



Introduction to Integrative Oncology

Shannon Fogh, MD, ABOIM

Associate Professor, Clinical Research Divisions

Fred Hutch Cancer Center

Associate Professor, Dept of Medicine and Radiation Oncology, Univ of Washington School of Medicine

September 21, 2024



DISCLOSURES

None

Definitions in Integrative Medicine

Traditional therapies

- *Culturally-based health practices*

Alternative therapies

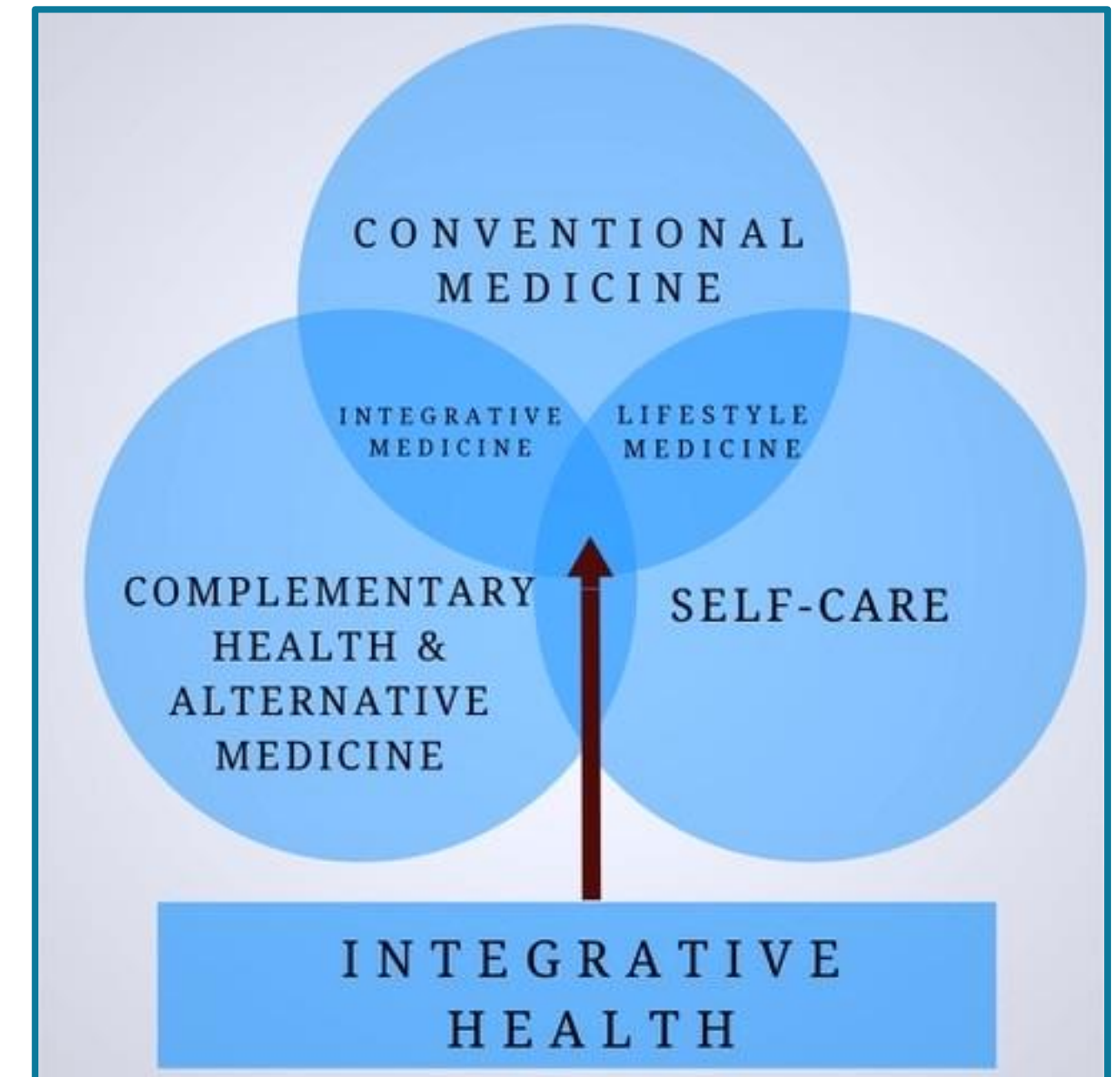
- *Used in place of conventional medicine*

Complementary therapies

- *Used together with conventional medicine*

Integrative medicine and health

- *Evidence-based use of complementary approaches in conjunction with conventional therapies*



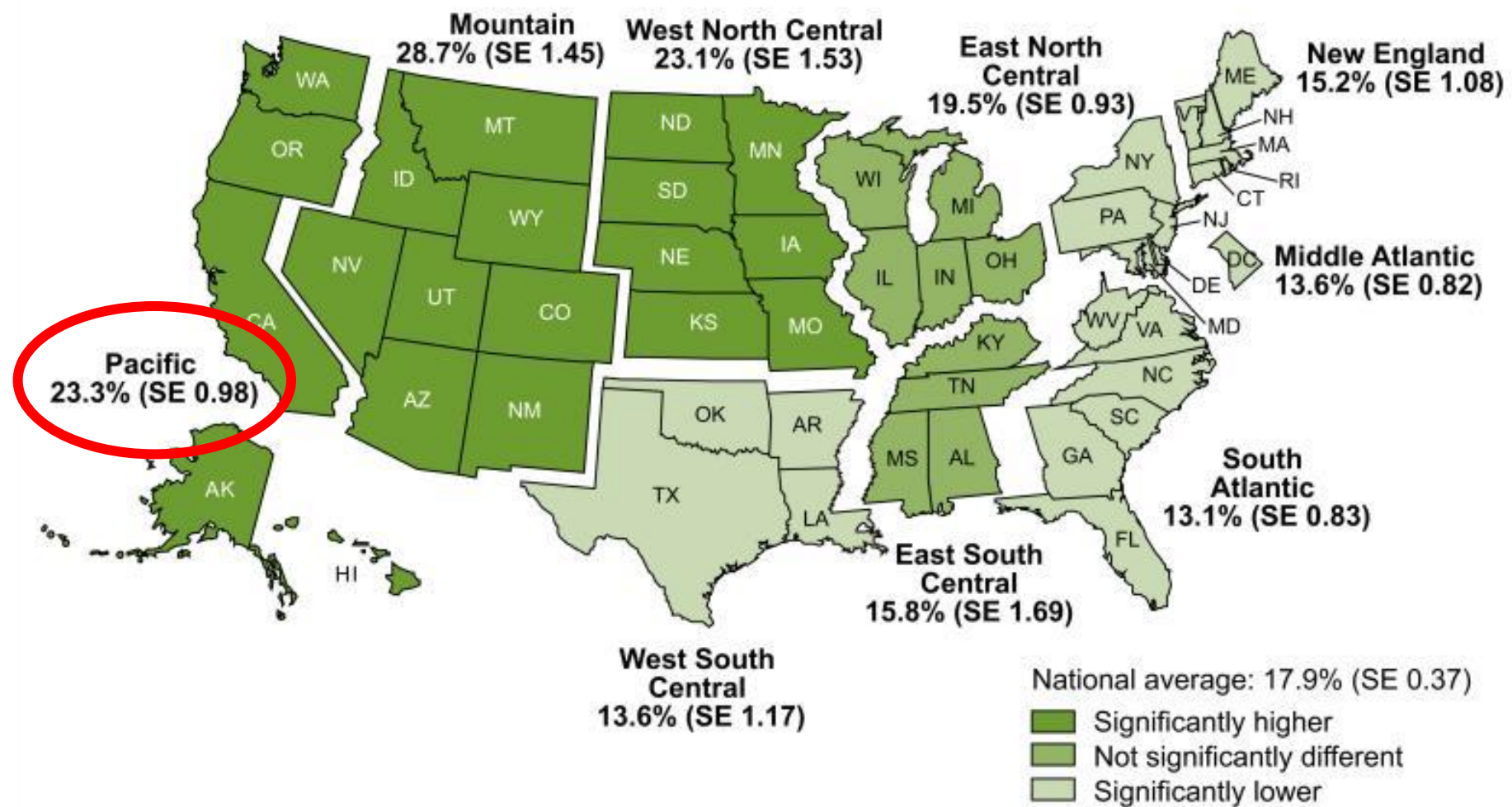
What is Integrative Oncology?

- Patient-centered, evidence-informed field of cancer care
- Utilizes mind and body practices, natural products, and/or lifestyle modifications
- Delivered alongside conventional cancer treatments.
- Aims to optimize health, quality of life, and clinical outcomes
- Empowers people to prevent cancer and become active participants before, during and beyond cancer treatment.

