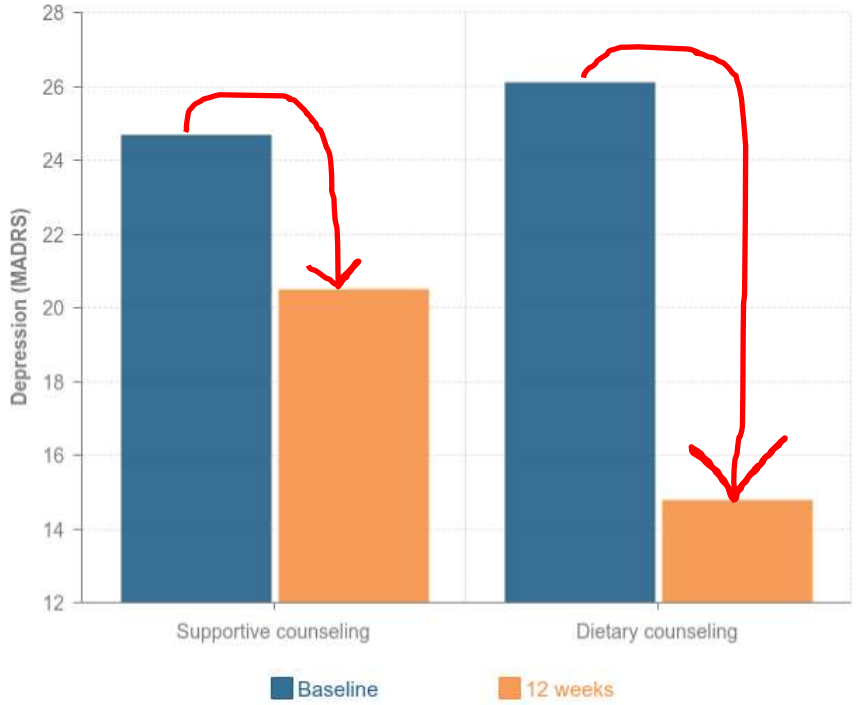

Brain
Food

Carolina Behavioral Health Alliance

BENEFITS ADMINISTRATION

mood
treatment
center

Dietary Counseling 1



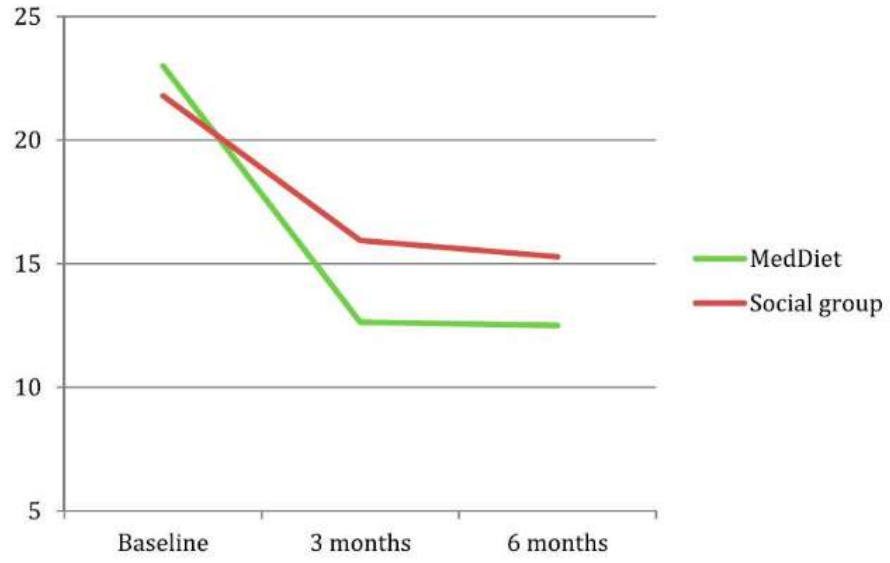
n=67, Jacka et al, 2017

1 **Large effect**
Effect size (1.2) larger than that of antidepressants (0.3-0.6)

2 **Benefits follow change**
For every 10% change in diet, there was a 5% drop in depression

3 **Secondary factors**
Improvement not related to changes in exercise, weight, smoking, self-efficacy

Group Dietary Counseling



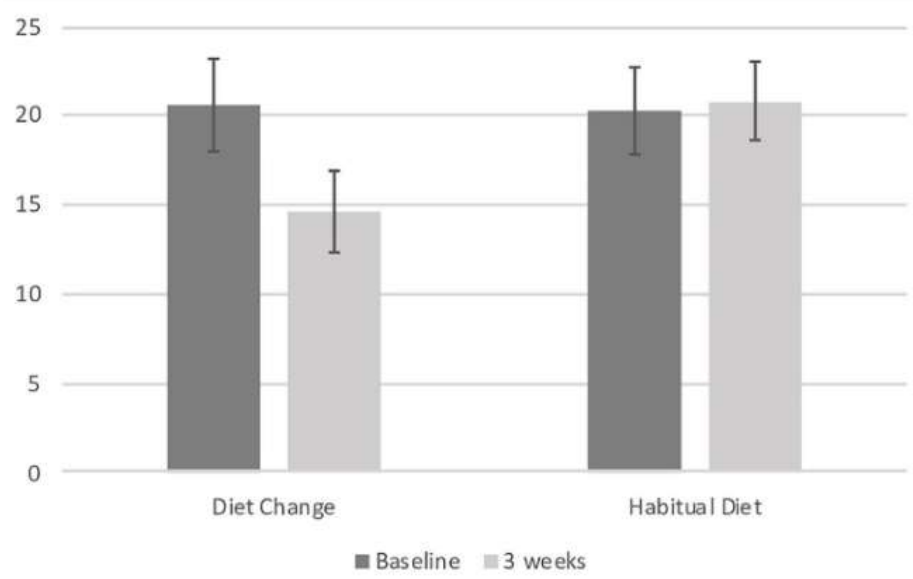
n=152, Parletta et al, 2017

1 **Social comparison group**
Weekly group meetings with game, discussions, social events

2 **Large effect**
Effect size of 2.4

3 **Replicated finding**
In 15 controlled trials involving over 45,000 people with medical problems treated with diet

Brief Dietary Counseling by Video



n=101, Frances et al, 2019

Young adults

1 With elevated depression scores, but did not have clearly diagnosed depression

Lack of active control

2 Control group got no intervention. Treatment group received a 13 minute video education, handouts, 2 phone calls, and food supplies.

Moderate effect

3 Effect size of 0.65
Changes upheld at 6 months

Vegetables

Daily servings ≥ 6

One servings = ½ cup

Aim for variety of colors.

Include green leafy vegetable or tomatoes in at least one of those servings.

Frozen is fine.

Mushrooms count.

Limit potatoes to one serving a day unless it’s a sweet potato.

Fruit

Daily servings ≥ 3

One servings = ½ cup

Include berries in at least one of those servings.

Dried fruit fine but watch for added sugar.

Limit fruit juice to no more than one of those servings.

Rubbermade Freshworks

Claims to keep fruits and vegetables 80% longer

Regulate airflow, humidity and carbon dioxide

Let’s test them!

