




The Impact of Nutrition on Residents' Mental Health

Doing Group Purchasing Differently



1




Speaker

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Incite Strategic Partners

Academy of Nutrition & Dietetics

Dietitian, NOT a psychologist



2



Objectives

- Be able to describe the gut-brain axis and its role in influencing mental health
- List three nutrients and their roles in supporting mental health
- Understand the ways that residents' mental health and emotional needs can be met via a senior living menu program


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Disclaimers

- Nutrition alone will not heal mental health conditions or stop them from occurring
- Nutrition is not a substitute for:
 - Medications
 - Counseling
 - Other supportive modalities
- Nutrition CAN be supportive of mental health
 - Healthy gut microbiome
 - Management of chronic disease/ pain
 - Supplying necessary/supportive nutrients
 - Enjoyment of foods

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Impacts of COVID-19 on Mental Health

- Social Isolation
- Loneliness
- Depression
- Anxiety
- Decreased Cognition
- Confusion (r/t face coverings)
- Those with Dementia experienced less depression, anxiety & loneliness
- Some enjoyed increased connection via technology
- Older adults display more resilience than younger people
- In future- how can we enhance the environment to better support mental health in residents?
- Can Nutrition play a role?

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GBA Basics

(Gut-Brain Axis)

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What is the GBA (Gut-Brain-Axis)

“[The] bidirectional communication between the central and the enteric nervous system, linking emotional and cognitive centers of the brain with peripheral intestinal functions.”

NIH, National Library of Medicine

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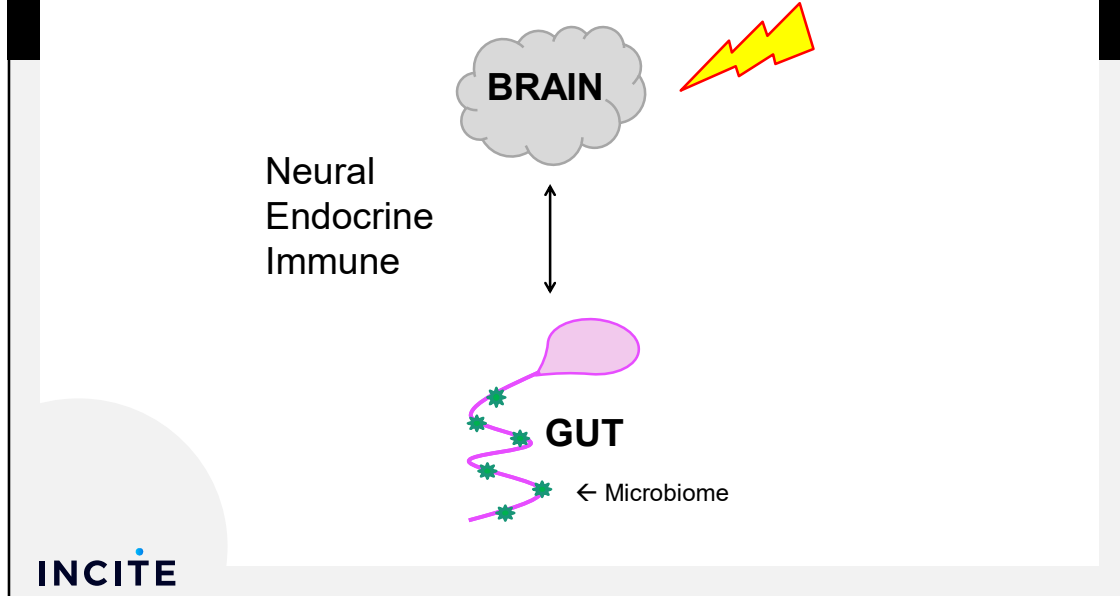
Definitions

- **GBA:** Gut-Brain Axis
- **CNS:** Central Nervous System
- **ENS:** Enteric Nervous System
- **HPA:** Hypothalamic Pituitary Adrenal Axis
 - Coordinates the response to stress
- **CRF:** Corticotropin-Releasing Factor
- **ACTH:** Adrenocorticotrophic Hormone
- **GMB:** Gut Microbiome
- **Dysbiosis:** Imbalance in the composition of the GMB

