Feed Your Mental Health

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Ramsey Disclosures

- Editorial Board, Medscape Psychiatry
- Advisory Board, Men’s Health Magazine
- Author
- I will not discuss the off-label use of any medications
17 Deep Conversations About Mental Health We Had in 2020

Each week, Men’s Health took to Instagram Live to find out how people coped during a difficult year. Here are a few of our favorite Friday Sessions.

BY VANNIA STONE AND CESARES D’ACQUISTO  PUBLISHED JANUARY 1, 2021
1. Besides a salad, I eat greens as _______.
2. My three favorite fiber foods?
3. I love to dip _____ in olive oil.
4. My Seafood meals this week will be ________.
5. This week I have eaten ________ CFUs.

Bonus: As an eater, I feel too much guilt about _____ and not enough JOY about________.
DREW RAMSEY

Eat Complete

Fifty Shades of Kale

Eat to Beat Depression and Anxiety

Nourish Your Way to Better Mental Health in Six Weeks
Can What We Eat Affect How We Feel?
Nutritional psychiatrists counsel patients on how better eating may be another tool in helping to ease depression and anxiety and may lead to better mental health.

By Richard Schiffman
March 28, 2019

Who Made That Kale?
Jens Mortensen for The New York Times
By Pagan Kennedy
Oct. 18, 2013

How Food May Improve Your Mood
The sugar-laden, high-fat foods we often crave when we are stressed or depressed, as comforting as they are, may be the least likely to benefit our mental health.

DREW RAMSEY MD
Father Robert Lyons
Rachel White, Sky Farmer
$1 TRILLION

- Lost productivity worldwide due to depression and anxiety
- #1 Worldwide Cause Disability
- US Depression economic burden increased 37.9% from 2010 → 2020

$236.6B → $326.2B


1 in 5 Adults in the U.S. experience mental illness each year
59% of adults with mental illness do not receive treatment.

75% of patients with depression in low and middle-income countries receive NO care.

Fewer than 50% of children with mental health conditions receive help.
POWER PLAYERS

- Red Peppers
- Red Beans
- Eggs
- Kefir
- Kale
- Cashews
- Pepitas
- Olive Oil
- Bivalves
- Dark Chocolate
- Avocado
- Wild Salmon
- Seaweed
- Anchovies
Your Brain & Food

➔ Consumes 420 calories/day
➔ 20% of daily calories
➔ Composed of 60% Fat
➔ PUFAs and Cholesterol
Nutritional Psychiatry

The use of nutrition to optimize brain health and to treat and prevent mental health disorders.
“Although the determinants of mental health are complex, the emerging and compelling evidence for nutrition as a crucial factor in the high prevalence and incidence of mental disorders suggests that diet is as important to psychiatry as it is to cardiology, endocrinology, and gastroenterology.”

DREW RAMSEY MD
“Nutritionism”

Vitamin B-12

DHA - Omega-3

DREW RAMSEY MD
Brain-Derived Neurotrophic Factor (BDNF)

- Promotes neuron development, function, and survival
- Most abundant neurotrophin
- BDNF & its TrkB receptor

Everywhere!

BRAIN GROW!
NEUROPLASTICITY

Your brain in GROW mode

THE HIPPOCAMPUS

A healthy diet full of nutrients and omega-3s can make the hippocampus grow

- this promotes:
  - learning
  - memory
  - heightened mood

is the brain’s memory center and it is also part of the human limbic, or emotional, system

Studies have found that this key region in the brain can shrink up to 20% in patients struggling with depression
Neuroinflammation
CAUSES OF INFLAMMATION

POOR DIET

CHRONIC STRESS

ENVIRONMENTAL TOXINS

SMOKING

SOCIAL ISOLATION

SLEEP DEPRIVATION

OBEITY

MICROBIOME PROBLEMS

LACK OF PHYSICAL ACTIVITY

High in:
- SUGAR & "fast carbs"
- omega-6 fatty acids & trans fats
- processed meats