After 20 days in the fridge

Freshworks

Regular

Freshworks

Regular

Nuts, seeds, olives

Daily servings ≥ 1

One servings = ¼ cup nuts or seeds, ½ cup olives

Minimize salt.

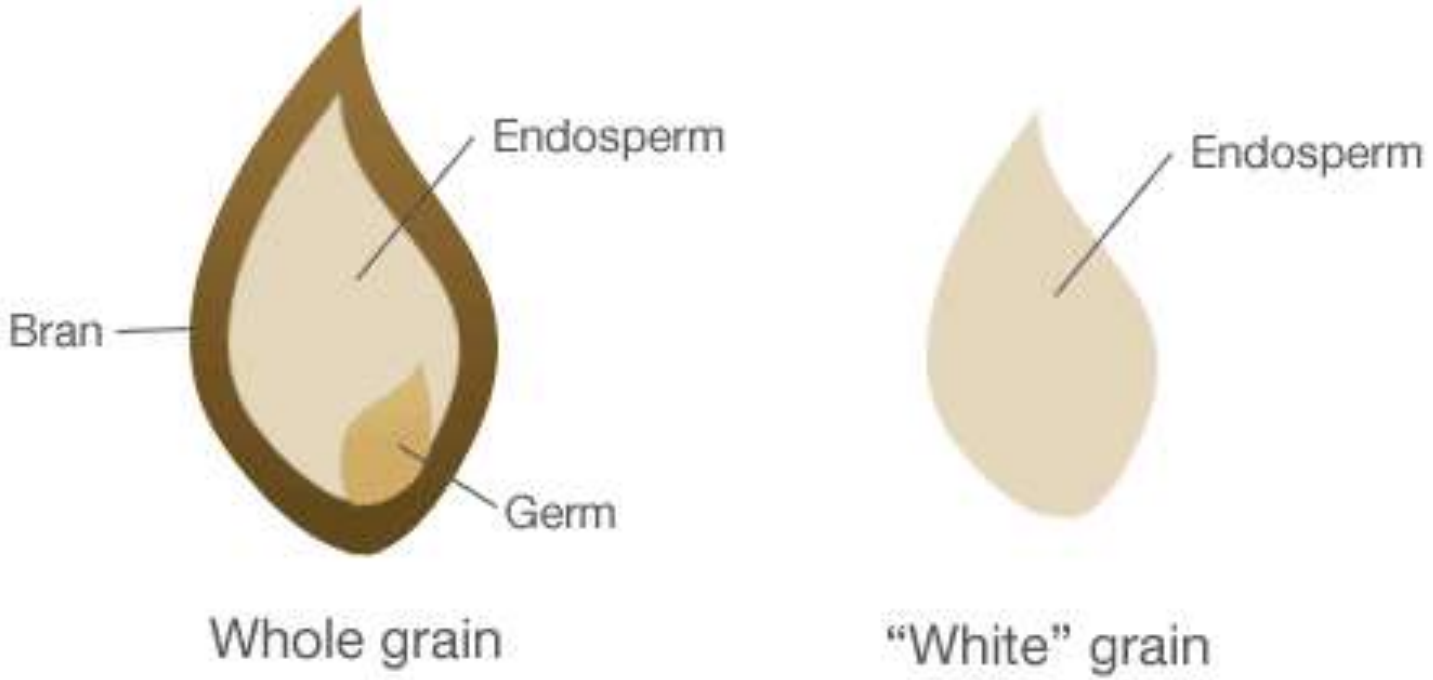
Peanut butter and other spreadable nuts count, but look for low sugar options.

100% whole grains

Daily servings ≥ 5-8

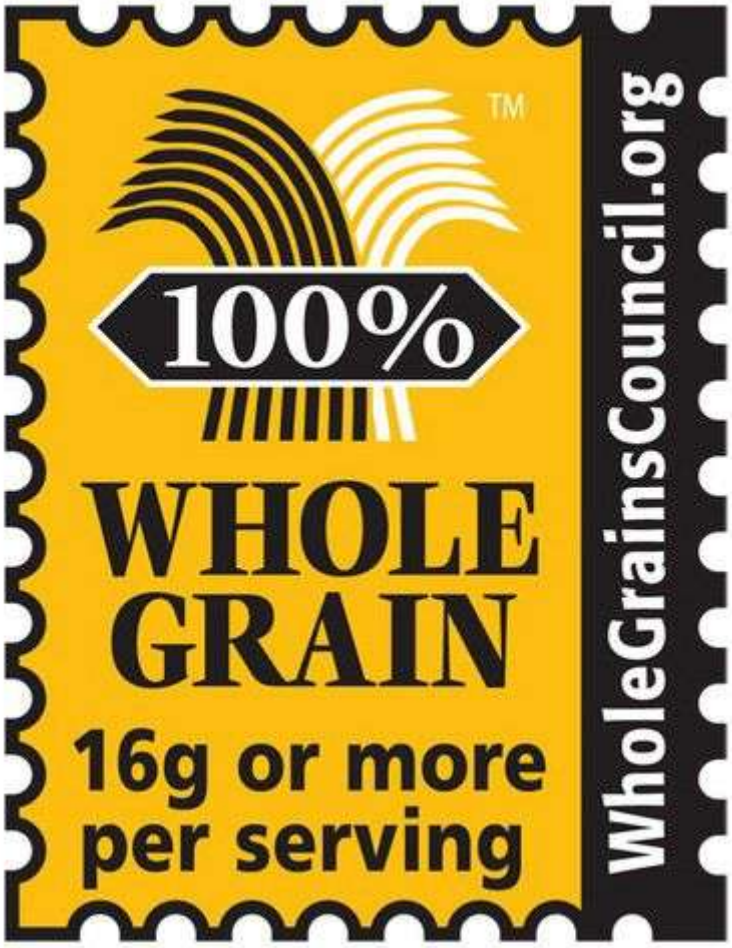
One serving = 1 slice bread
½ cup cooked rice or pasta
¼ cup oats or muesli

Bread, brown rice, whole wheat pasta, oatmeal, muesli cereal, whole wheat crackers, quinoa.



The bran and germ has the healthy stuff:
Antioxidants, B vitamins, fiber, and other nutrients

WHOLE GRAINS


100%
WHOLE
GRAIN
16g or more
per serving
WholeGrainsCouncil.org

Eat this

INGREDIENTS:
Organic whole wheat flour, water, organic cracked whole wheat, organic cane sugar, organic wheat gluten, organic expeller pressed canola oil, contains 2% or less of each of the following: organic molasses, sea salt, yeast, organic cultured wheat flour, organic vinegar, organic acerola powder, enzymes.

Ingredients

Organic Sprouted Wheat, Filtered Water, Organic Sprouted Flax, Organic Sprouted Barley, Organic Sprouted Millet, Organic Malted Barley, Organic Sprouted Lentils, Organic Sprouted Soybeans, Organic Sprouted Spelt, Fresh Yeast, Organic Wheat Gluten, Sea Salt. Rolled in Organic Flax Seeds.

Not that!