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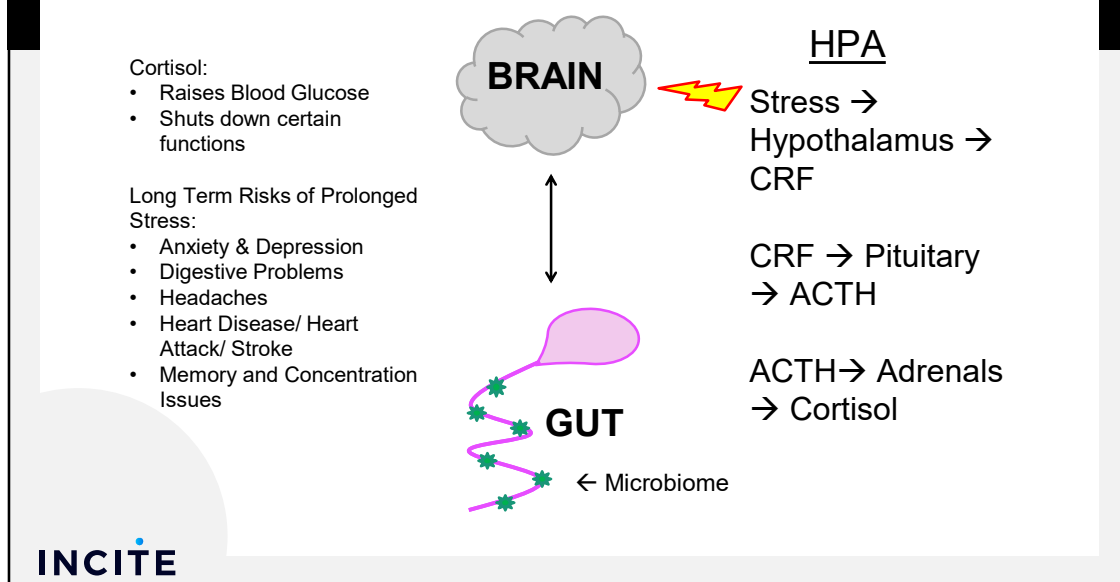
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What is the GBA (Gut-Brain-Axis)



9

What is the GBA (Gut-Brain-Axis)



10

The Microbiome

The Gut Microbiome:

- Over 1000 microbial species
- Nutrient metabolism & absorption
- Maintenance of physical gut epithelium
- Defense against pathogens
- Regulation of immune functions
- Production of neuroactive molecules
- Capable of transmitting signals to the CNS

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The Microbiome & Cognitive Function

GMB-Related Effects on Cognition

- Depletion & Recolonization of GMB
- Stress Exposure
- Prebiotic Supplementation
- Diet Composition

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Outcomes of Poor Gut Health

Mental Health / Cognitive Outcomes

- Higher rates of Depression
- Higher rates of Anxiety
- Increased risk of Suicidal Ideation
- Link to Increased risk of Alzheimer's

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Outcomes of Poor Gut Health

Links to other Chronic Diseases

- Digestive Diseases
- Heart Disease & Stroke
- Diabetes
- Inflammation
- Exacerbated Behaviors consistent with Autism Spectrum Disorders

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Mental Health + Seniors



15

“Depression
is not a
normal part
of aging”



16

Mental Health Stats

20% of people >55 years experience a mental health concern

Higher rates among those living in senior communities

National Institute of Mental Health sees depression in people 65+ to be a major public health issue

Suicide rates for people ages 80-84 are 2 x higher than the general public

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Prevalence of depression

	Minor depression, dysthymia, or depressive symptoms	Major depression
Community	Up to 26%	Up to 5%
Primary care	10%	6.5%
Hospital inpatient care	23%	11.5%
Home health care	8%	Up to 16%
Nursing homes	Up to 35%	Up to 15%

Samhsa.gov

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“Depression in later life is connected with frailty, a higher death rate, and poorer outcomes from physical illness”

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Risk Factors for Depression

- Medical Conditions
- Family History
- Stress / Caregiver Stress
- Social Isolation
- Loneliness
- Addiction
- Sleep Issues
- Lack of Physical Activity