Low in:
- fiber
- omega-3 fatty acids & seafood
- fruits & vegetables

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THE MICROBIOME

THE GUT-BRAIN AXIS

THE GUT

relies on

THE MICROBIOME

The microbiome helps the gut send important messages to the brain (feeling stressed, for example)

"Good bugs" help break down foods and help us synthesize vital nutrients like folate and thiamine

home to millions of neurons that can send messages to the nervous system

largest endocrine organ in mammals

very important for the immune system

trillions of microorganisms that live in the GI tract

One part of maintaining a healthy brain is having a lot of DIFFERENT types of "GOOD BUGS" in your GI tract
Dietary Change in last 100 years

- Whole Food to Processed
- Sugar and Refined Carbs
- Animal to Vegetable Fats
- Omega-3 to Omega-6 fats?
- New Molecules: Food Dyes, Preservatives, Trans-fats
“The estimated per capita consumption of soybean oil increased >1000-fold from 1909 to 1999. The availability of linoleic acid (LA) increased from 2.79% to 7.21% of energy ($P < 0.000001$).”
The Rise of Vegetable Oils

Omega-3 – Omega-6

1 - 40

1 - 39
The Mediterranean Diet
Does Good Food = Good Mood?

Table 2. Association Between Adherence to the Mediterranean Dietary Pattern and Risk of Depression

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adherence to the Mediterranean Dietary Pattern Score (Median Score)</th>
<th>P Value for Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-2 (2)</td>
<td>3 (3)</td>
</tr>
<tr>
<td>No. of cases per person-years</td>
<td>126/8866</td>
<td>91/8253</td>
</tr>
<tr>
<td>Crude rates per 10^3 (95% CI)</td>
<td>14.2 (11.8-16.9)</td>
<td>11.0 (8.9-13.5)</td>
</tr>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HR (95% CI)</td>
<td>1 [Reference]</td>
<td>0.74 (0.57-0.98)</td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of cases per person-years</td>
<td>67/8748</td>
<td>48/8167</td>
</tr>
<tr>
<td>HR (95% CI)</td>
<td>1 [Reference]</td>
<td>0.73 (0.50-1.06)</td>
</tr>
<tr>
<td>Model 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of cases per person-years</td>
<td>86/8726</td>
<td>65/8155</td>
</tr>
<tr>
<td>HR (95% CI)</td>
<td>1 [Reference]</td>
<td>0.79 (0.57-1.09)</td>
</tr>
</tbody>
</table>

Model 1: sex, age, smoking status, BMI, physical activity, energy intake, employment
Model 2: Excluded Participants w/depression dx in first 2 years
Model 3: Excluded Participants with antidepressant on f/u, No DX

Sánchez-Villegas A et al. Arch of Gen Psychiatry 2009
Does Dietary Pattern Influence Depression Risk?

18.2%
1. Follow ‘traditional’ dietary patterns, such as the Mediterranean, Norwegian, or Japanese diet
2. Increase consumption of fruits, vegetables, legumes, wholegrain cereals, nuts, and seeds
3. Include a high consumption of foods rich in omega-3 polyunsaturated fatty acids
4. Replace unhealthy foods with wholesome nutritious foods
5. Limit your intake of processed-foods, ‘fast’ foods, commercial bakery goods, and sweets.
A randomised controlled trial of dietary improvement for adults with major depression (the 'SMILES' trial)

Felice N. Jacka, Adrienne O'Neil, Rachelle Opie, Catherine Itsiopoulos, Sue Cotton, Mohammedreza Mohebbi, David Castle, Sarah Dash, Cathrine Mihalopulos, Mary Lou Chatterton, Laima Brazionis, Olivia M. Dean, Allison M. Hodge and Michael Berk

BMC Medicine 2017 15:23
https://doi.org/10.1186/s12916-017-0791-y © The Author(s), 2017
Received: 31 August 2016 | Accepted: 11 January 2017 | Published: 30 January 2017
SMILES