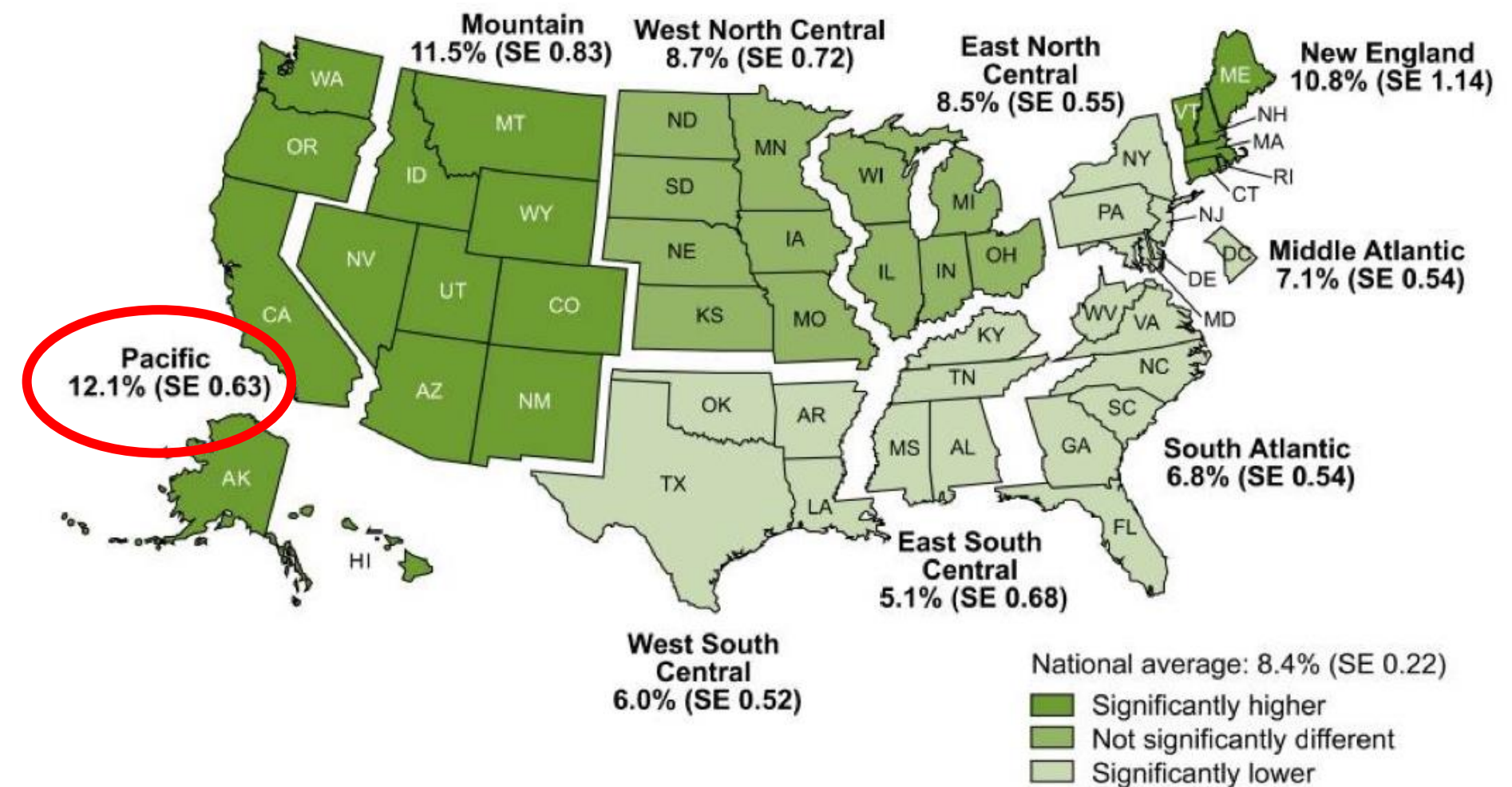


Use of complementary health approaches in US adults

Use of non-vitamin, non-mineral dietary supplements



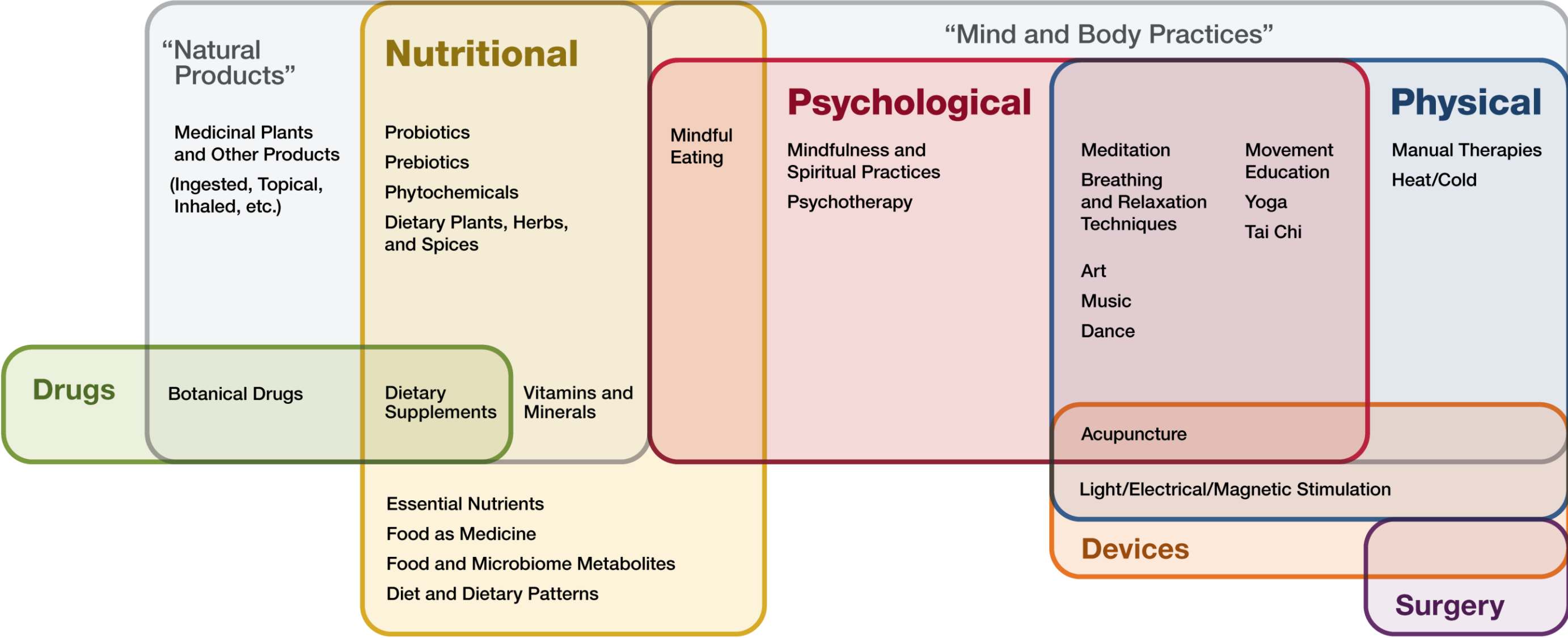
Use of yoga and meditation



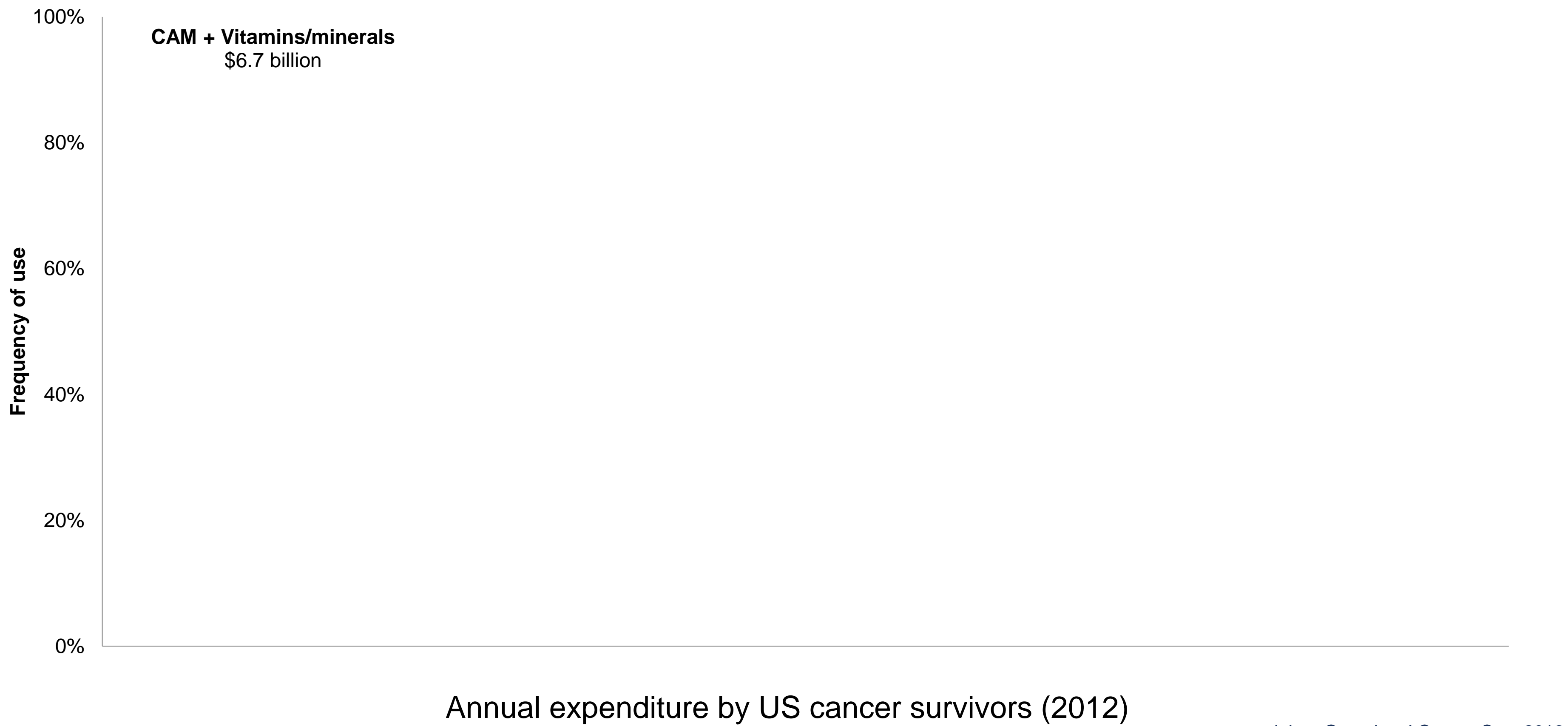
Complementary & Alternative Medicine Use by US Cancer Survivors

- **US National Health Interview Survey (NHIS)**
 - Annual survey by CDC
 - Questions on CAM use since 2002
- **NHIS 2012**
 - 2,977 adult cancer survivors and 30,551 non-cancer adults
 - Self-reported CAM use in past 12 months
 - **79%** of cancer survivors used ≥ 1 vitamin/mineral and/or CAM modality

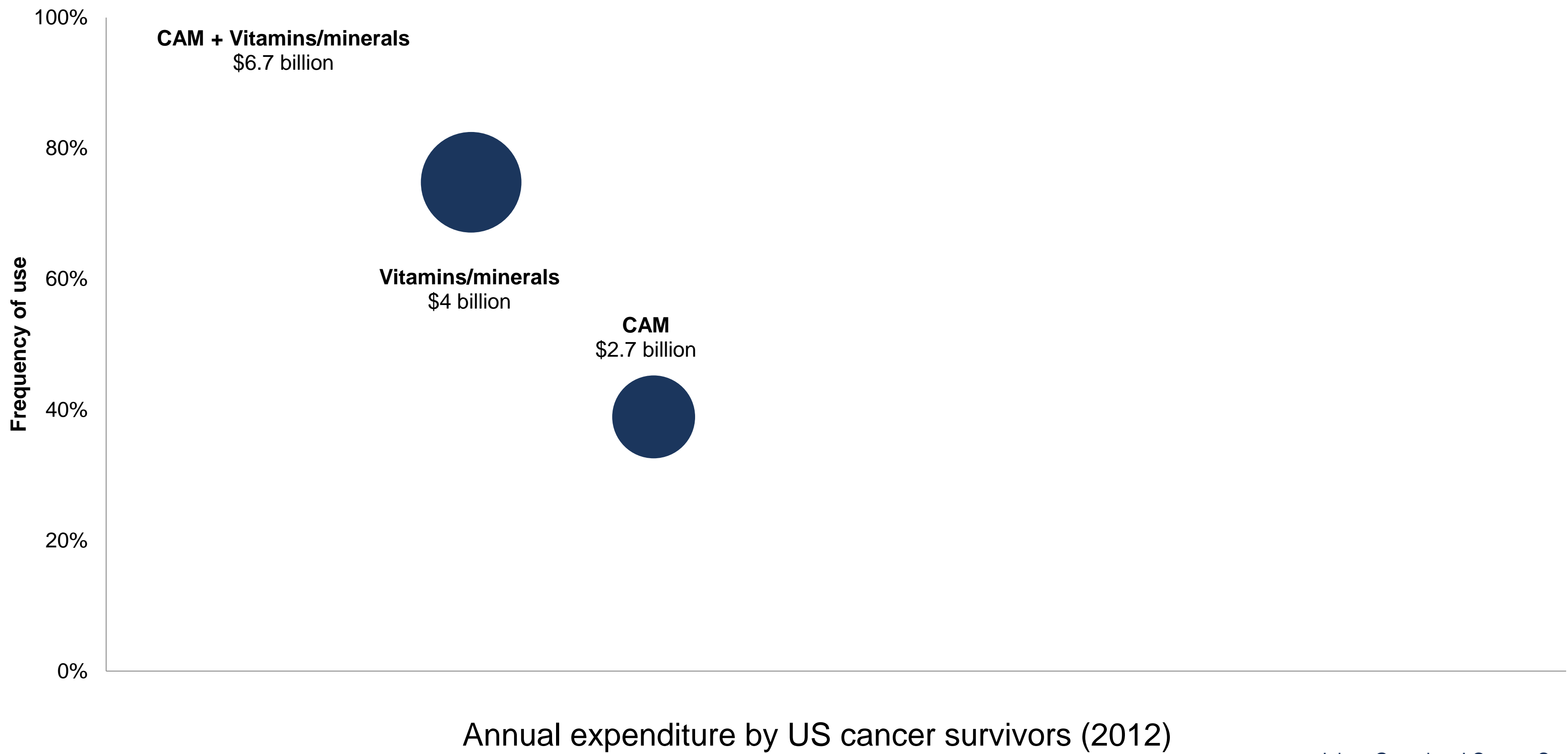
NCCIH Classification of Complementary Health Approaches