Source: National Institute on Aging

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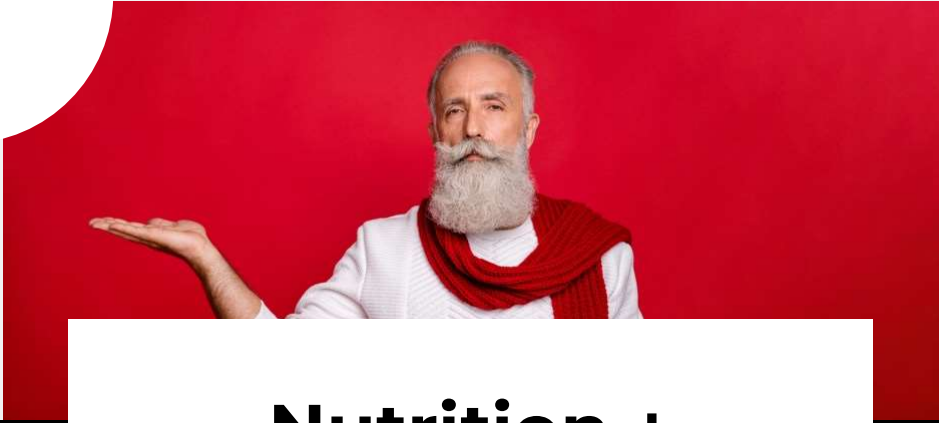
20



“Unhealthy food intake is found to be a modifiable risk factor for depression in elderly people”

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**Nutrition +
Mental Health**

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“Diet plays a major role in shaping the gut microbiota”



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Senior-Specific Concerns

- Digestion & Absorption
- Medication Interactions
- Food Preferences
- Reduced Appetite
- Limited Resources
- Physical Disability

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Meal Patterns & GMB

Detrimental to a Healthy GMB

- “Western” Diet
 - Higher rates of depression
 - Refined & heavily processed
 - High Sugar, High Fat
 - Lacking nutrients supportive of mental health

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Supportive Nutrients

- Dietary Fiber
 - Food for diverse beneficial microbes
 - Supports Short-Chain Fatty Acid production
- Omega-3 Fatty Acids
 - Decreases CRF expression
 - Increases serotonin metabolism
- Folic Acid
 - Precursor to SAMe, responsible for Methylation of neurotransmitters

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Supportive Nutrients

- Antioxidants
 - Polyphenols show greatest promise in those with highest cognitive impairment
- Prebiotics
 - Favor the growth of beneficial bacteria
 - Oligosaccharide CHO's
 - → SCFA → multiple beneficial health effects
 - Immune supporting
- Probiotics
 - Beneficial bacteria found in certain foods/ supplements
- Fermented Foods
 - Helps rebalance microbe species
 - More research is needed

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Supportive Nutrients – Disease Prevention

Nutrient	Gut/Brain	Heart Health	Cancer Prev.	Diabetes
Fiber	✓	✓	✓	✓
Omega-3's	✓	✓	✓	✓
Folic Acid	✓	✓	✓	✓
Antioxidants	✓	✓	✓	✓
Prebiotics	✓	✓	✓	✓
Probiotics*	✓	✓	✓	✓

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FOOD!

- Fruits & Vegetables
 - Red, Blue, Purple
 - Blueberry, Blackberry, Raspberry, Strawberry, Cherry
 - Eggplant, Purple Potatoes & Sweet Potatoes
 - Black Beans, Black Rice
- High Fiber
 - Beans, Nuts, Seeds, Cereal Grains,
- Omega 3's
 - Fatty Fish: Salmon, Herring, Sardine
 - Walnuts
 - Chia Seed
 - Flax Seed: Whole or Ground

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29

FOOD!

