

BRAIN FOOD: A NUTRITION EDUCATION PROGRAM FOR ADULTS 60 AND OLDER

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PROBLEM

Aging is correlated with a risk for cognitive impairment



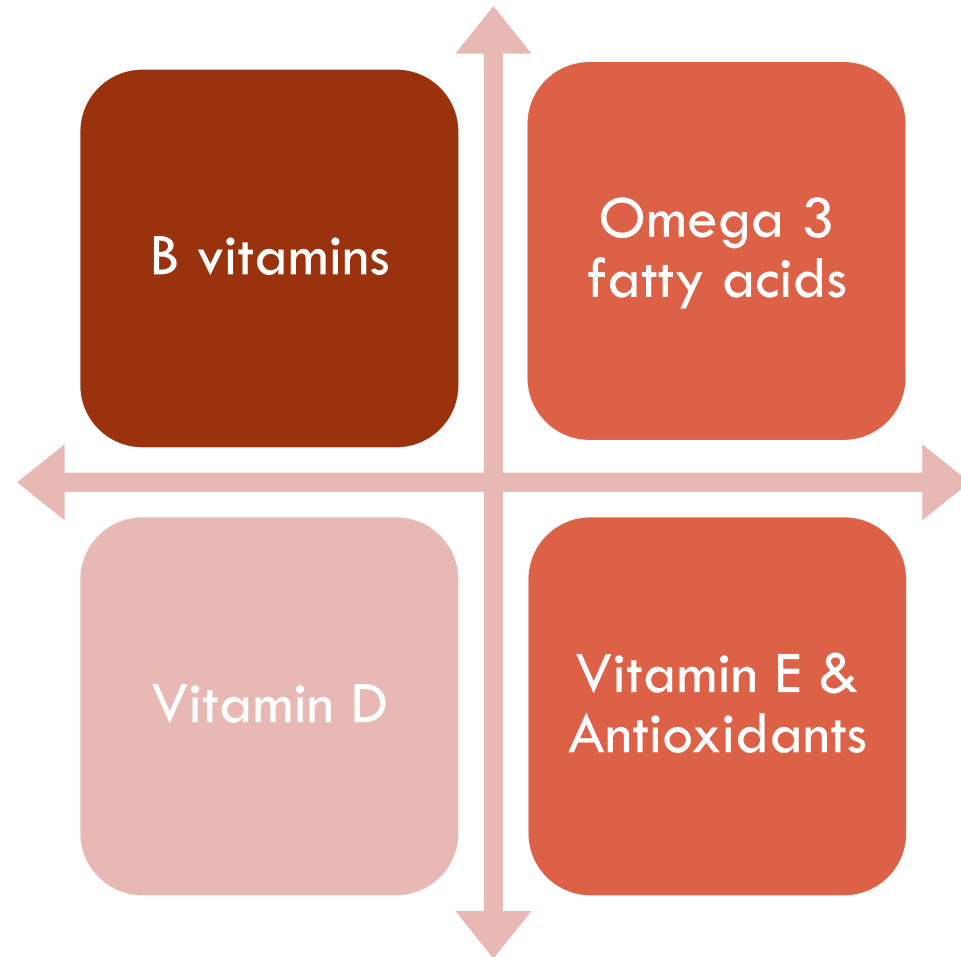
Alzheimer's disease and dementia effects millions of Americans over age 70



Diet is a modifiable risk factor that can help prevent dementia and Alzheimer's disease



ROLE OF NUTRITION IN COGNITIVE FUNCTION












Clinical trials show mixed results when nutrients are looked at in isolation

Food over supplementation

“Evidence clearly suggests that a healthy diet can protect against cognitive decline and the development of dementia” (Tucker, 2016).