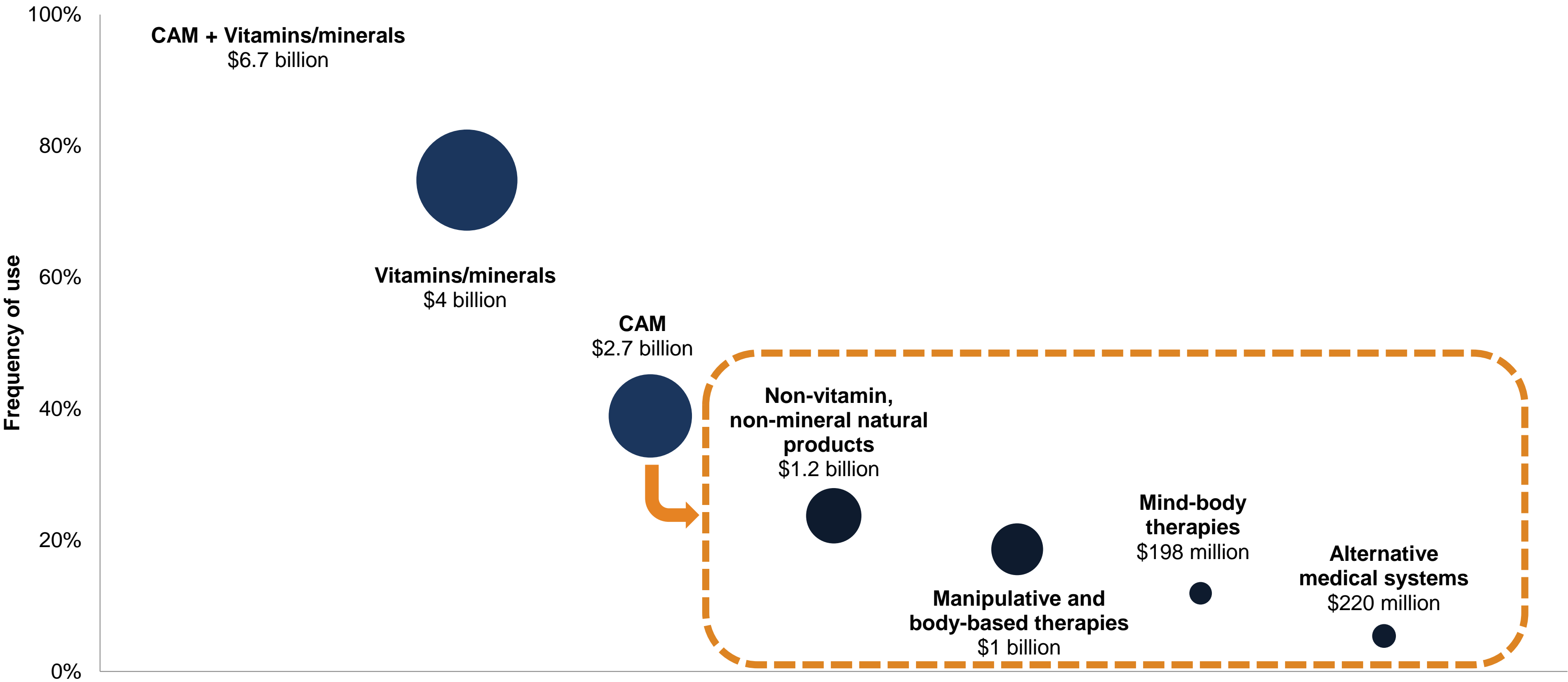
Cost of CAM Use by US Cancer Survivors



Cost of CAM Use by US Cancer Survivors



Cost of CAM Use by US Cancer Survivors



Annual expenditure by US cancer survivors (2012)

Mind Body Approaches

- Mind Body Medicine is a field of medicine that utilizes the mind to influence the health of the body
- NCAM specifically defines mind body practices as focusing on the interactions among the brain, mind, body and behavior with the intent to use the mind to affect physical functioning and promote health.

Mind Body Approaches

Meditation

- Body/breath awareness
- Mindfulness
- Loving kindness
- Compassion-based

Movement or energy-based therapies

- Tai Chi
- Yoga
- Qi Gong

Relaxation techniques (i.e., diaphragmatic breathing, progressive muscle relaxation, guided imagery, autogenic training, etc.), and expressive and other practices (i.e., nature, dance, art, writing, and music therapy).

Mind Body Approaches: Benefits

- Improved depression and anxiety symptoms
- Improves memory and concentration
- Improves fatigue
- Reduction in chronic stress and cortisol
- Decreases Inflammation
- Increases “good” brain waves
- Increases cerebral blood flow

Mind Body Practices Impact on Cortisol

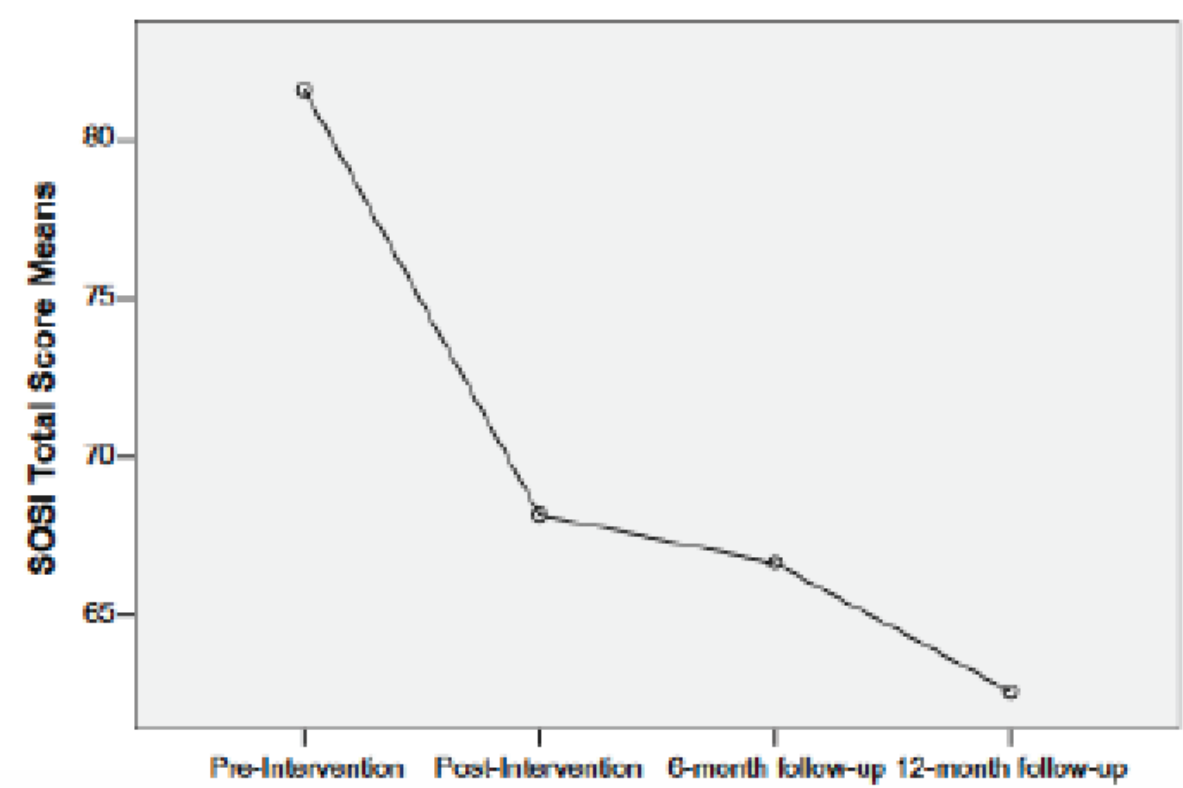


Fig. 2. Symptoms of stress inventory scores.