- 12-week, parallel-group, single blind, RCT
- Adjunctive dietary intervention vs. social support “befriending” protocol
- 7 individual nutritional consulting sessions clinical dietician.
- N = 67 (diet intervention, n = 33; control, n = 34).
- Remission (MADRS score <10) 32.3% (n = 10) intervention and 8.0% (n = 2) controls respectively
- Number needed to treat (NNT) based on remission scores was 4.1 (95% CI of NNT 2.3–27.8).
A Mediterranean-style dietary intervention supplemented with fish oil improves diet quality and mental health in people with depression: A randomized controlled trial (HELFIMED)

Natalie Parletta, Dorota Zarnowiecki, Jihyun Cho, Amy Wilson, Svetlana Bogomolova, Anthony Villani, Catherine Itsiopoulos, Theo Niyonsenga, Sarah Blunden, Barbara Meyer, Leonie Segal, Bernhard T. Baune & Kerin O’Dea

- N = 152
- MedDiet cooking workshops for 3 months + low-dose fish oil 6 months vs. social groups for 3 months
- Depression scores improved by:
  - 45% in the MedDiet
  - 26.8% in the Social group.
- Changes sustained at 6 months.
N = 1025

12-month follow-up, 105 (10%) developed MDD:

- 25 (9.7%) in placebo without therapy,
- 26 (10.2%) in placebo with therapy,
- 32 (12.5%) in supplement without therapy
- 22 (8.6%) in supplement with therapy group.

None of the treatment strategies affected MDD onset.
“These results are the first to show that young adults with elevated depression symptoms can engage in and adhere to a diet intervention, and that this can reduce symptoms of depression.”
These results are the first to show that young adults with elevated depression symptoms can engage in and adhere to a diet intervention, and that this can reduce symptoms of depression.
The effect of a Mediterranean diet on the symptoms of depression in young males (the "AMMEND: A Mediterranean Diet in MEN with Depression" study): a randomized controlled trial

Jessica Bayes 1, Janet Schloss 2, David Sibbritt 1

100% of men have decreased symptoms
36% of men reach full remission
8 point improvement MEDAS → 20 point decrease in BD-II

Plants That They Like
Olive Oil - 3 Tablespoons
LEGUMES!
Mechanisms

1. Nutrient deficiency/Insufficiency
2. Neuroplasticity and BDNF
3. Inflammation
4. Microbiome
5. Plants and phytonutrients
6. Toxic Diet Effects – *trans*-fats, food dyes, increased medication load
7. Foodcebo Effect
8. Food Connection/Community
9. Empowerment/Self-Care
The Brain Food Clinic
Feed Your Mental Health

• What is a Brain Food?
• Nutrient Density
• Dietary Patterns
• Neuroplasticity
• FOOD not supplements

TARGETS
• Mood, Memory, Focus, Energy, Sleep, Cognitive Function
“Let’s talk about what you eat.”

NUTRITIONAL PSYCHIATRY ASSESSMENT
A Day in the Life of an Eater

What’s the Dietary Pattern?

Relationship with Food?

Avoid Diet Dogma in Clinical Practice!

High Yield Foods and Food Categories
Plants, Seafood, Meat, Snacks

MOTIVATIONS
Diagnosis, weight, internal or external?

FOOD SKILLS
COSA Cooking, Organizing, Sourcing, Access

SMART GOALS - Specific, Measurable, Achievable, Realistic and Timely
“I Eat a Healthy Diet.....”