- Antioxidants
 - Plants!
 - Polyphenols
- Prebiotics
 - Asparagus, sugar beet, garlic, chicory, onion, Jerusalem artichoke, wheat, honey, banana, barley, tomato, rye, soybean, milk, peas, beans, etc
- Fermented Foods
 - Yogurt, kefir, cottage cheese, sour cream
 - Sauerkraut, curtido, kimchi, some pickles
 - Kombucha, tepache

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30

Meal Patterns & GMB

Supportive of a Healthy GMB

- High in Fruits, Vegetables, Whole Grains
- Fish, Nuts, Seeds
- Lower amounts of sugar
- Fat from healthful sources like Olive Oil, Canola or Avocado Oil

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Menu Programs

- Mediterranean-style and Traditional Diets
 - Latin Heritage
 - African Diaspora
 - Nordic
 - Japanese
- Blue Zones
 - Ikaria, Greece
 - Loma Linda, CA
 - Sardinia, Italy
 - Okinawa, Japan
 - Nicoya, Costa Rica
- Plant-based
- MIND (DASH + Med)

Common Foods & Flavors of the LATIN AMERICAN HERITAGE DIET		
*** eat most often	** eat moderately	* eat less often
Vegetables & Tubers *** cabbage, carrots, cassava, chard, chayote squash, chiles, eggplant, garlic, lima, kale, lettuce, mabe/corn, nopales (cactus), onion, okra, peppers, potatoes, squash, yams, yucca, zucchini	Grains *** arepas, amaranth, breads, maize/corn, pasta, quinoa, rice, tortillas	Nuts, Seeds, & Legumes *** almonds, Brazil nuts, beans (black, garbanzo, kidney, pinto), cashews, peanuts, pine (piñon) nuts, pecans, pumpkin seeds (pepitas)
Fruits *** aji, agave, avocados, bananas, breadfruit, cacao, camello (star apple), chirimoya (custard apple), cocónes, custard apples, grapefruit, guava, lemons, limes, mangoes, melons, oranges, papayas, passion fruit, pineapple, plantains, pomegranate, prickly pear, pumpkins, quince, sapote, sapodilla, sourop (guanabana), starfruit, sugarcane, tamarind, tangerines, tomatillos, tomatoes	Herbs & Spices *** chiles (aji, cayenne, jalapeño, guajillo, habanero, pasilla, poblano, Scotch bonnet, serrano), clove, cinnamon, epazote, garlic, oregano, parsley	Fish & Seafood ** abalone, clams, cod, conch, crab, crayfish, mussels, octopus, salmon, sea bass, scallops, shrimp, squid, whelk
	Poultry & Eggs ** chicken, duck, goose, guinea fowl, quail, squab, turkey chicken eggs, duck eggs, quail eggs	Meats * beef, goat, lamb, pork
	Cheese & Dairy ** añejo, cotija, Minas, queso fresco, Reggianito yogurt, crema, milk	Sweets * treats made with fruits, nuts, whole grains, and minimal sugars arroz con leche (rice pudding), churros, flan, custard, fruit smoothies and juices, helado (ice cream)

Oldways/Lang

OLDWAYS
 Institute for Traditional Nutrition

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Menu Programs

- Culturally Appropriate
- Honor Preferences
- Balance
- Meets Nutrition Requirements

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Menu Programs – Flavor Examples

FLAVORS & INGREDIENTS

Hispanic

- Chipotle
- Cilantro
- Chiles
- Masa
- Cumin
- Lime
- Hibiscus
- Pineapple
- Mango
- Plantains



*Images courtesy of
Gordon Food Service*

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“Proper nutrition has a positive effect of the prevention or reduction of depressive symptoms among elderly people”

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Factors Affecting Meal Enjoyment

Detractors

- Decreased appetite
- Sensory decline
- Poor gut function
- Poor dentition
- Decreased manual dexterity
- Loneliness
- Bereavement
- Lack of social connection
- Dislike of food
 - Quality
 - Variety
 - Texture
 - Flavor

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36

Factors Affecting Meal Enjoyment

Supporters

- Environment
- Adaptive devices & Assistance
- Good social company
- Food!
 - Higher Quality
 - Greater Variety
 - Flavor Enhancements
 - Texture Enhancements
 - Sauces

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Lifestyle

- Exercise / Activity
 - Walking – Benefits begin at 2000 steps/ day
 - Quicker pace (safely)
- Sleep
 - Assess sleep hygiene and quality
 - Blue light exposure
 - Apnea
 - Nocturia
- Stress Management
 - Meditation
 - Mental Health Services
 - Animal Assisted Therapy
- Community
 - Social Outlets
 - Faith-Based
 - Eating in a group setting

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Work with an RDN


Start with Small Changes

Find the “Happy” medium for residents!



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Thank You!

QUESTIONS?

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40

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41

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42