Whole Wheat Flour, Water, High Fructose Corn Syrup, Wheat Gluten, Sugar, Yeast. Contains 2% Or Less of Each of The Following: Soybean Oil, Calcium Sulfate, Salt, Dough Conditioners (May Contains One Or More of The Following: Mono- And Diglycerides, Ethoxylated Mono- And Diglycerides, Sodium Stearoyl Lactylate, Calcium Peroxide, Datem, Ascorbic Acid, Azodicarbonamide, Enzymes), Wheat Bran, Guar Gum, Distilled Vinegar, Calcium Propionate (Preservative), Yeast Nutrients (Monocalcium Phosphate, Calcium Sulfate, Ammonium Sulfate), Corn Starch, Vitamin D3, Soy Lecithin, Milk, Soy Flour.

FOODBABE.COM

Eat this

...ingredients:
Organically Grown whole wheat flour stone ground, clover honey, sesame oil, dairy butter, sesame seeds, yeast and salt.

INGREDIENTS: Organic whole grain brown rice, organic whole grain quinoa, organic brown flax seeds, organic brown sesame seeds, filtered water, sea salt, organic wheat free tamari (water, whole organic soybeans, salt, organic vinegar). **Contains: Soy.**

Not that!

Eat this

Bionaturae 100% whole wheat

Top rated by Cook's illustrated

Not that!

Home Popcorn

Ingredients

1/3 cup popcorn

3 tab extra virgin olive oil

Directions

Place olive oil in heavy bottom pot on high heat. Add 3 kernels of popcorn. When they pop, add the rest.

Cover and turn off heat for 30 seconds.

Turn head back to high and shake pot every few seconds. Lift the cover slightly ever 15 seconds to let out steam.

When popping slows, turn off heat and add popcorn salt or seasonings to taste.

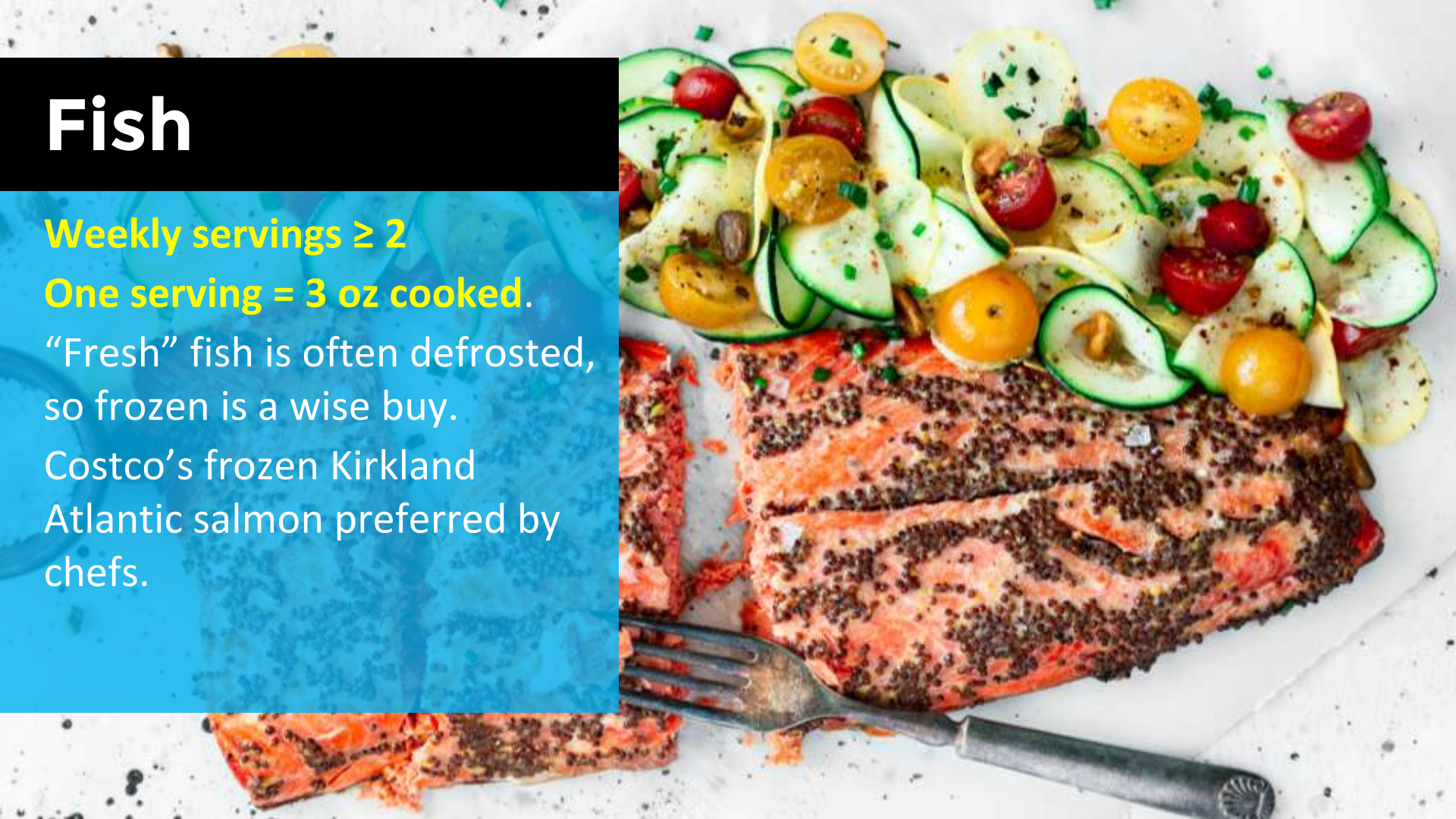
Fish

Weekly servings ≥ 2

One serving = 3 oz cooked.

“Fresh” fish is often defrosted, so frozen is a wise buy.

Costco’s frozen Kirkland Atlantic salmon preferred by chefs.



Beans

Weekly servings ≥ 4

One serving = ½ cup beans, or 1/3 cup hummus or tofu.

Edamame, humus, tofu, and falafel count.

Extra Virgin Olive Oil

Daily servings = 3 tab

Olive oil is low in saturated fats, and extra virgin has brain-healthy antioxidants.

EV olive oil burns ≥ 325-400°F. For high-temperature cooking, use regular olive oil (465°F), safflower oil (510°F), or avocado oil (520°F)

"Extra virgin olive oil [is] the most stable oil when heated, followed closely by coconut oil and other virgin oils such as avocado and high oleic acid seed oils."
-Guillaume C, 2018

Phenols and antioxidants protect it from breaking down when heated. Reusing olive oil can increase the trans fats.