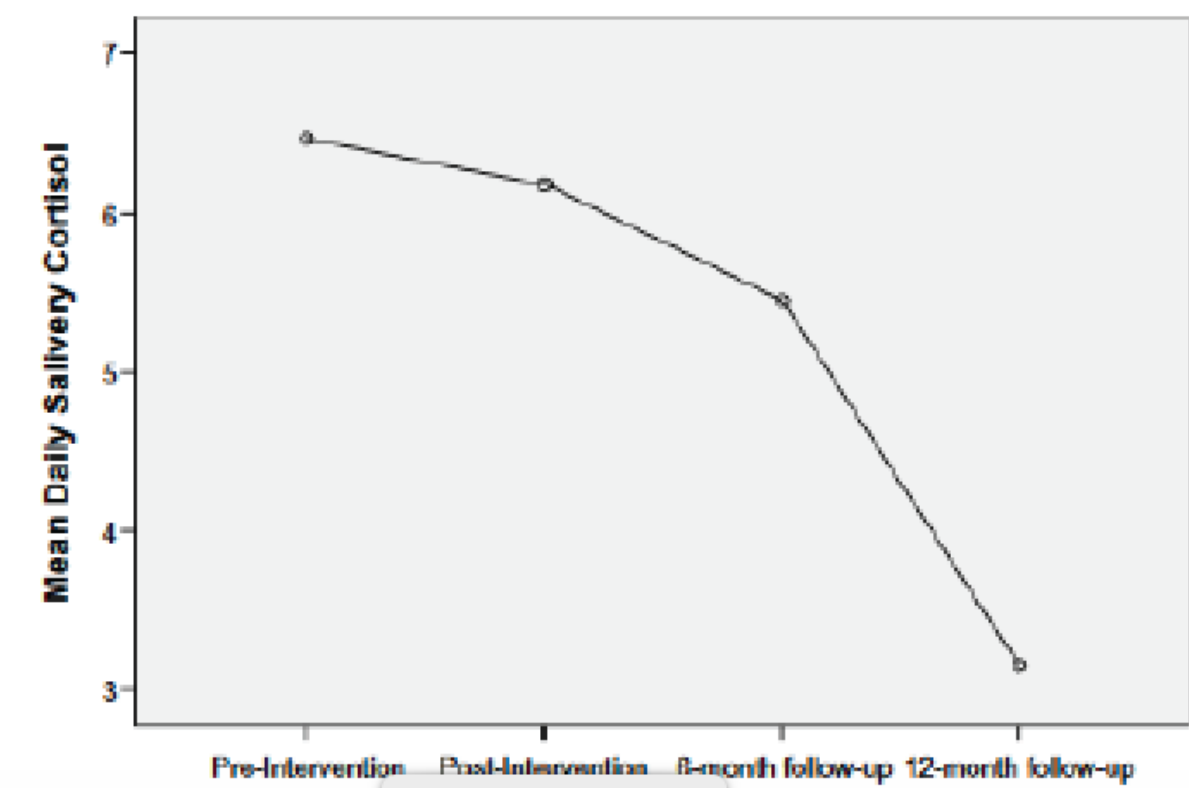
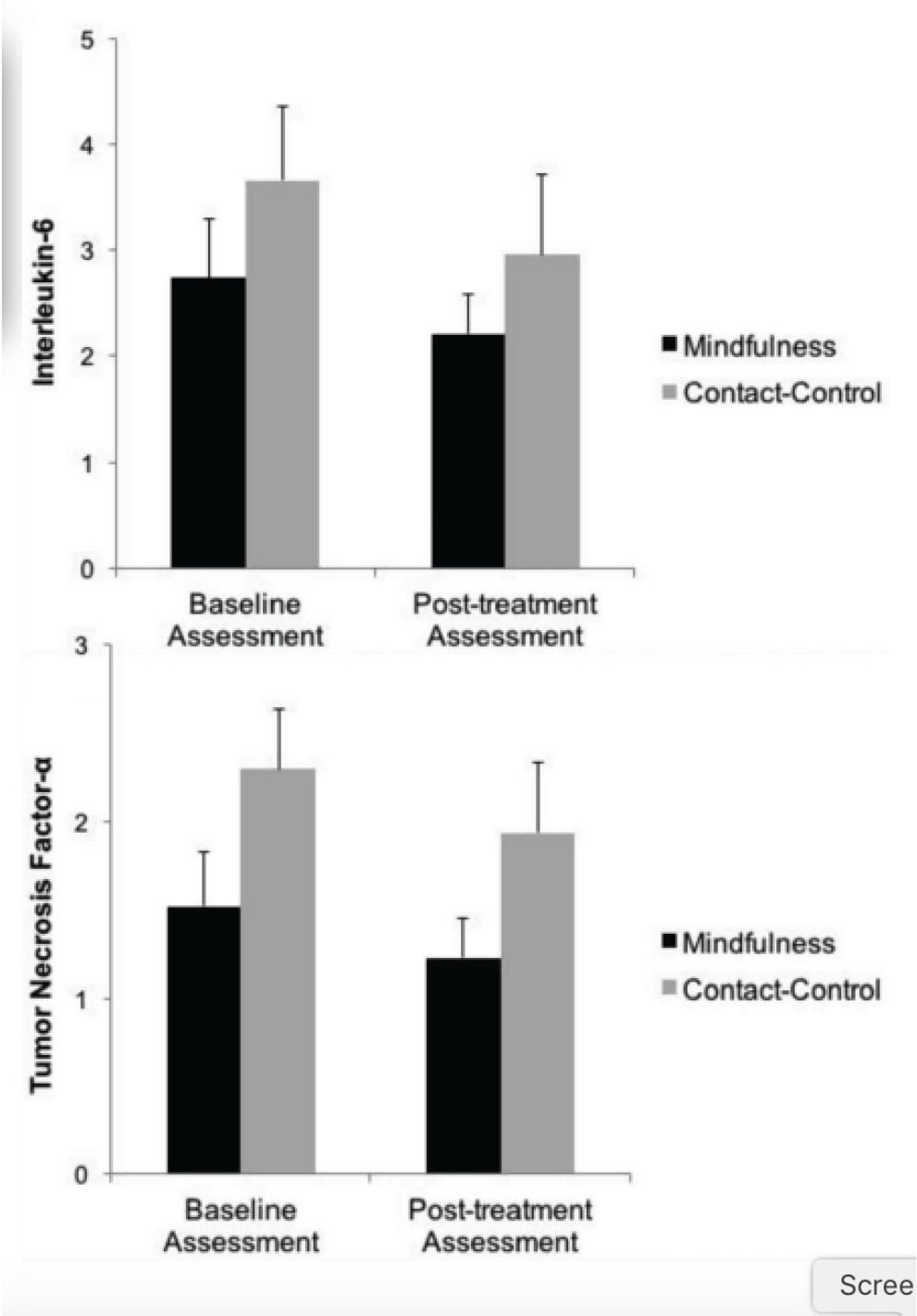


Fig. 3. Mean Screenshot cortisol values across time.

Inflammation



Good Brain Waves



Beta 15-30 Hz

Awake, normal alert
consciousness



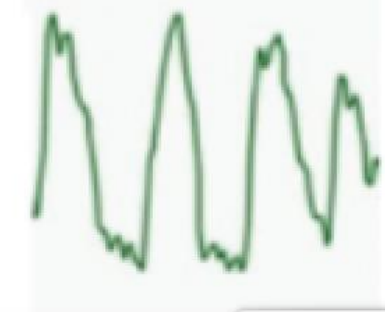
Alpha 9-14 Hz

Relaxed, calm, meditation,
creative visualisation



Theta 4-8 Hz

Deep relaxation and
meditation, problem
solving



Delta 1-3 Hz

Deep, dreamless
sleep

Copyright

Meditation Benefits

Cerebral blood flow differences between long-term meditators and non-meditators

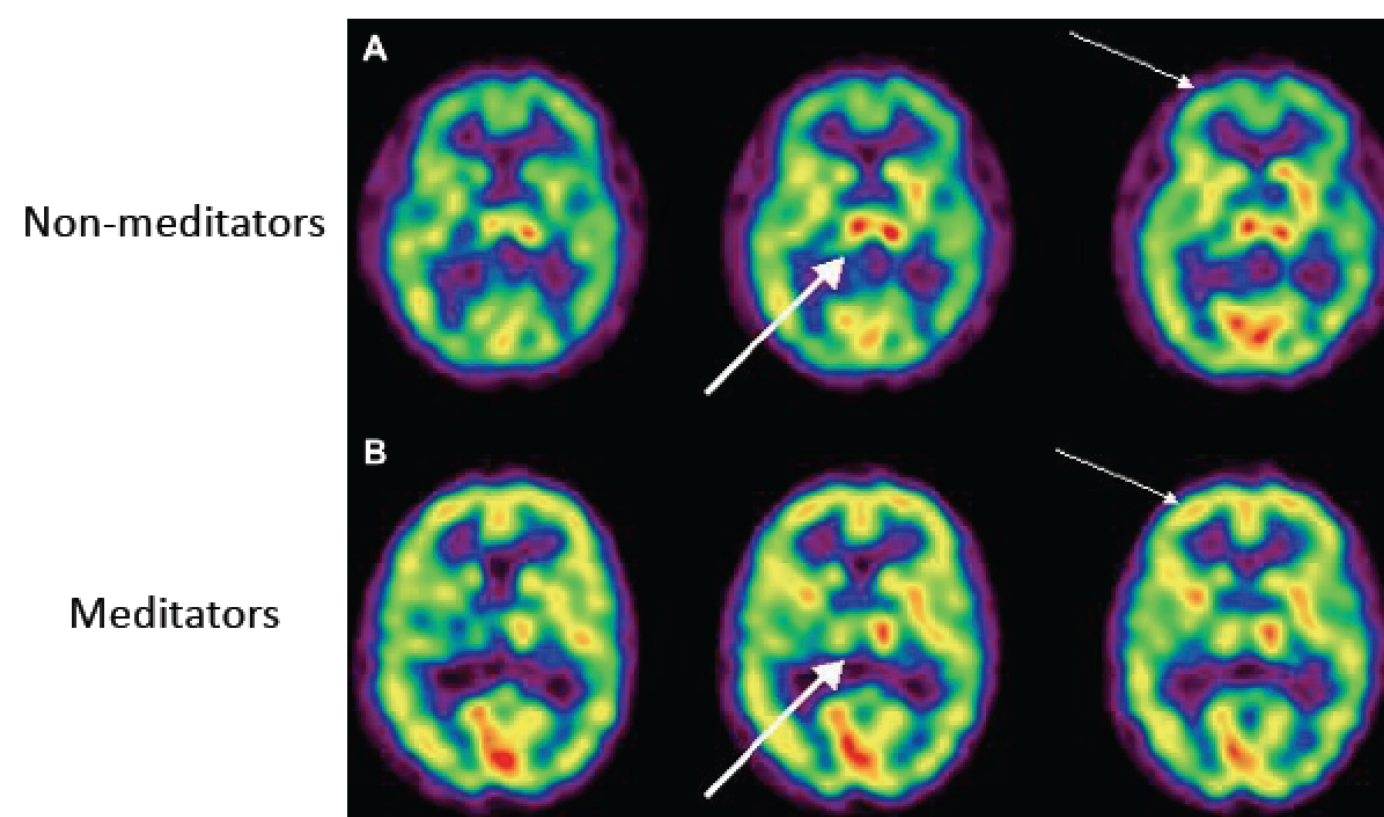
Andrew B. Newberg^{a,b,*}, Nancy Wintering^{a,b}, Mark R. Waldman^b, Daniel Amen^c,
Dharma S. Khalsa^{b,d}, Abass Alavi^a

^a Division of Nuclear Medicine, Department of Radiology, University of Pennsylvania Medical Center, United States

^b Center for Spirituality and the Mind, University of Pennsylvania, United States