DIET MATTERS

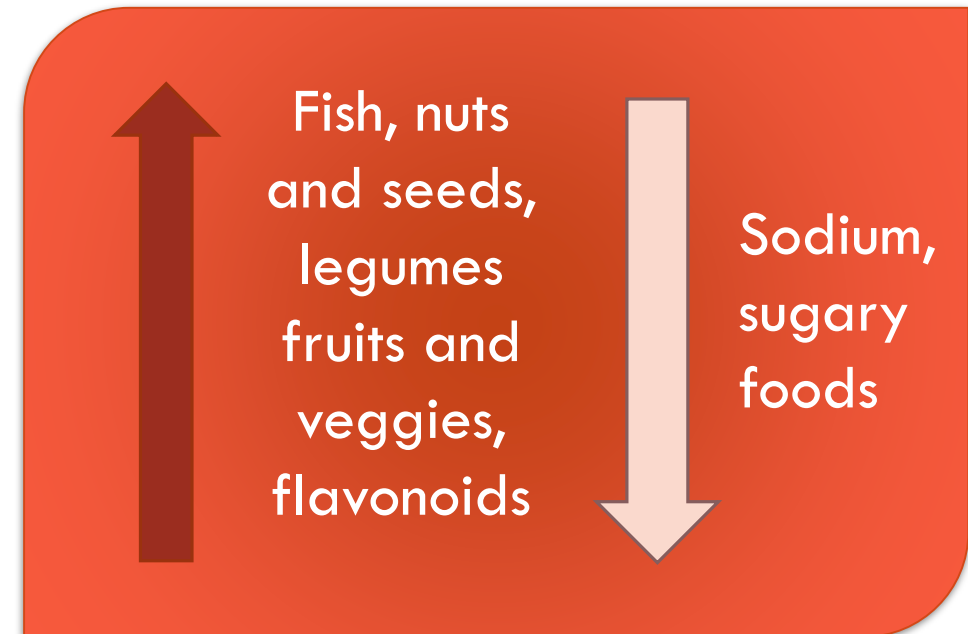
<p>WHOLE GRAINS: 21</p>  <p>Packed with fiber to fuel a productive brain. Aim for 3 servings a day.</p>	<p>BERRIES: 2</p>  <p>Thanks to their flavonols, they're the only fruit that can slow brain decline.</p>	<p>BEANS: 3</p>  <p>Plenty of fiber, plus low-fat protein for growing brain cells.</p>
<p>LEAFY GREENS: 6</p>  <p>Full of antioxidants and carotenoids to protect gray matter.</p>	<p>POULTRY: 2</p>  <p>Delivering dementia-preventing B vitamins and low-fat protein.</p>	<p>NUTS: 5</p>  <p>Rich in vitamin E, which has been shown to lower risk of Alzheimer's.</p>
<p>OTHER VEG: 7</p>  <p>Packed with plant-based antioxidant power.</p>	<p>FISH: 1</p>  <p>Rich in brain-cell-fortifying omega-3 fatty acids.</p>	<p>WINE: 7</p>  <p>Alcohol reduces dementia risk. Stick to 1 glass a day.</p>