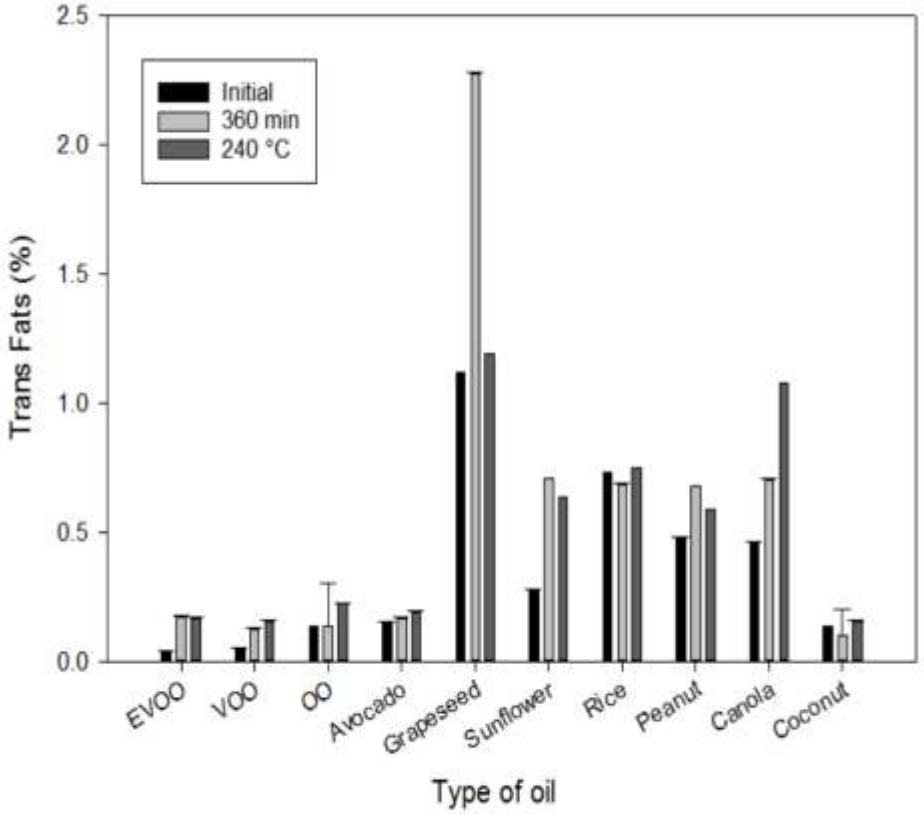


Figure 1: Trans fats levels before and after heating trials.

Guillaume C., et al, *Acta Scientific Nutritional Health* 2.6 (2018): 02-11.

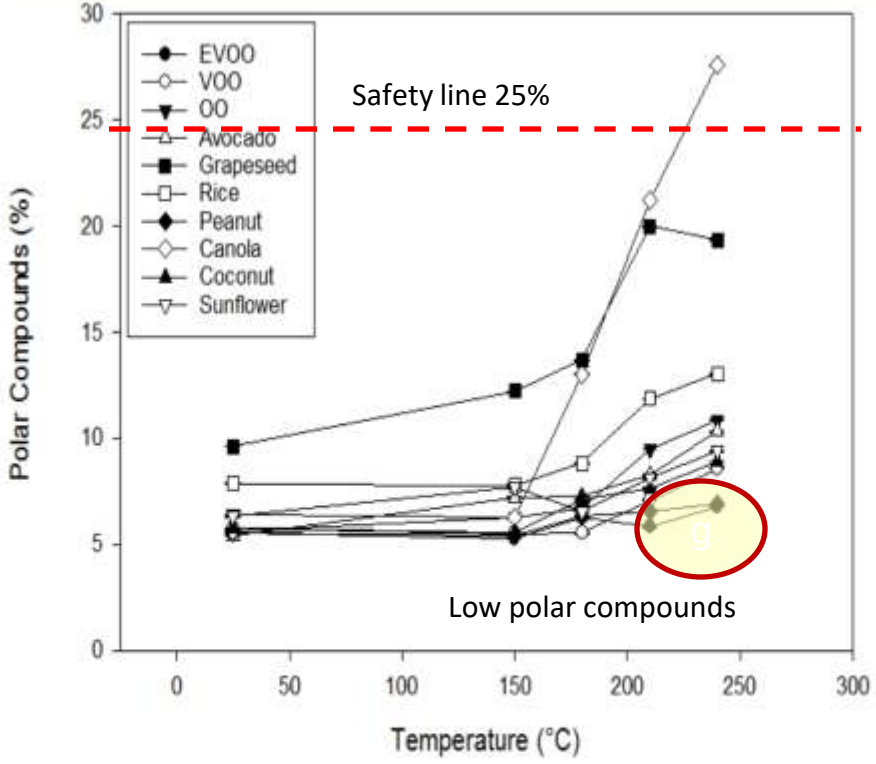


Figure 6: Evolution of Polar Compounds when heating oils at different temperatures.

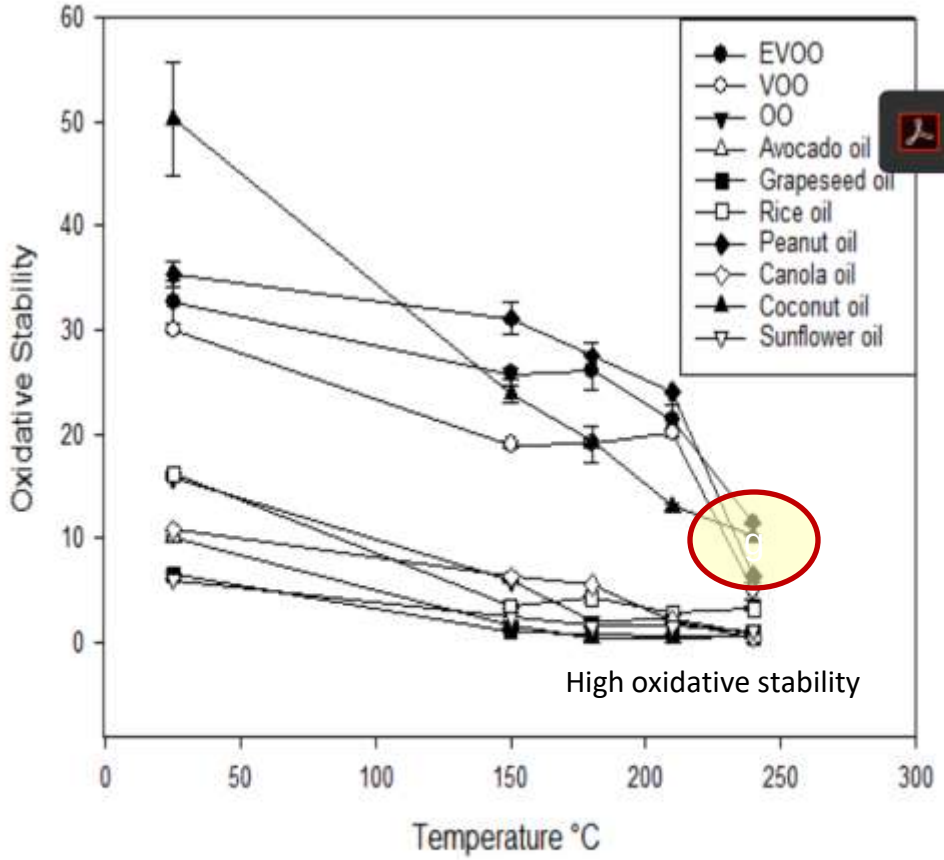


Figure 7: Oxidative stability when heating at different temperatures.

Eat in Moderation

Milk, cheese, yogurt

Max daily servings = 3-4

One serving:

- Milk: 1 cup milk (250 mL)
- Yogurt: 200 grams
- Hard cheese: 40 grams
- Soft cheese: 120 grams

Lean red meat

Max weekly servings = 3-4

One serving = 3 oz.

Poultry

Max weekly servings = 2-3

One serving = 3 oz.