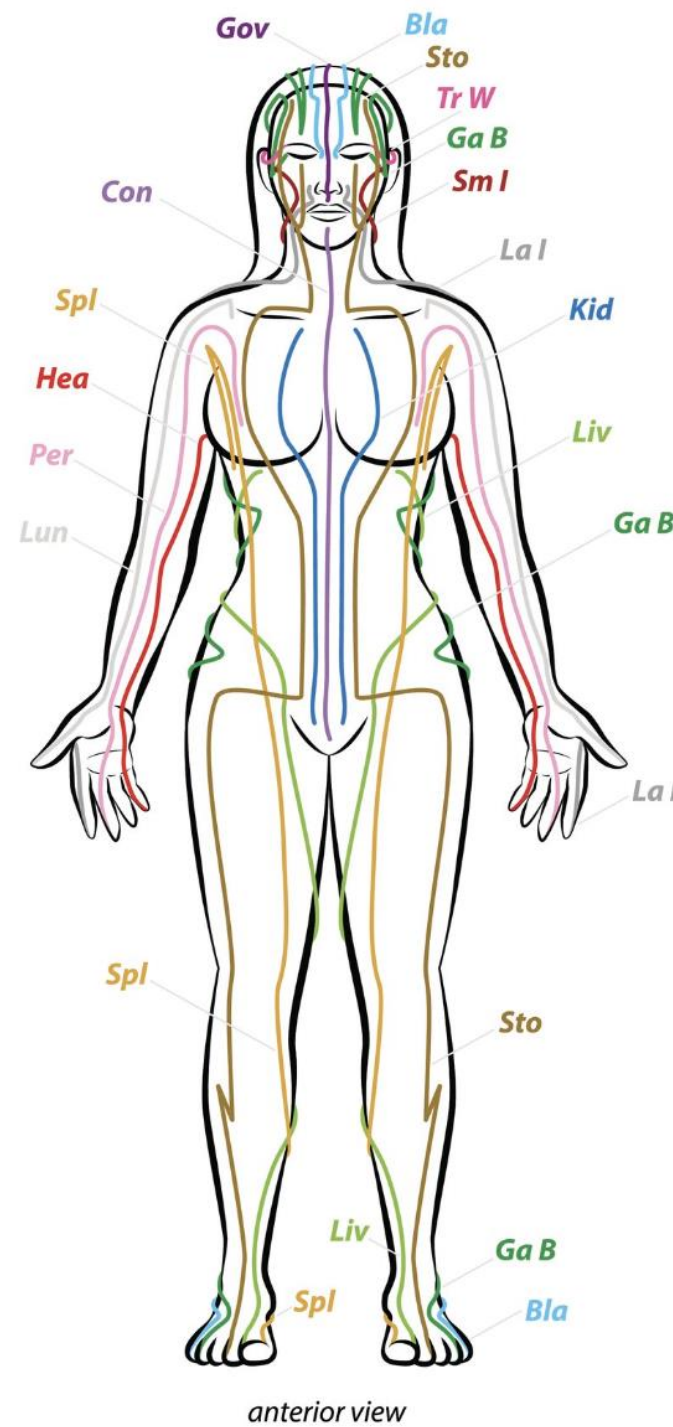
^c Amen Clinics Inc., Newport Beach, CA, United States

^d Alzheimer's Research and Prevention Foundation, Tucson, AZ, United States



“CBF of long-term meditators was significantly higher ($p < 0.05$) compared to non-meditators in the prefrontal cortex parietal cortex thalamus putamen, caudate and midbrain. The observed changes...appear in structures that underlie the attention network and also those that relate to emotion and autonomic function. “

Acupuncture



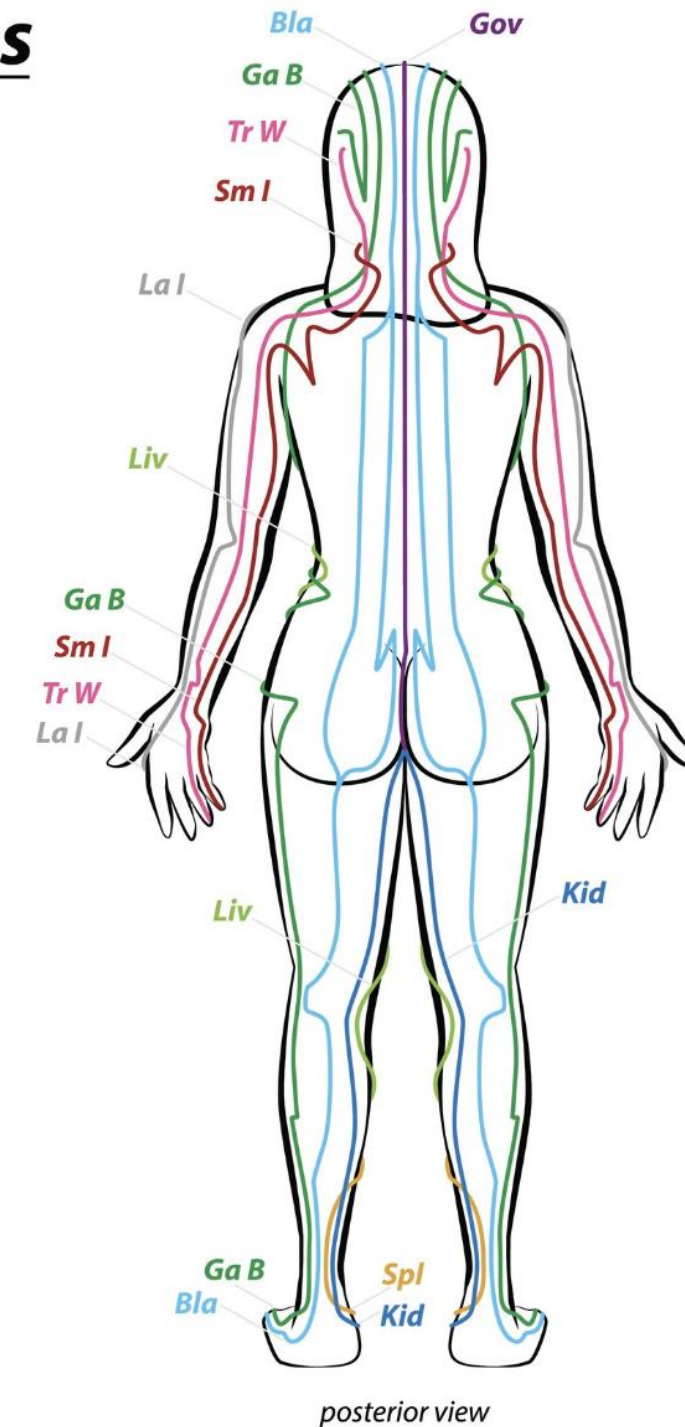
The Body Meridians

Two Centerline Meridians:

Conception Vessel
Governing Vessel

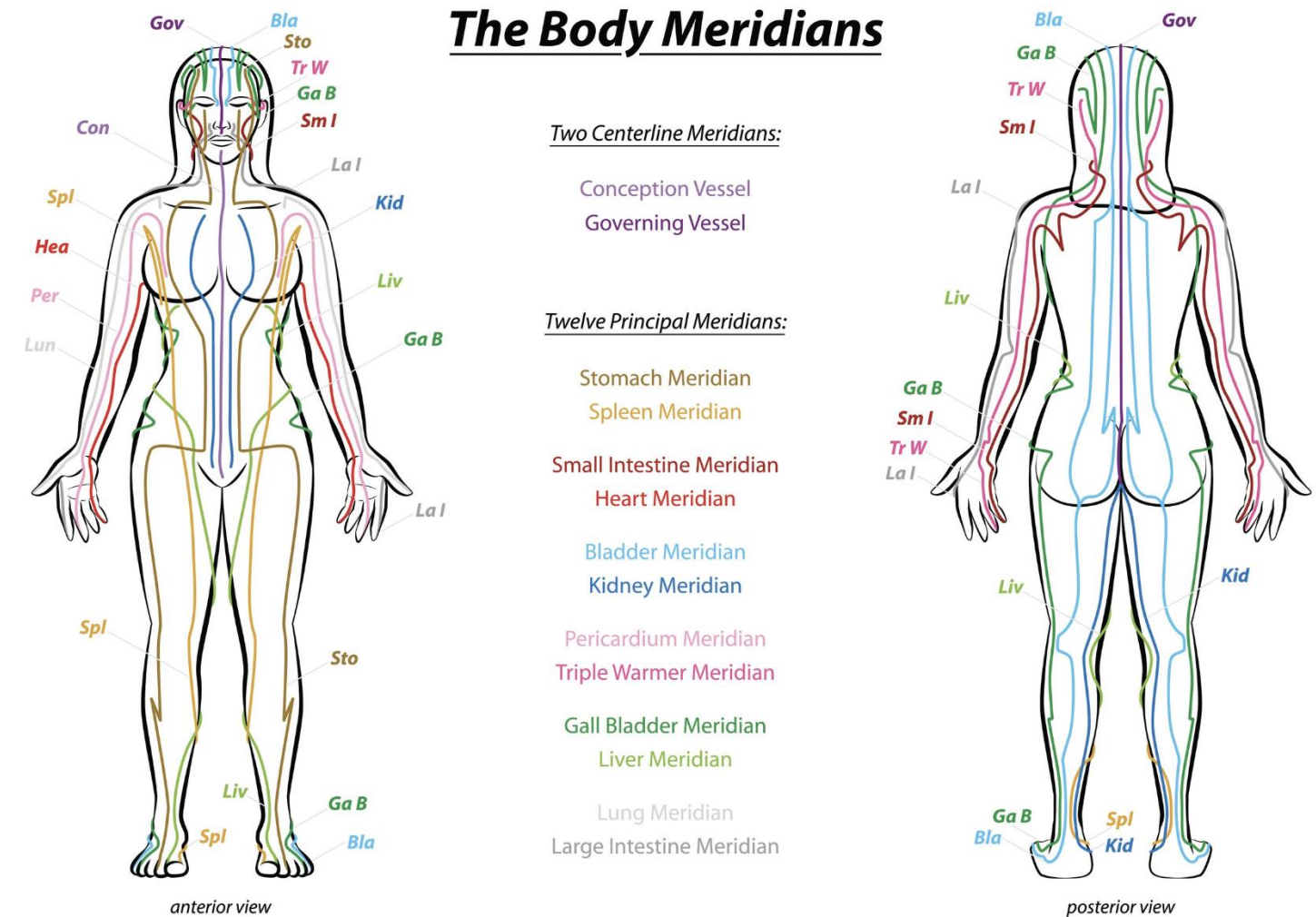
Twelve Principal Meridians:

Stomach Meridian
Spleen Meridian
Small Intestine Meridian
Heart Meridian
Bladder Meridian
Kidney Meridian
Pericardium Meridian
Triple Warmer Meridian
Gall Bladder Meridian
Liver Meridian
Lung Meridian
Large Intestine Meridian



Acupuncture Benefits

- Decreased fatigue
- Improved sleep
- Reduced stress and anxiety
- Improved mood/decreased depression
- Pain
- Nausea



Dietary Supplement Use by People with Cancer

High use during and after cancer treatment

- 64-81% use vitamins and minerals
- 26-77% use multivitamins
- 24% use herbal & non-vitamin supplements

Weak evidence base for use of most dietary supplements in the oncology setting

Providers need to know how to counsel patients on the appropriate use of dietary supplements



WHY is this important?