Count Calories
Avoid Cholesterol
Avoid Fat
No Red Meat
2 Glasses Red Wine
Day 1
- Breakfast: 1 plain bagel
- Lunch: Ham sandwich on a plain hero
- Snack: 1 package of freeze dried ice cream
- Dinner: 3 pulled pork tacos with corn salsa

Day 2
- Breakfast: 3 scrambled eggs blueberry toast with avocado
- Lunch: 2 servings of penne arrabbiata
- Snack: 2 cranberry & white chocolate cookies
- Dinner: Roasted pork with corn & white rice

Day 3
- Breakfast: Scrambled egg whites with 2 English muffins
- Lunch: 1 slice of cheese pizza
- Snack: Sour gummy candy
- Dinner: Roasted pork & potatoes
<table>
<thead>
<tr>
<th>All-Fruit Smoothie</th>
<th>French Fries</th>
<th>Oven-baked sweet potato fries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit, Veggie &amp; Nut Smoothie</td>
<td>Cheese Dip</td>
<td>Guacamole</td>
</tr>
<tr>
<td>Muffin</td>
<td>Whole grain muffin with nuts, seeds and berries</td>
<td>Cheese Dip</td>
</tr>
<tr>
<td>Beef Burger</td>
<td>Salmon Burger</td>
<td>Banana ice cream or Greek yogurt with berries</td>
</tr>
<tr>
<td>Chicken Burrito</td>
<td>Fish Taco</td>
<td>Herbal tea, seltzer with lemon or lime, kombucha</td>
</tr>
<tr>
<td>Steak &amp; Potatoes</td>
<td>Beef &amp; Vegetable Stew</td>
<td>Dark chocolate, dried fruit</td>
</tr>
<tr>
<td>Pasta w/Cream Sauce</td>
<td>Spirilized zucchini with tomato sauce</td>
<td>Kale chips or cruditès</td>
</tr>
</tbody>
</table>
Brain Food Nutrients

- Omega-3s
- Folates
- Fiber
- Vitamin B12
- Vitamin D
- Vitamin B1 (thiamine)
- Magnesium
- Calcium
- Vitamin E (Tocopherols & Tocotrienols)

- Choline
- Iron
- Zinc
RESEARCH QUESTION

→ What are the most nutrient dense foods to prevent and promote recovery from depressive disorders?
The Antidepressant Food Scale

B1 + B6 + B9 + B12 + LC-PUFA + Fe + Zn
+K + Mg + Vit A + Vit C + Selenium

100 Calories
### Top Plant Foods

1. Watercress  
2. Spinach  
3. Mustard, Turnip, or Beet Greens  
4. Lettuces (red, green, romaine)  
5. Swiss Chard  
6. Fresh Herbs (basil, cilantro, parsley)  
7. Chicory Greens  
8. Pummelo  
9. Peppers (bell, serrano, jalapeno)  
10. Kale or Collards  
11. Pumpkin  
12. Dandelion Greens  
13. Cauliflower  
14. Kohlrabi  
15. Red Cabbage  
16. Broccoli  
17. Brussels Sprouts  
18. Acerola  
19. Butternut Squash  
20. Papaya

### Top Animal Foods

1. Oysters  
2. Liver and Organ Meats (spleen, kidney, heart)  
3. Poultry Giblets  
4. Clam  
5. Mussels  
6. Octopus  
7. Crab  
8. Goat  
9. Tuna  
10. Smelt  
11. Fish Roe  
12. Bluefish or Wolffish  
13. Pollock  
14. Lobster  
15. Rainbow Trout  
16. Snail or Whelk  
17. Salmon  
18. Herring  
19. Emu  
20. Snapper
**ZINC**
- Pumpkin Seeds (1/4 cup): 31%
- Oysters (3): 413%
- Ground Turkey (3 oz): 23%
- Steak (5 oz): 175%
- Sesame Seeds (3/4 cup): 34%

**MAGNESIUM**
- Almonds (1 oz): 235%
- Spinach (1/2 cup): 144%
- Cashews (1 oz): 233%
- Black Beans (1/2 cup): 179%
- Soybeans (1/2 cup): 15%