Eggs

Max weekly servings = 6

Less if high cholesterol

Eat less of

Processed foods
Fried foods
Fast foods
Sweets
Sodas
White bread/pasta
Deli meats
Bacon, beef jerky
Butter, condiments

Max weekly servings = 3

One serving = 120 cal.

Purchasing tips

Choose packaged foods with

- Fewer chemical ingredients
- Lower salt
- Lower added sugars

Highly processed foods:

Packaged meals, hotdogs, cold cuts, bacon, sausage, soda, chips, microwave popcorn, candy, frozen desserts, sugary breakfast cereals, energy bars, bottled drinks, Frappuccinos, pre-mixed baking items, margarine, and premade sauces.

Limit added sugars to

- Women: 25g a day
- Men: 36g a day

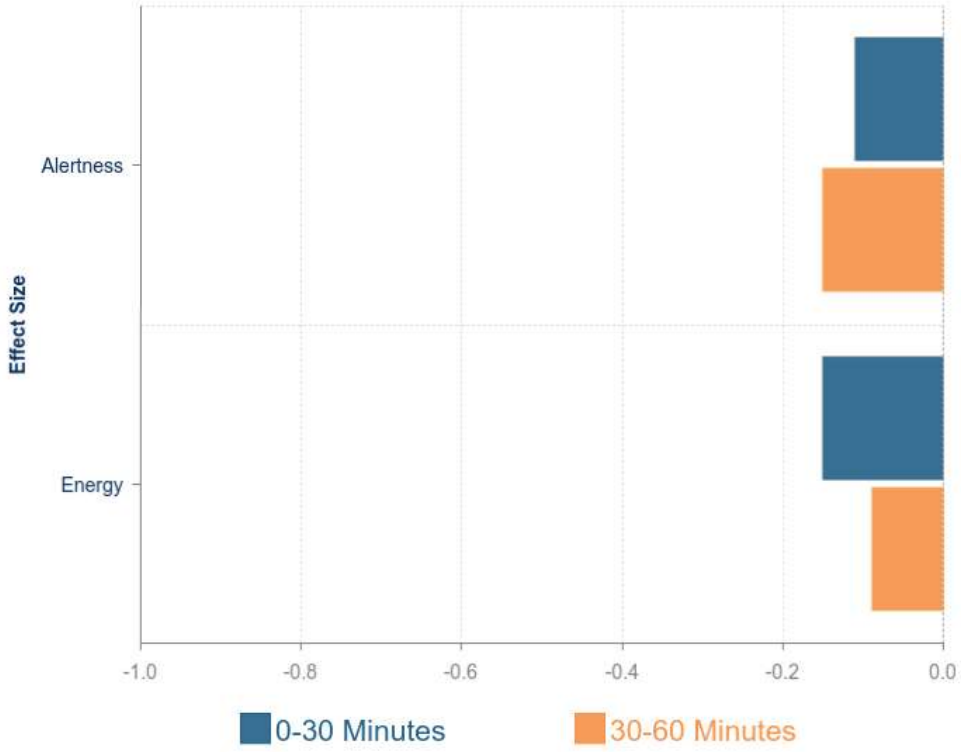
Nutrition Facts

Serv. Size	**1 Can**
Amount Per Serving	
Calories	**140**
	% Daily Value
Total Fat 0g	**0%**
Sodium 45mg	**2%**
Total Carb. 39g	**14%**
Total Sugars 39g	
Incl. 39g Added Sugars	**78%**
Protein 0g	

Not a significant source of sat. fat, *trans* fat, cholest., fiber, vit. D, calcium, iron and potas.

Coca-Cola NUTRITION

Sugar Impairs Energy and Alertness



31 studies, 1,259 subjects (Mantantzisa et al, 2019)