There are several things to consider when taking a supplement during or after cancer therapy including if the supplement:

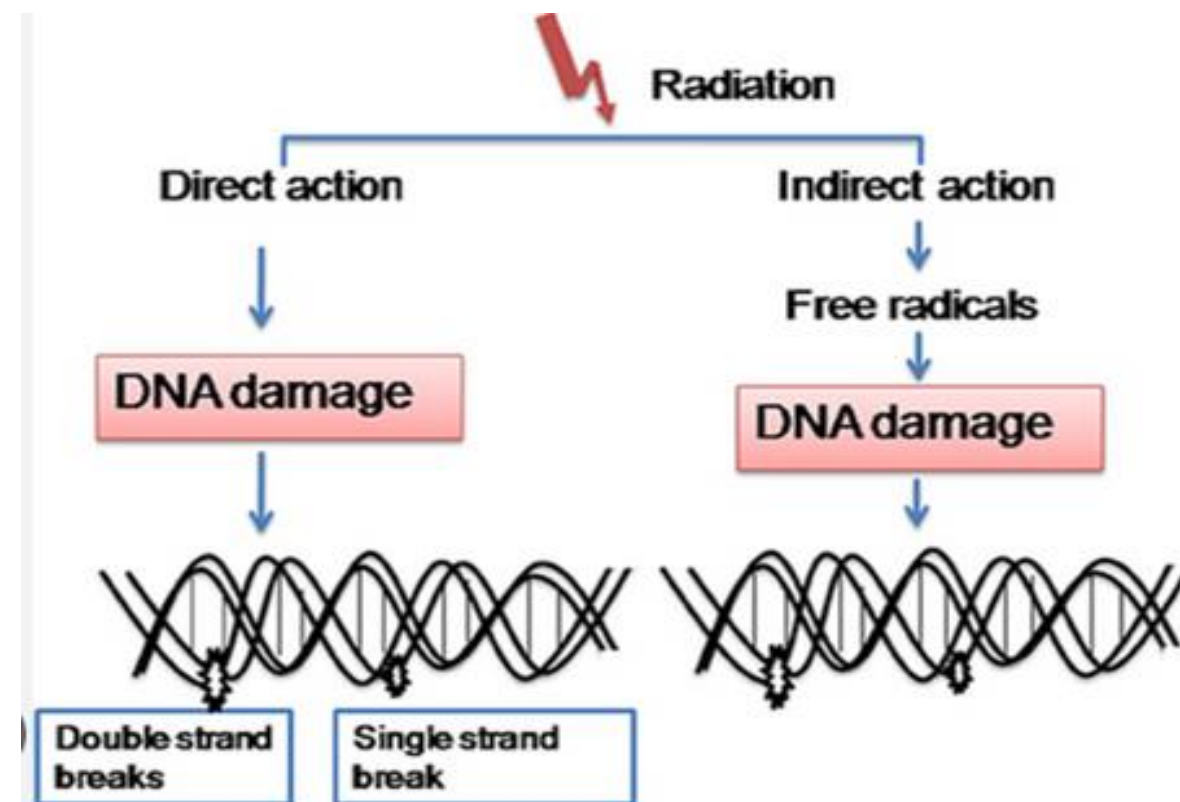
- Is a potent antioxidant?
- Has anticoagulant properties?
- Is known to stimulate the immune system?
- Has the potential to exacerbate or worsen current symptoms?
- Has potential to worsen cancer outcomes?
- Has side effects that are worsening symptoms or quality of life?

How Safe are Supplements?

- Main categories of potential interactions that can occur:
 - High doses of natural products with antioxidant properties may interfere with radiation or chemotherapy efficacy
 - Anticoagulant herbs may cause detrimental effects in patients with low platelet levels or when used concurrently with anticoagulant medications or during perioperative periods
 - Seizure threshold with some supplements like Gingko Biloba
- In addition, direct organ toxicity such as renal and hepatic injury has been associated with some natural products
- Quality control issues are a major concern with natural products and herbal supplements because of the potential for product substitutions or fillers, contamination, and inaccurate labeling.
- <https://www.consumerlab.com>

WHY worry about antioxidants?

- High doses of natural products with antioxidant properties may interfere with radiation or systemic therapy.
- Radiation for example is designed to impact the tumor's DNA by creating free radicals and we want this to make the radiation more effective against the tumor:



WHY Worry about Anticoagulants?

- If you are taking another medication that can impact the thinning of your blood, supplements that also do this are not usually a good idea.
- If you are preparing for surgery or a procedure, your doctor will likely recommend you stop blood thinning medications. This includes supplements that can thin the blood!

Some examples include:

- Vitamin E
- Fish oil
- Turmeric/ Curcumin
- Aloe
- Gingko
- Garlic

We also want to make sure we do not make symptoms or side effects worse

- One example is supplements that might increase the risk of seizures if you have had seizures or are taking seizure medication.

Examples include:

- Ginkgo biloba
- Ginseng
- Evening primrose oil
- Borage oil

We also want to make sure we do don't take supplements that might worsen cancer outcomes or cancer risk:

Examples include:

- Beta-carotene, a vitamin A precursor, was associated with an increased risk of lung cancer in smokers
- Vitamin E supplementation has been shown to increase the risk of prostate cancer.
- Selenium may increase risk of high-grade prostate cancer.

Recommendations on Use of Dietary Supplements in Clinical Practice Guidelines

2017 SIO Breast Cancer Guidelines (endorsed by ASCO in 2018)

Supplements to be considered	Indication	Caveats
Ginger + antiemetics (Grade C)	Nausea/vomiting during chemotherapy	<ul style="list-style-type: none">• Use with standard antiemetics
Ginseng (Grade C)	Fatigue during treatment	<ul style="list-style-type: none">• Studies were of American ginseng for 8 weeks duration• Long term safety and efficacy is uncertain• Some ginseng preparations have estrogenic properties
Subcutaneous mistletoe injections (Grade C)	Quality of life	<ul style="list-style-type: none">• Not approved by US FDA• OTC in many European countries• Orally ingested mistletoe is known to cause serious adverse events

Commonly Used Supplements: Potential Causes for Concern

Human - Clinical trial
Human - Observational
In vitro

Supplement	Claimed benefits	Potential Interactions / Contraindications
Multivitamin	Nutrient support	Antioxidant, Absorption issues, Estrogenic (added botanicals)
Fish Oil / Omega-3s	Nutrient support Anti-inflammatory support	Bleeding
Turmeric	Anti-inflammatory support Anti-cancer therapy	Bleeding, CYP interactions, Hepatotoxicity, Antioxidant, Estrogenic
Melatonin	Sleep support Immune support	Antioxidant, Bleeding, CYP1A2 interactions, Estrogenic
Medicinal mushrooms: Reishi, Turkey Tail, Lion’s Mane, etc.	Immune support	Hepatotoxicity, Bleeding, Antioxidant, CYP interactions (Reishi)

Screen for Supplement Use

- Incorporate screening into routine workflow:
 - Integrative Medicine online intake forms – prior to visit
 - Medication reconciliation – at time of visit
 - Institutional distress screening – use of 5+ dietary supplements
- Ask about current use of:
 - Vitamins/minerals
 - Herbs/botanicals
 - Teas
 - Any ingested natural products

Check for interactions & contraindications

- **Staff:** Clinical Pharmacist
- **Document interactions:**
 - Drug-supplement
 - Supplement-supplement
 - If toxicities suspected, review serial lab values
- **Document contraindications:**
 - Based on tumor histology
- **Document in standardize format in EHR so it is findable by clinicians and interpretable by patients**
- **Indicate level of concern:** none, avoid, use with caution

CLINICAL PHARMACIST DIETARY SUPPLEMENT AND NATURAL PRODUCT REVIEW
Pharmacy was consulted to review the following herbal, nutritional, and vitamin supplement(s) for potential drug-supplement and supplement-disease state interactions:
Cortisol Manager Magnesium NAC L-theanine as a solo ingredient
Patient diagnosis: ER+/PR+/HER2- metastatic breast cancer
Current cancer treatment: Palbociclib + Fulvestrant
RECOMMENDATIONS
No perceived or known interactions identified: <ul style="list-style-type: none">• Magnesium• NAC
Avoid while receiving concurrent anticancer treatment: <ul style="list-style-type: none">• Cortisol manager - contains ingredients that are estrogenic (Epimedium, also known as horny goat weed) or may be estrogenic (ashwaganda). This could theoretically worsen hormone receptor positive cancers. In addition, horny goat weed may increase bupropion levels, increasing risk for bupropion side effects.
Use with caution: <ul style="list-style-type: none">• L-theanine (as a solo ingredient supplement) - may increase sleepiness when used with lorazepam or zolpidem. The likelihood of this is low, but try to avoid using L-theanine at the same time as lorazepam or zolpidem if possible.

Counsel on safety and efficacy

Base on:

- Pharmacist recommendations
- Available literature
- Clinical experience

Goals:

- Provide accurate information
- Address patient concerns
- Facilitate informed decision making
- Establish trust

Process:

- Summarize findings for patient
- Provide recommendations
- Provide alternate options, when indicated
- Establish time to check in again



**Are all supplements
created equal?**

What Can Impact Quality?

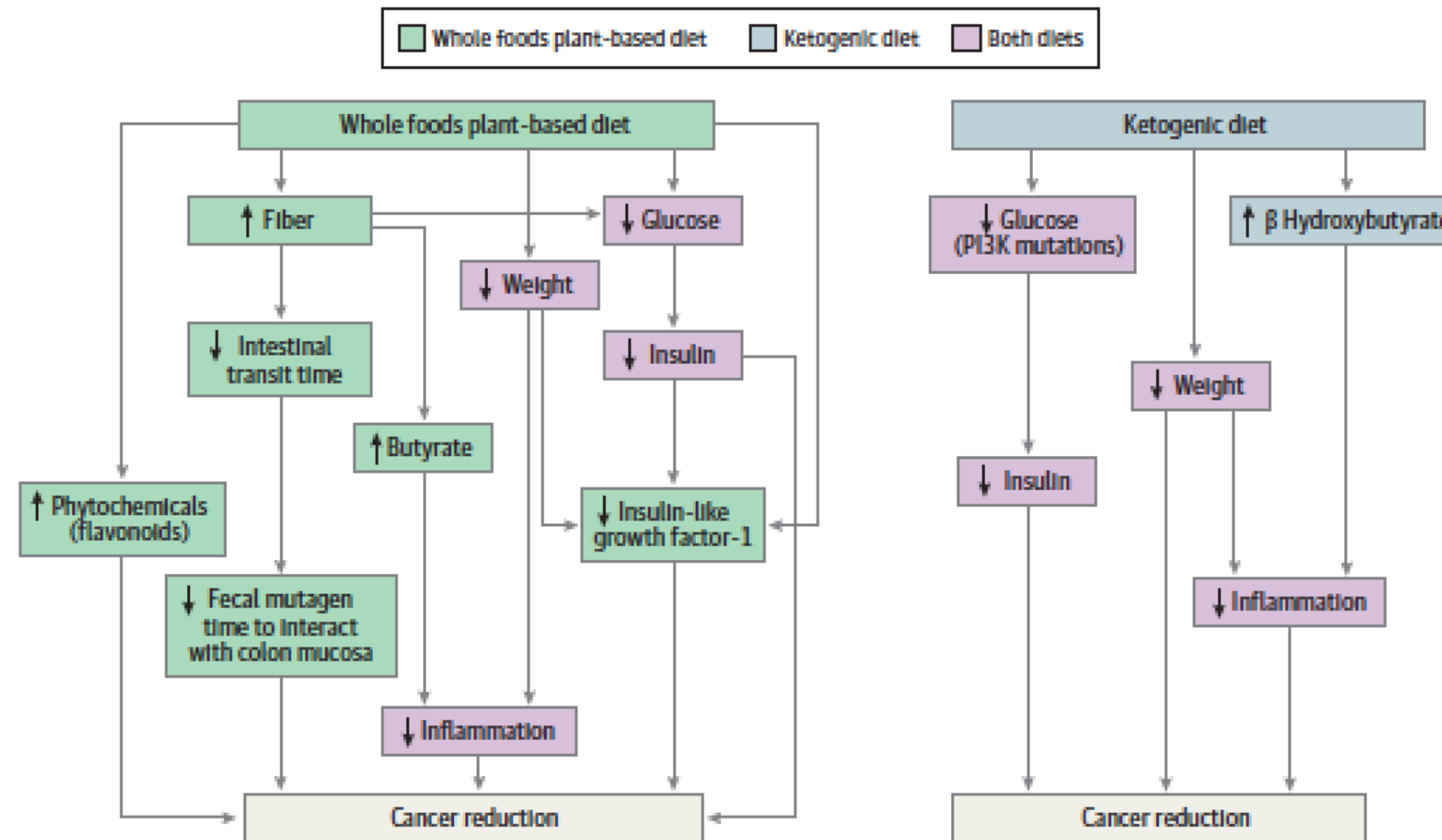
- The quality of plant material can vary based on where, when and how it is gathered.
- This can lead to variation in the content of a product and a discrepancy between what is on the label and what the supplement actually contains.
- Supplements can also contain unwanted potentially harmful ingredients such as:
 - Mercury
 - Arsenic
 - Lead
 - Cadmium
 - Aluminum
 - Bacteria/microbes/fungi