**And use olive oil for cooking and dressings, for its memory-protecting polyphenols.*

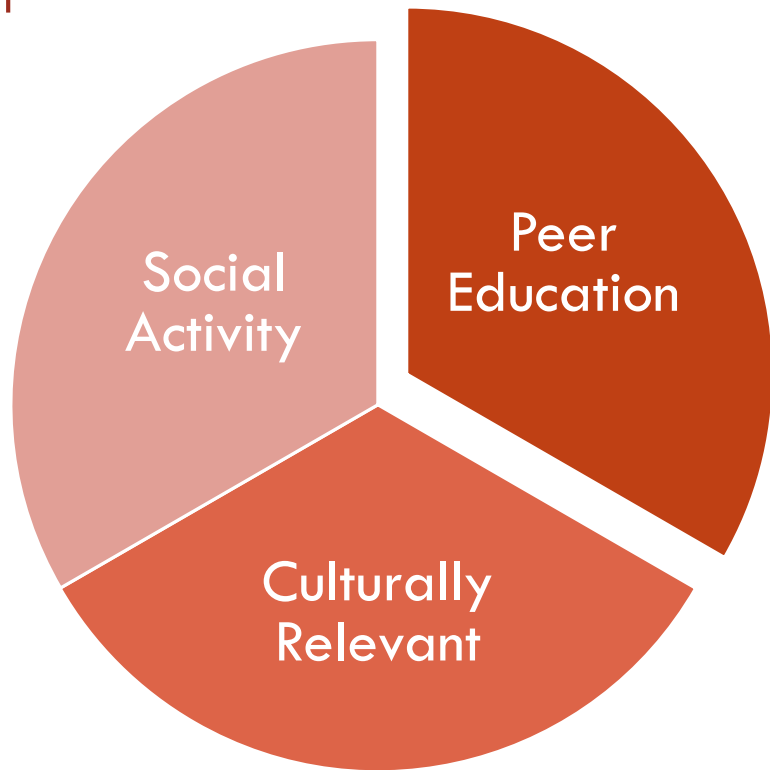
KEEP THESE
FOODS TO A
MINIMUM

Red meat: 4 times a week or less
Fast food, fried food, and cheese: less than once a week
Butter or margarine: fewer than 7 tablespoons a week
Pastries or sweets: less than 5 times a week

Mediterranean Diet + DASH Diet =
MIND Diet



BRAIN FOOD NUTRITION PROGRAM VALUES



BRAIN FOOD is a peer – educator based nutrition education program for adults aged over 60 years that encourages adoption of the MIND diet.

Weekly sessions focused on cooking, eating healthy on a budget and health education.

HYPOTHESIS

Adults aged 60 and older who participate in the **BRAIN FOOD** program at a city funded senior center will show an improvement in cognitive function and demonstrate adherence to the MIND Diet over the course of six months.



STUDY LOCATION



**Department for
the Aging**

The **Department for the Aging (DFTA)** funds nearly 250 senior centers and dozens of affiliated sites through community partnerships in every borough. Senior center membership is free and open to anyone age 60 or older.

BRAIN FOOD will take place at a DFTA funded senior center in NYC

PEER EDUCATOR RECRUITMENT



SELECT top-notch peer educators based on recommendations from the center staff.

TRAIN THE TRAINER

PREPARE peer educators for program launch by developing training modules and ultimately conducting ~ 3 sessions/week for four weeks.

- ❖ MIND Diet essentials: Why and How
- ❖ Public speaking/tech/administrative skills
- ❖ Cooking classes: recipe practice, kitchen safety