Sugar had no effect on

Depression

Anxiety

Overall mood

Calmness

Contentedness

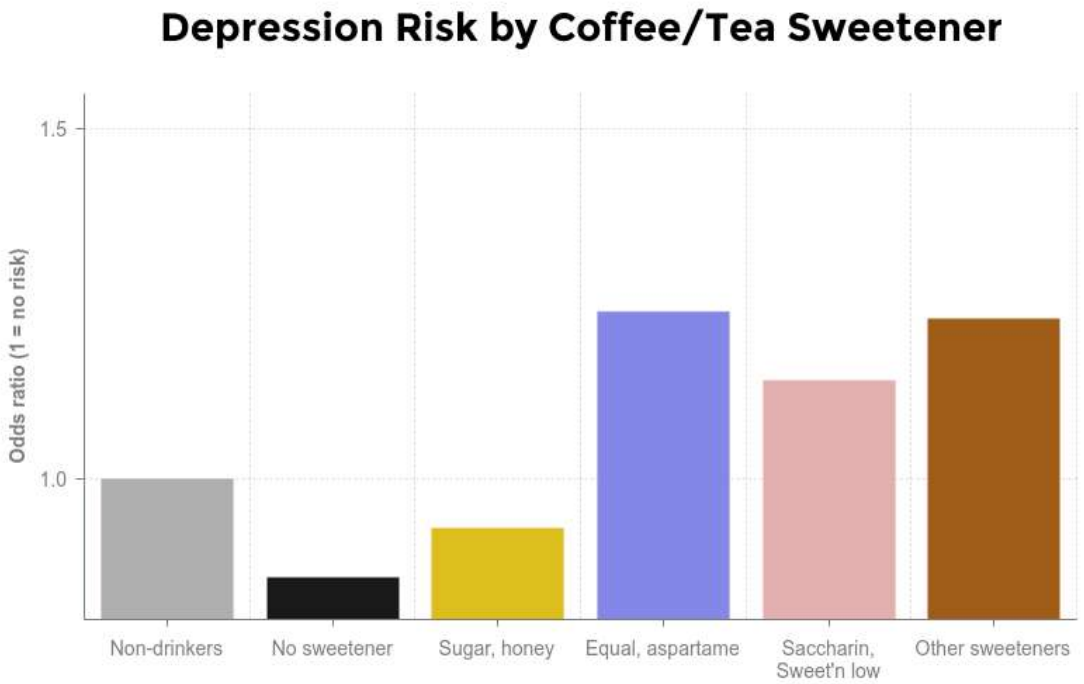
Anger

Confusion

Tension

Vigor

Artificial Sweeteners and Depression



Guo et al, 2014

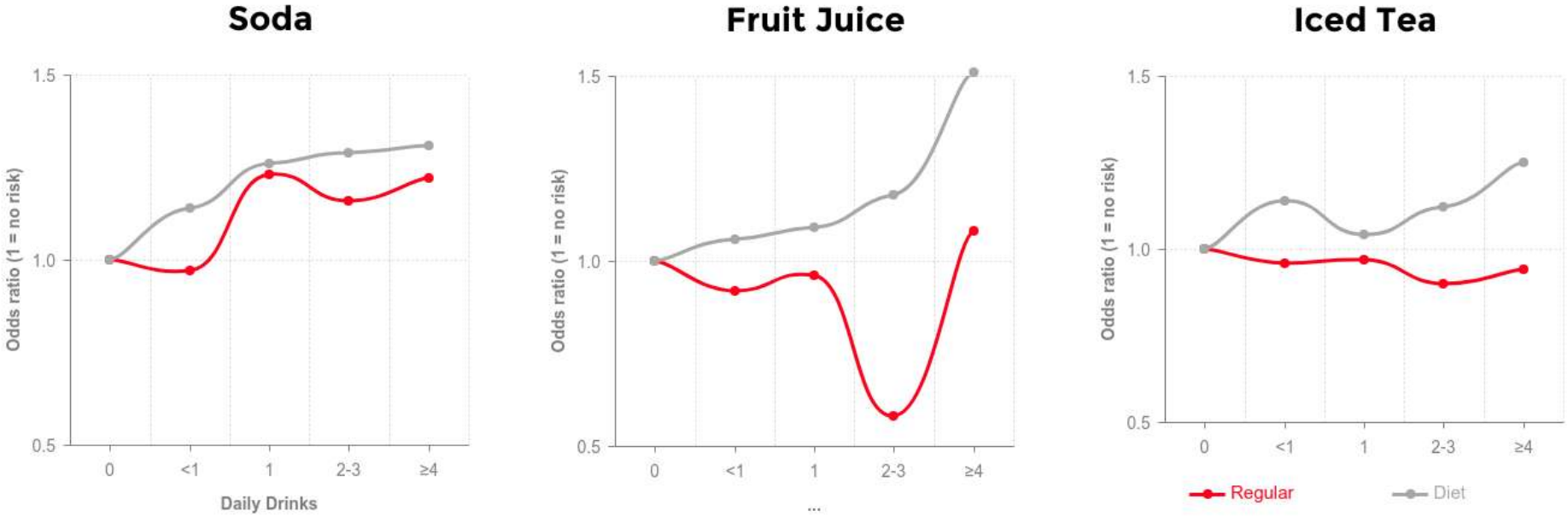
1 **Large study, long follow up**
264,000 older adults age 50-70 followed for 5 years

2 **Uncontrolled but adjusted for**
Age, sex, race, education, marital status, smoking, weight, physical activity, alcoholic and calorie intake

3 **Reverse causation?**
Only cases of depression that started > 5 years after assessment were included

4 **Replicated finding?**
Artificial sweeteners linked to hippocampal damage in animals and - in controlled human study - depression, irritability, and cognitive problems

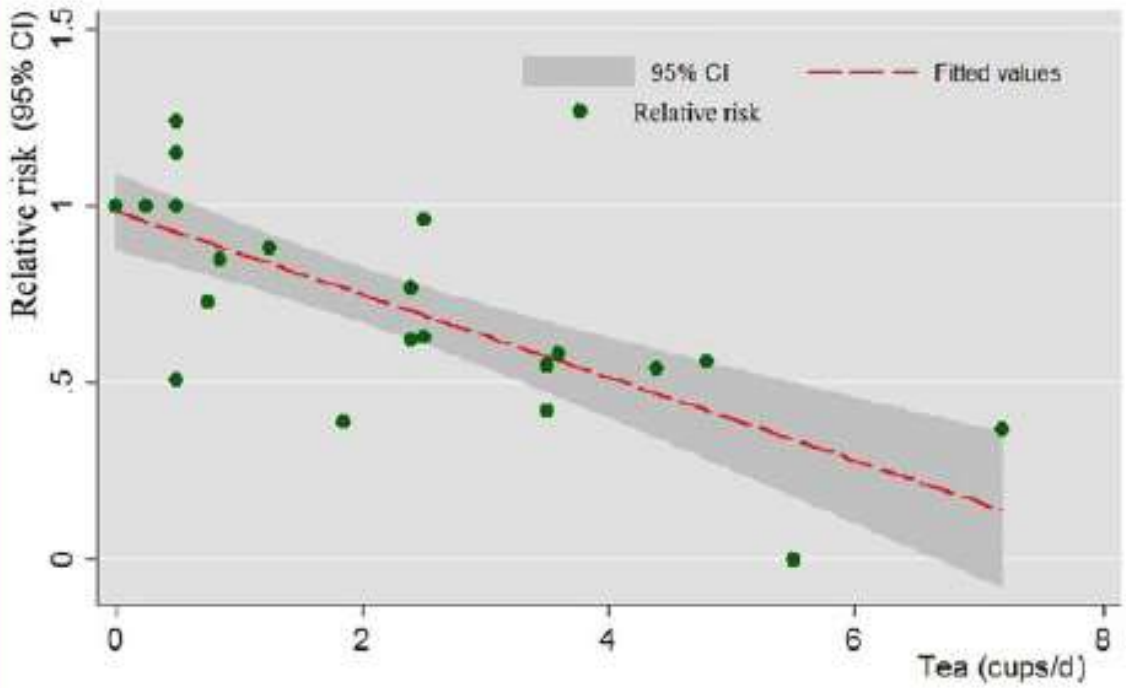
Risk of depression is greater with diet drinks



Guo et al, 2014


Coffee or Tea?

Figure 3. Dose–response analyses of tea consumption and risk of depression.



3 cups of tea a day lowers risk of depression by 37%

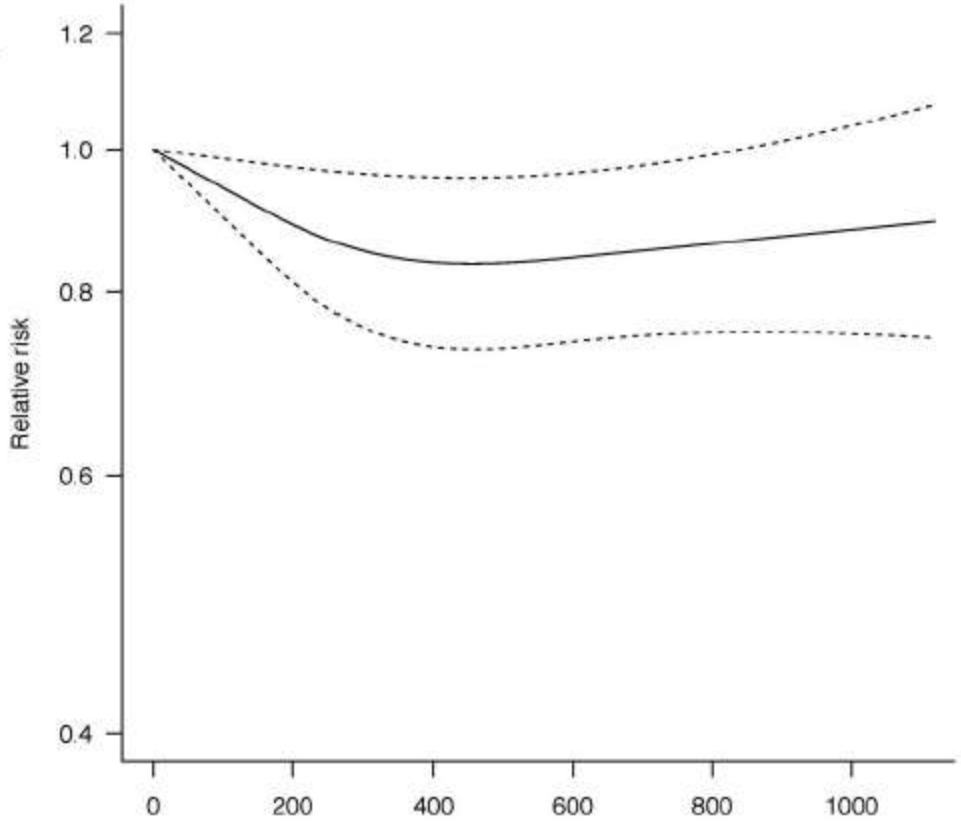
11 studies, 23,000 people

Green, black and white tea from the *Camellia sinensis* plant.

