food
Go nuts!
Enjoy a glass of red wine
Eliminate pesticides; Go organic