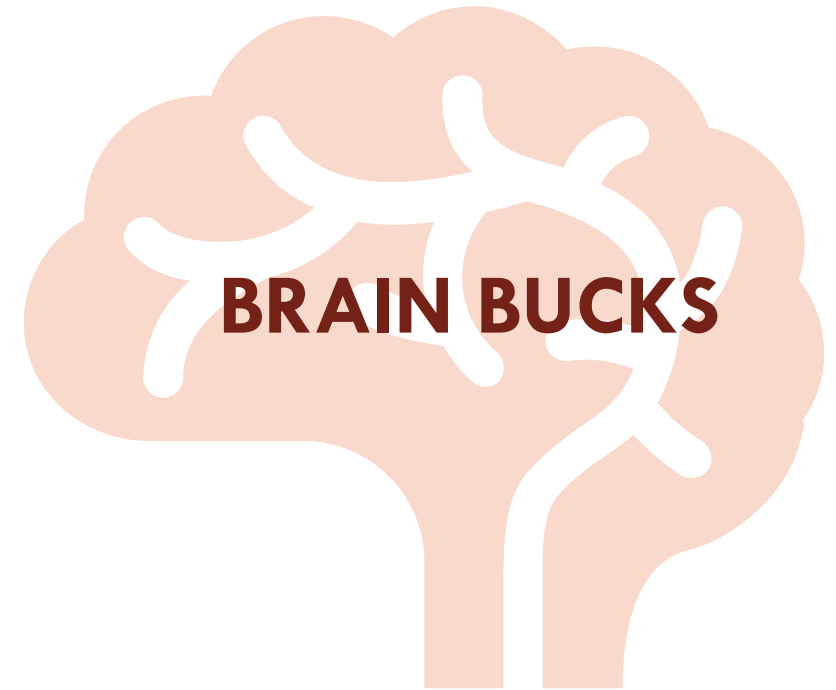


PARTICIPANT SELECTION

Inclusion Criteria

- ❖ Aged 60 and over
- ❖ Able to eat solid foods
- ❖ No medically important dietary restrictions
- ❖ Willingness to try new foods
- ❖ Attends the Center 3-5 days/week
- ❖ Available for six months

N= 25



Incentive

OUTCOMES: BRAIN HEALTH


❖ 0-30 scale that measures dementia

❖ Registration (repeating named prompts), attention and calculation, recall, language, orientation, and ability to follow simple commands

Mini-Mental State Examination (MMSE)

Patient's Name: _____ Date: _____

Instructions: Ask the questions in the order listed. Score one point for each correct response within each question or activity.

Maximum Score	Patient's Score	Questions
5		"What is the year? Season? Date? Day of the week? Month?"
5		"Where are we now: State? County? Town/city? Hospital? Floor?"
3		The examiner names three unrelated objects clearly and slowly, then asks the patient to name all three of them. The patient's response is used for scoring. The examiner repeats them until patient learns all of them, if possible. Number of trials: _____
5		"I would like you to count backward from 100 by sevens." (93, 86, 79, 72, 65, ...) Stop after five answers. Alternative: "Spell WORLD backwards." (D-L-R-O-W)
3		"Earlier I told you the names of three things. Can you tell me what those were?"
2		Show the patient two simple objects, such as a wristwatch and a pencil, and ask the patient to name them.
1		"Repeat the phrase: 'No ifs, ands, or buts.'"
3		"Take the paper in your right hand, fold it in half, and put it on the floor." (The examiner gives the patient a piece of blank paper.)
1		"Please read this and do what it says." (Written instruction is "Close your eyes.")
1		"Make up and write a sentence about anything." (This sentence must contain a noun and a verb.)
1		"Please copy this picture." (The examiner gives the patient a blank piece of paper and asks him/her to draw the symbol below. All 10 angles must be present and two must intersect.) 
30		TOTAL

(Adapted from Rovner & Folstein, 1987)

OUTCOMES: DIETARY ANALYSIS



These are beans

How many times this week did you eat beans?

How much do you like bean? Circle one:

HATE it! It's ok LOVE it!

Depends on how they are prepared

The MIND Diet

Mediterranean-DASH diet Intervention for Neurodegenerative Delay

WHAT TO EAT

Every day	<ul style="list-style-type: none">• 3 servings of whole grains• 1 serving of vegetables• 1 glass of wine (5 oz)
Most days	<ul style="list-style-type: none">• Leafy green vegetables (6x)• Nuts (5x)
Every other day	<ul style="list-style-type: none">• Beans (3x)
Twice a week	<ul style="list-style-type: none">• Poultry• Berries
Once a week	<ul style="list-style-type: none">• Fish

WHAT TO LIMIT

Less than 1 T. a day	<ul style="list-style-type: none">• Butter and stick margarine
Less than 5x/week	<ul style="list-style-type: none">• Pastries and sweets
Less than 4x/week	<ul style="list-style-type: none">• Red meat
Less than 1x/week	<ul style="list-style-type: none">• Whole-fat cheese• Fried fast food

CONCLUSION

Limitations

- ❖ Self report data
- ❖ Lack of control group
- ❖ Supplementation
- ❖ MMSE score

Future Studies

- ❖ Food would be provided by kitchen staff
- ❖ Control group
- ❖ Exclude supplement users/take baseline serum values
- ❖ Longer term, larger population
- ❖ Brain games and physical activity