Step 3. Check for interactions & contraindications

Name	URL	Cost
Memorial Sloan Kettering Cancer Center’s About Herbs	mskcc.org/cancer-care/diagnosis-treatment/symptom-management/integrative-medicine/herbs	No cost
National Cancer Institute PDQ Cancer Information Summary: Integrative, Alternative, and Complementary Therapies	cancer.gov/publications/pdq/information-summaries/cam	No cost
NIH Office of Dietary Supplements	ods.od.nih.gov	No cost
Natural Medicines	naturalmedicines.therapeuticresearch.com	Access fee, some institutions have licenses
UpToDate	uptodate.com	Access fee, many institutions have licenses
Consumer Labs	consumerlab.com	Access fee

Keto vs. WPBD

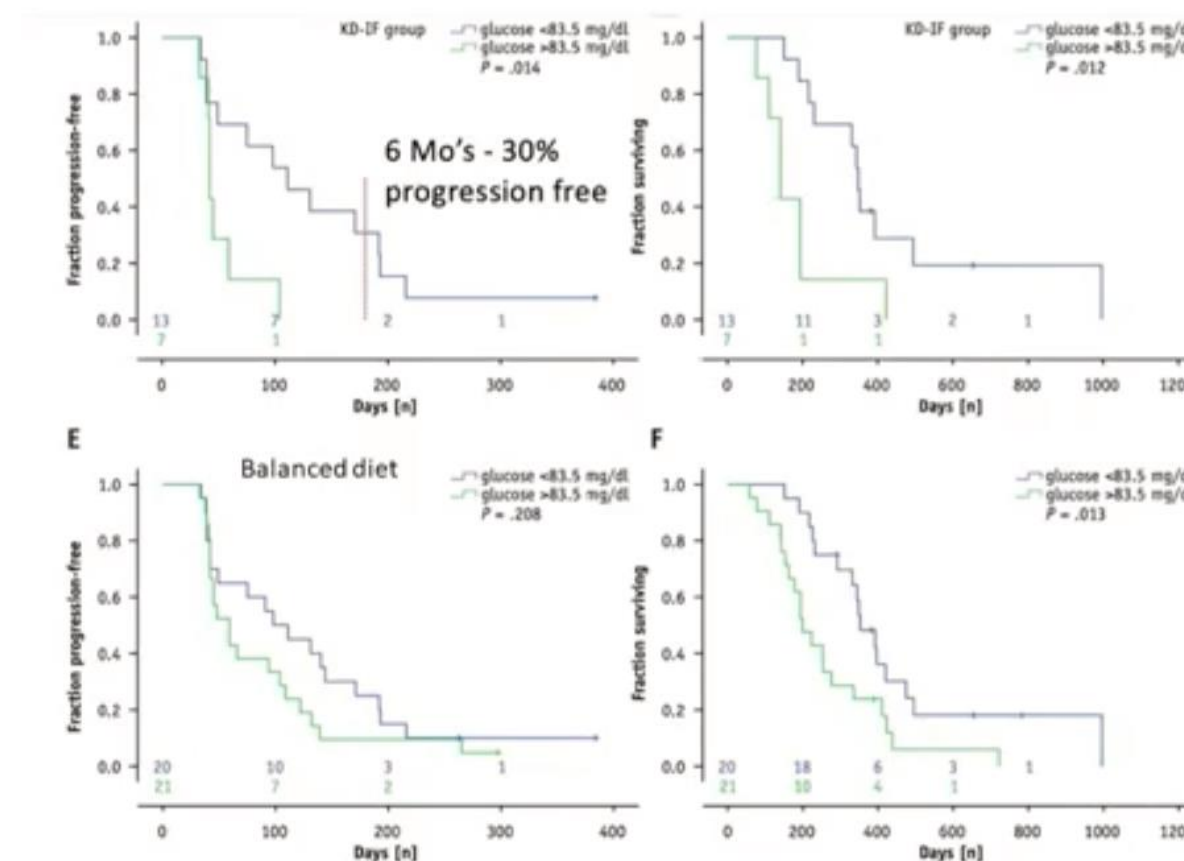
Figure. Association of Plant-Based Diets With Multiple Additional Pathways That Suppress Cancer Growth Compared With Ketogenic Diets



Keto vs. WPBD

Follow Up Analysis: Low Glucose (day 6) correlated with better outcomes

- Average glucose in the study was 83.5 mg/dL (4.6 mmol/L).
- KD-IF group had lower glucose levels (top graphs)
- OS- better in those with lower glucose (<83.5) regardless of which arm they were in



Voss M, et al. Eur J Nutr. 2022;61(1):477

Keto vs. WPBD

- Complications/ Side Effects of calorie-restricted Ketogenic diet:
 - Uric acid accumulation
 - Monitor levels; hydration; herbal support (celery seed)
 - Rx: allopurinol
- Kidney stones (calcium oxalate)
 - Potassium citrate 2meq/kg (1meq = 39 mg elemental K+
 - Polycitra K used in study on ped's
 - Can use Mg-citrate
- Hypercalciuria
 - Monitor? Ensure adequate Ca intake
- Constipation
 - Add fiber and probiotics
- With ketogenic diets: Work with an experienced nutritionist

The Potential of the Gut Microbiome to Reshape the Cancer Therapy Paradigm: A Review

Longsha Liu ^{1 2}, Khalid Shah ^{1 2 3}

Affiliations + expand

PMID: 35482355 DOI: [10.1001/jamaoncol.2022.0494](#)

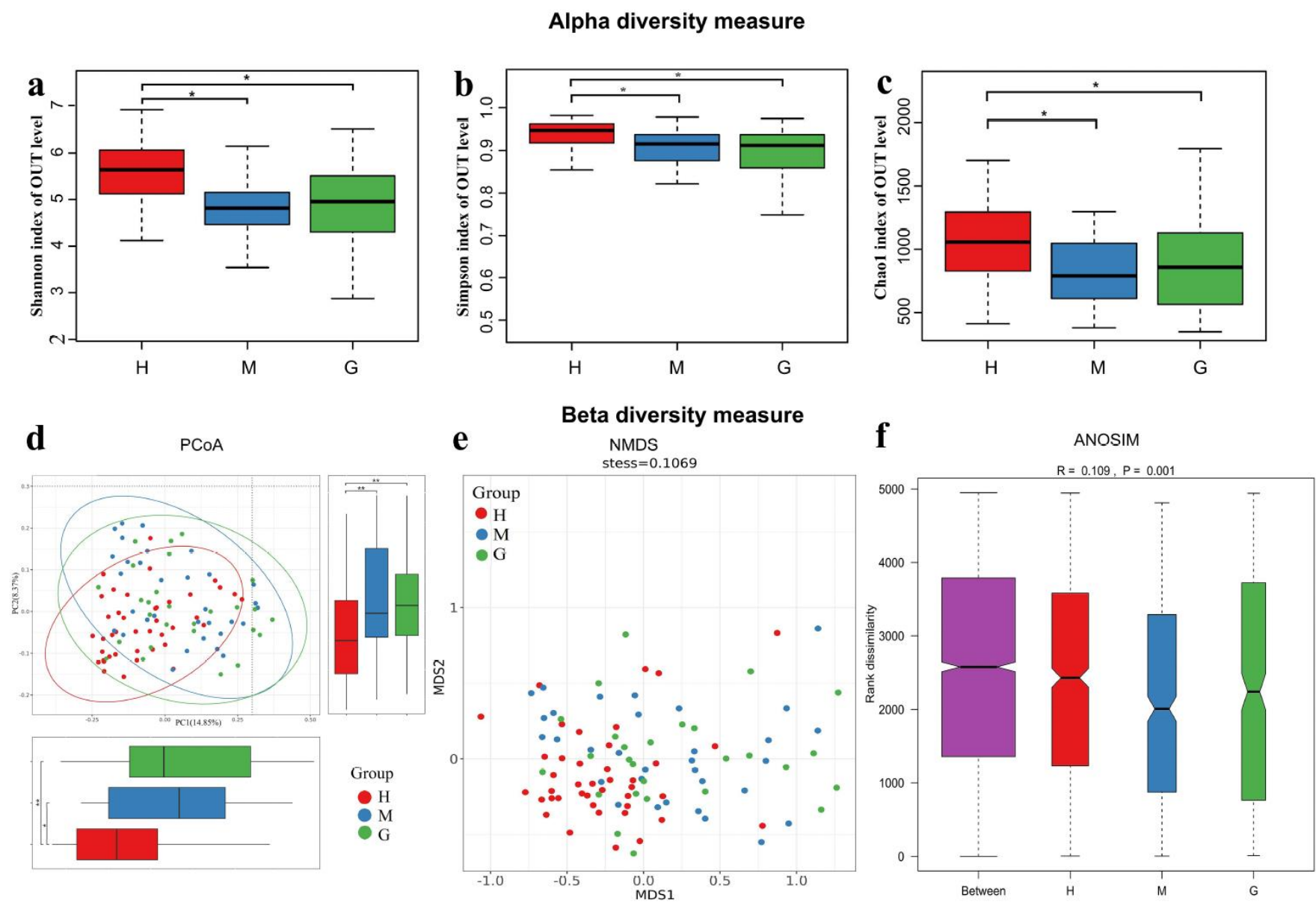
Abstract

Importance: The gut microbiome, home to the vast kingdom of diverse commensal bacteria and other microorganisms residing within the gut, was once thought to only have roles primarily centered on digestive functions. However, recent advances in sequencing technology have elucidated intricate roles of the gut microbiome in cancer development and efficacy of therapeutic response that need to be comprehensively addressed from a clinically translational angle.