Brain benefits from Epigallocatechin gallate, catechins, flavonoids, polyphenols, and L-theanine.

Risks: Renal stones, cancer if throat burn

Dong X et al, 2015



Depression risk falls with moderate coffee use, but rises with more than 1-2 mugs a day

12 studies, 347,000 people

Risks: Insomnia, dependence, tremor, anxiety, reflux, diarrhea, headaches, high blood pressure (but protects against heart/liver disease & diabetes)

Max cups/day of caffeinated beverages for brain health

Beverage	Max metric cups/day
Brewed Coffee	2
Latte or mocha	2.5
Espresso	0.5
Instant Coffee	5
Brewed black tea	6
Brewed green tea	10
Bottled tea	8
Cola	6
Energy drink	1.5
Energy shot	0.3

Alcohol

≤ 1.5 standard drinks/day:

- 6.8 ounces wine
- 2 bottles beer
- 1 bottle high gravity beer
- 2 ounces spirits
- 5 ounces sherry or port

Red wine is best

Omega-3

- Fish Oil (1-2,000mg of DHA + EPA, EPA should be at least 60% of total)
- Salmon (10 oz/week farm-raised)
- Trout, herring, caviar, anchovies, mussels, Albacore (white) tuna, anchovy
- Walnuts, flax seed, edamame, kiwi

Risks: Bleeding if taken before surgery

Turmeric

MENTAL BENEFITS

- Depression: 1,000mg daily with curcumin BCM-95
  6 controlled trials; in one it was equal to fluoxetine (Prozac)
- Particularly for middle-age and older adults
- Cognition
- May prevent dementia

PHYSICAL BENEFITS

- Arthritis
- Anti-inflammatory
- Anti-cancer
- Diabetes, high cholesterol
- **RISKS: Kidney stones**

1 teaspoon a day in young adult study

Cinnamon

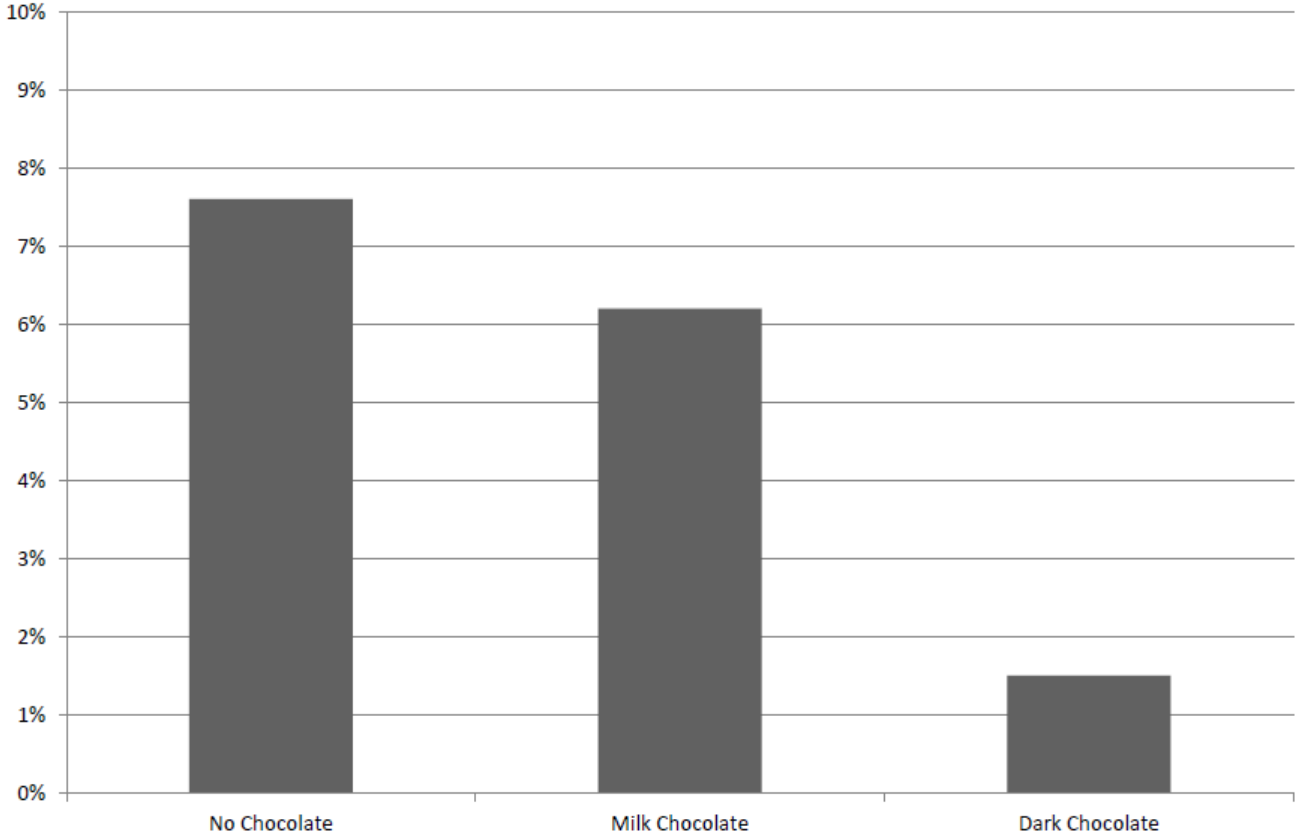
- Protects the brain's memory center (hippocampus) and may improve cognition
- Improves diabetes, cholesterol
- Dose 1/8 to 1.5 teaspoon daily
- Ceylon cinnamon safer than the more common Cassia type (for liver)

1 teaspoon a day in young adult study

Dark Chocolate

- Brain and heart benefits for a few ounces per day of at least 70% cocoa
- May prevent diabetes, weight gain, and improve cholesterol
- CocoaVia, a flavanol extract of dark chocolate, improved age-related memory loss (by 30 years) and protected hippocampal cells (dose 900mg daily, equal to 8 bars of dark chocolate per day)