**B12**
- Clams (3 oz): 1401%
- Beef Liver (3 oz): 1173%
- Mussels (3 oz): 833%
- Sardines (3): 338%
- Crab (3 oz): 127%

**FIBER**
- Navy Beans (1 cup): 76%
- Lentils (1 cup): 63%
- Tempeh (1 cup): 48%
- Raspberries (1 cup): 32%
- Collard Greens (1 cup): 30%

**IRON**
- Pumpkin Seeds (1/4 cup): 47%
- Oysters (3 oz): 44%
- Dark Chocolate (3 oz): 38%
- Sesame Seeds (1/4 cup): 29%
- Spinach (1/2 cup): 17%

**OMEGAS3s**
- Wild Salmon (3 oz): 2172 mg
- Anchovies (3 oz): 1776 mg
- Sardines (3 oz): 1342 mg
- Tuna (3 oz): 836 mg
- Oysters (3 oz): 511 mg

**GOOD BUGS**
The number of healthy bacteria in a fermented food is quantified by CFUs (colony forming units). All these foods are rich in live cultures.
- Kefir
- Sauerkraut
- Yogurt
- Kombucha
- Kimchi

**PHYTONUTRIENTS**
- Red Peppers: Lycopene
- Sweet Potato: Carotenoids
- Broccoli: Sulforaphanes
- Blueberries: Anthocyanins
- Onions: Quercitin
Top Iron Foods (per 100 grams)

- 28mg (155%)
- 23 mg (129%)
- 15mg (83%)
- 6.1mg (34%)
17mg (97%)
Controlled randomized trial of 50–69-year-old subjects who consumed either a high or low cocoa flavanol-containing diet for 3 months. A high-flavanol intervention was found to enhance DG function, as measured by fMRI and by cognitive testing.
Survival of the Fattest
6 Oysters

Zinc 509%
Iron 31%
B12 245%
Selenium 76%
LC-Omega-3 565mg
What’s the perfect fish?
# High Omega-3/Low Mercury Fish

<table>
<thead>
<tr>
<th>Variety of Fish</th>
<th>Milligrams of EPA and DHA Per 4 Ounces of Cooked Fish</th>
<th>Micrograms of Mercury Per 4 Ounces of Cooked Fish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mackerel*</td>
<td>1,350 – 2,100</td>
<td>8 – 13</td>
</tr>
<tr>
<td>Shad</td>
<td>2,300 – 2,400</td>
<td>5 – 10</td>
</tr>
<tr>
<td>Oysters</td>
<td>1,550</td>
<td>2</td>
</tr>
<tr>
<td>Salmon</td>
<td>2700 – 3500</td>
<td>2</td>
</tr>
<tr>
<td>Herring</td>
<td>2,300 – 2,400</td>
<td>5 – 10</td>
</tr>
<tr>
<td>Sardines</td>
<td>1,100 – 1,600</td>
<td>2</td>
</tr>
<tr>
<td>Anchovies</td>
<td>2,300 – 2,400</td>
<td>5 – 10</td>
</tr>
<tr>
<td>Rainbow Trout</td>
<td>1,000 – 1,100</td>
<td>11</td>
</tr>
</tbody>
</table>

*Avoid king mackerel – high mercury content

Adapted from Dietary Guidelines for Americans 2010 USDA & HHS
THREE DAY SALE
APRIL 18-20
Wild-Caught
Coho
Salmon Fillet
Product of USA
Previously frozen
SOLVE
$8
$9.99
LB
Reg. 17.99 lb
No rain checks. While supplies last.
Kale
The Rule of Kale

BRAIN FOOD =

Nutrient Density
Culinary Versatility
Local Availability
Leafy Greens: Practical Advice

- Massage thicker greens (kale) before eating raw
- Experiment - many options, find ones you like
- Meal Prep: Sauté leafy greens in the beginning of the week
- Add a handful of leafy greens to every meal (eggs, smoothies)
- The Pasta Trick
- Organic matters
- Pesto
- Beet Greens
23 Almonds 162 Kcals
25% off!