Risk of Depression by Chocolate Intake



Based on cross-sectional study of 13,000 adults

Average intake: ½ ounce of > 45% cocoa

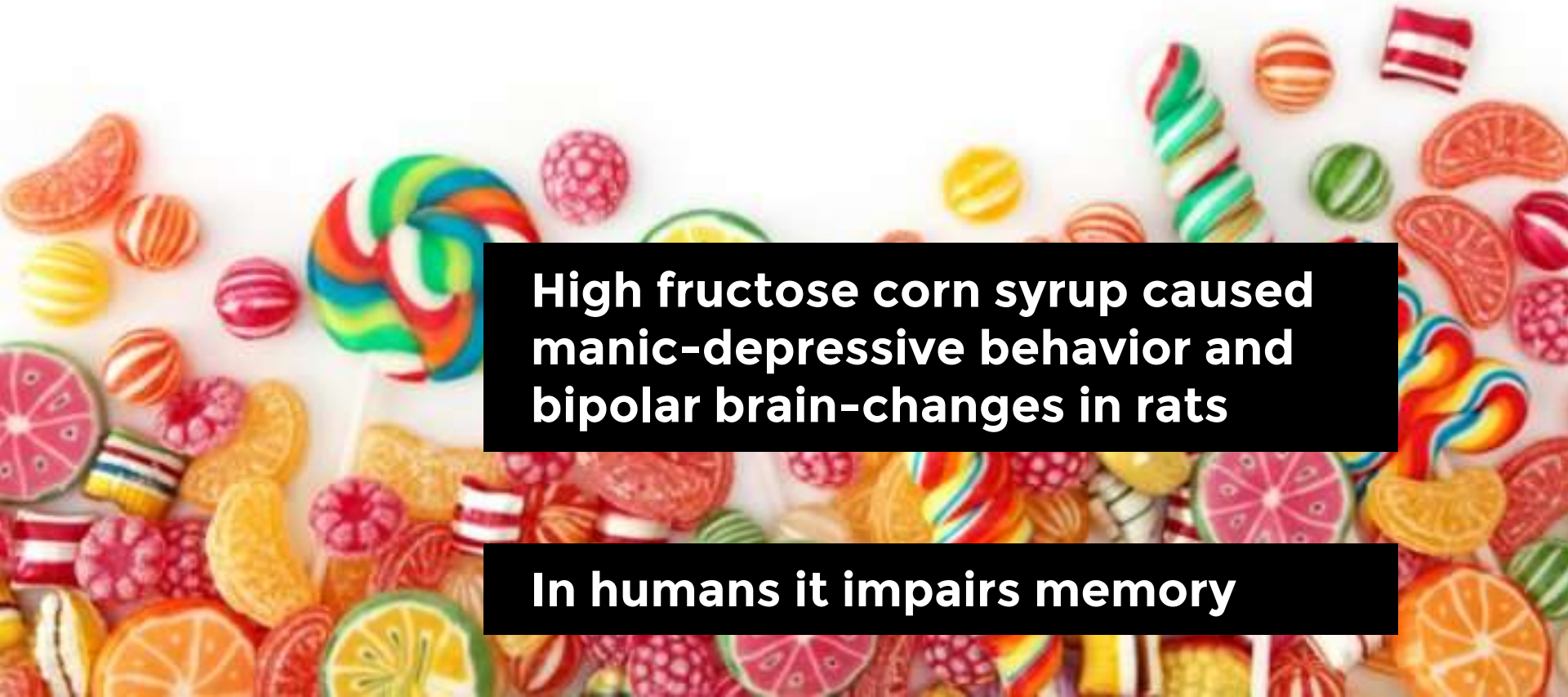
Controlled for physical activity, smoking, alcohol, and total sugar and caloric intake, gender, marital status, education, income, weight, and presence of chronic medical problems.

Jackson SE et al, 2019

Probiotics

- Improved anxiety, depression, cognition, mania in dozens of studies, but only about half are positive
- Also aid weight loss, irritable bowel syndrome, and fatty liver

Diet and Mania



High fructose corn syrup caused manic-depressive behavior and bipolar brain-changes in rats

In humans it impairs memory

Diet and Mania

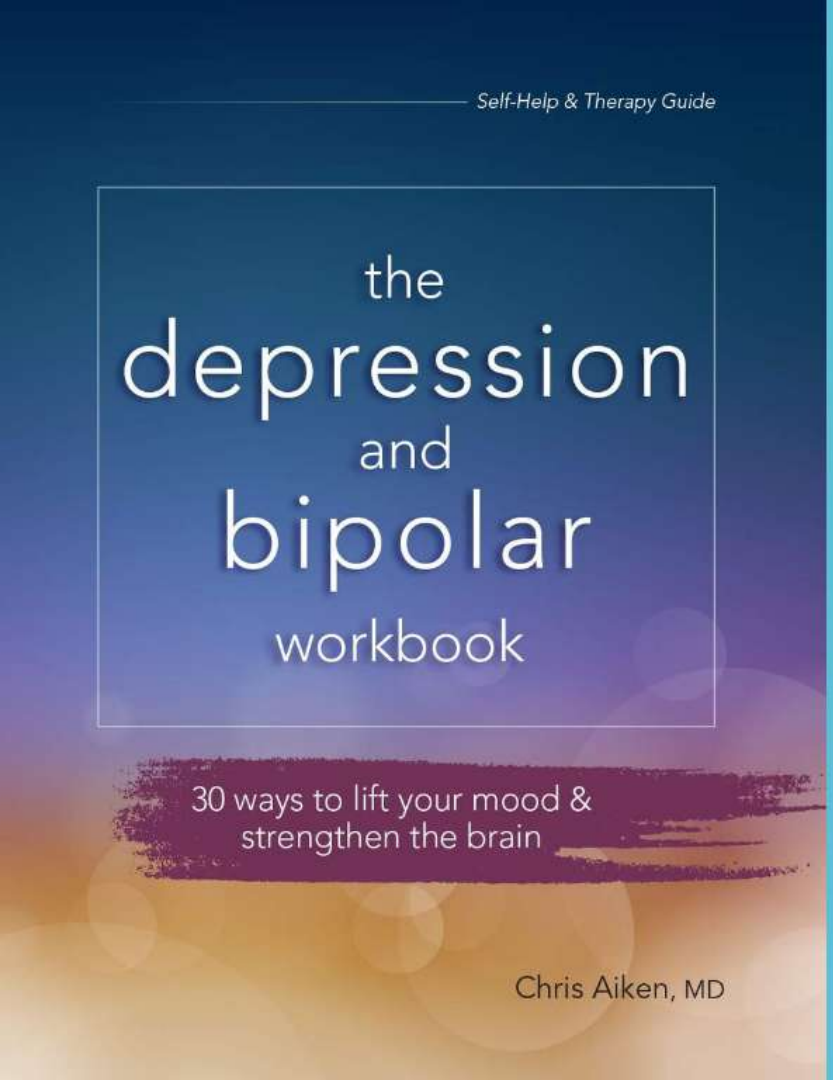
Beef jerky associated with 3-fold increase in mania in 2018. Animal studies pinned this down to nitrates in the meat that caused bipolar-like changes in the brain.

Unknown if bacon, hot dogs, and deli meats will do the same.

Cookbooks

- America's Test Kitchen. *The Complete Mediterranean Cookbook* (2016).
- Christy Ellingsworth and Murdoc Khaleghi M.D. *The Everything Guide to the MIND Diet* (2016)
- Maggie Moon, MS, RDN. *The MIND Diet* (2016)
- Rebecca Katz. *The Healthy Mind Cookbook* (2015)
- Leslie Korn. *The Good Mood Kitchen* (2017)

Free: moodtreatmentcenter.com/antidepressantcookbook.pdf



Read More

2020 book includes chapter on the antidepressant diet, along with 30 other ways to improve mood and sharpen cognition


Pandemic Panic
how to ride out the anxiety wave
April 16 2:00 pm Melissa Reed, LCSW
moodtreatmentcenter.com/webinars