Vitamin E  37%
Manganese  37%
Magnesium  20%
Protein    6 grams

Nuts & Seeds
Beans & Legumes

1 Cup Lentils = 230 cals
Folate 90%
Fiber 67%
Iron 37%
Protein 18 grams
The Flavonoids

<table>
<thead>
<tr>
<th>Type</th>
<th>Examples</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthocyanins</td>
<td>Cyanidin, Pelargonidin</td>
<td>Berries, blueberries, blackberries, blood orange</td>
</tr>
<tr>
<td>Flavonols</td>
<td>Quercetin, Kaempferol</td>
<td>Onion, broccoli, tea, apples</td>
</tr>
<tr>
<td>Flavones</td>
<td>Apigenin, Luteolin</td>
<td>Celery, parsley, tangerines</td>
</tr>
<tr>
<td>Flavanols</td>
<td>Epicatechins, Procyanidins</td>
<td>Cocoa, green tea, tangerines, red wine</td>
</tr>
<tr>
<td>Flavanones</td>
<td>Hesperetin, Naringenin</td>
<td>Citrus fruits</td>
</tr>
<tr>
<td>Isoflavones</td>
<td>Daidzein, Genistein, Glycitein</td>
<td>Soy beans, fermented soy products</td>
</tr>
</tbody>
</table>
Rainbow Colors = Phytonutrients
Six Servings Per Day?!
Gut-microbiota-targeted diets modulate human immune status

Hannah C. Wastyk 7 • Gabriela K. Fragiadakis 7 • Dalia Perelman

High fiber diet

Increased microbiome function (CAZymes, SCFAs)

Personalized immune responses

Increased microbiome function

Baseline microbiota diversity

Inflammation change

High fermented food diet

Increased microbiome diversity

Decreased inflammatory signals and activity

DREW RAMSEY MD
Adjunctive probiotic microorganisms to prevent rehospitalization in patients with acute mania: A randomized controlled trial

Faith Dickerson, Maria Adamos, Emily Katsafanas, Sunil Khushalani, Andrea Origoni, Christina Savage, Lucy Schweinfurth, Cassie Stallings, Kevin Sweeney, Joshana Goga, Robert H Yolken

First published: 25 April 2018 | https://doi.org/10.1111/bdi.12652 | Cited by: 8

Prebiotics and probiotics for depression and anxiety: A systematic review and meta-analysis of controlled clinical trials.
Liu RT, Walsh RFL, Sheehan AE

A meta-analysis of the use of probiotics to alleviate depressive symptoms
Qin Xiang Ng, Christina Peters, Collin Yih Xian Ho, Donovan Yutong Lim, Wee-Song Yeo
MENTAL FITNESS KITCHEN

DREW RAMSEY MD

The Mental Fitness Kitchen gives people tools to support their mental health while fostering community. We know the impact that food can have on our wellbeing and have seen from numerous studies that learning these hands-on skills and putting them into practice in a connection with one another can greatly impact mental health, and can reduce symptoms of depression. When we get together in the kitchen and cook, it is nourishing on multiple levels.

Click to learn more
Can you eat to grow a better brain?

- BRAIN GROW!
- Dietary pattern and Nutrient Density
- Neuroplasticity and Inflammation
- Colors – Fats – Fun
- Don’t be scared of fish! Remember Clams!
- Whole Foods, “Traditional” or Medi
  Protective for Depression, Anxiety, ADHD & Dementia?
- Learn from History
- Put the Genie Back in the Bottle
1. Besides a salad, I eat greens as ______.
2. My three favorite fiber foods?
3. I love to dip ______ in olive oil.
4. My Seafood meals this week will be ________.
5. This week I have eaten ________ CFUs.
Bonus: As an eater, I feel too much guilt about ______ and not enough JOY about________.
Feed Your Mental Health!
The Brain Food Clinic
New **Healing The Modern Brain** ecourse
Nutritional Psychiatry Clinician Training
DrewRamseyMD.com
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