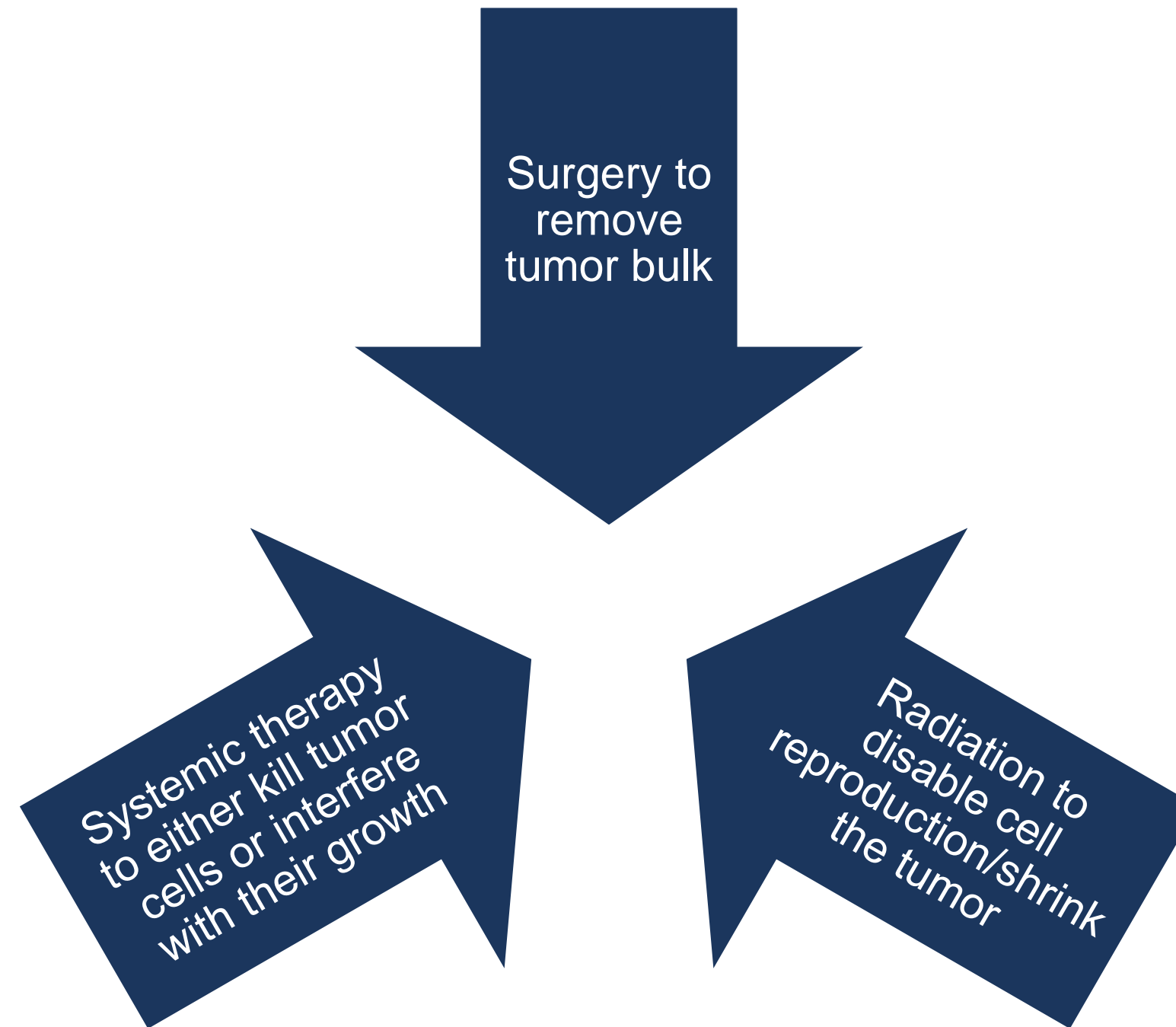
Observations: This review aims to highlight the current understanding of the association of the gut microbiome with the therapeutic response to immunotherapy, chemotherapy, radiotherapy, cancer surgery, and more, while also contextualizing possible synergistic strategies with the microbiome for tackling some of the most challenging tumors. It also provides insights on contemporary methods that target the microbiota and the current progression of findings being translated from bench to bedside.

Conclusions and relevance: Ultimately, the importance of gut bacteria in cancer therapy cannot be overstated in its potential for ushering in a new era of cancer treatments. With the understanding that the microbiome may play critical roles in the tumor microenvironment, holistic approaches that integrate microbiome-modulating treatments with biological, immune, cell-based, and surgical cancer therapies should be explored.

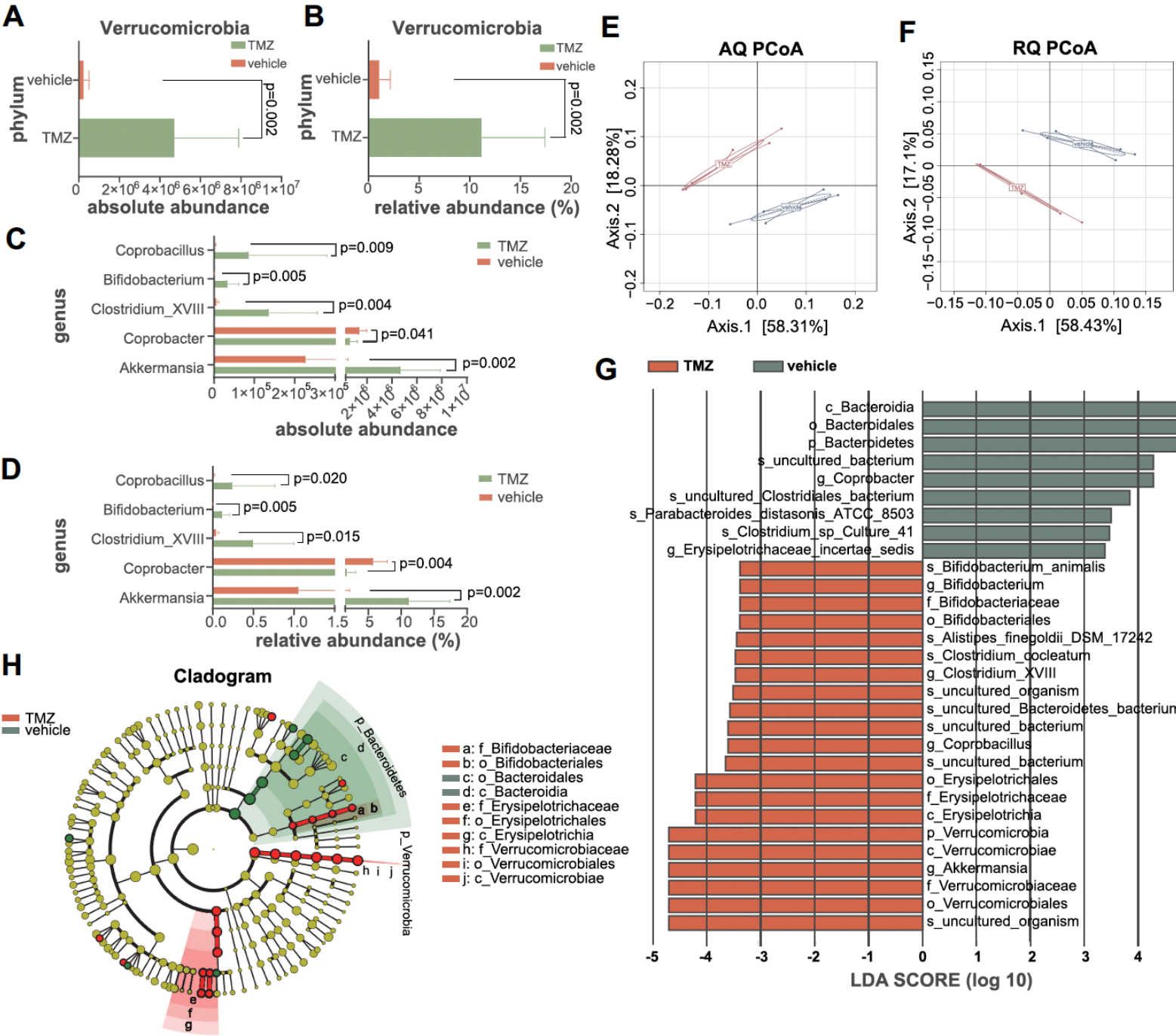
Microbiome and Neuropathology



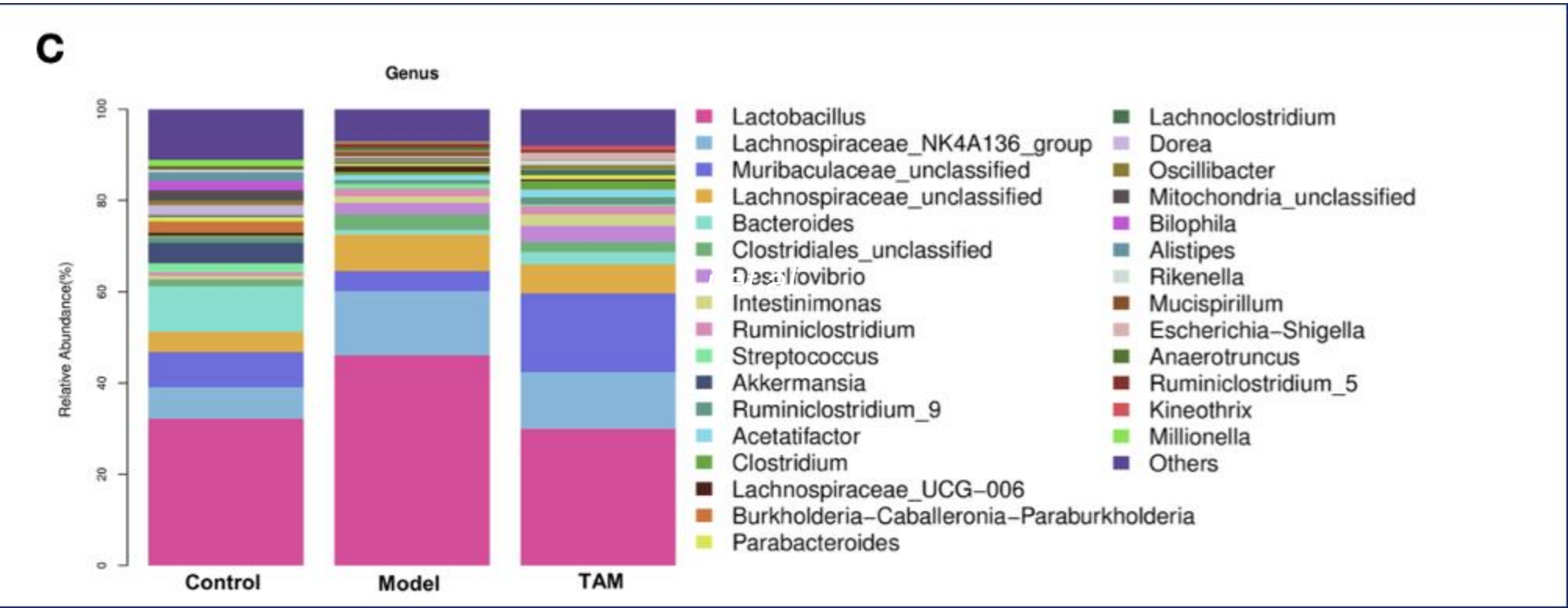
Impact of Cancer Directed Treatments



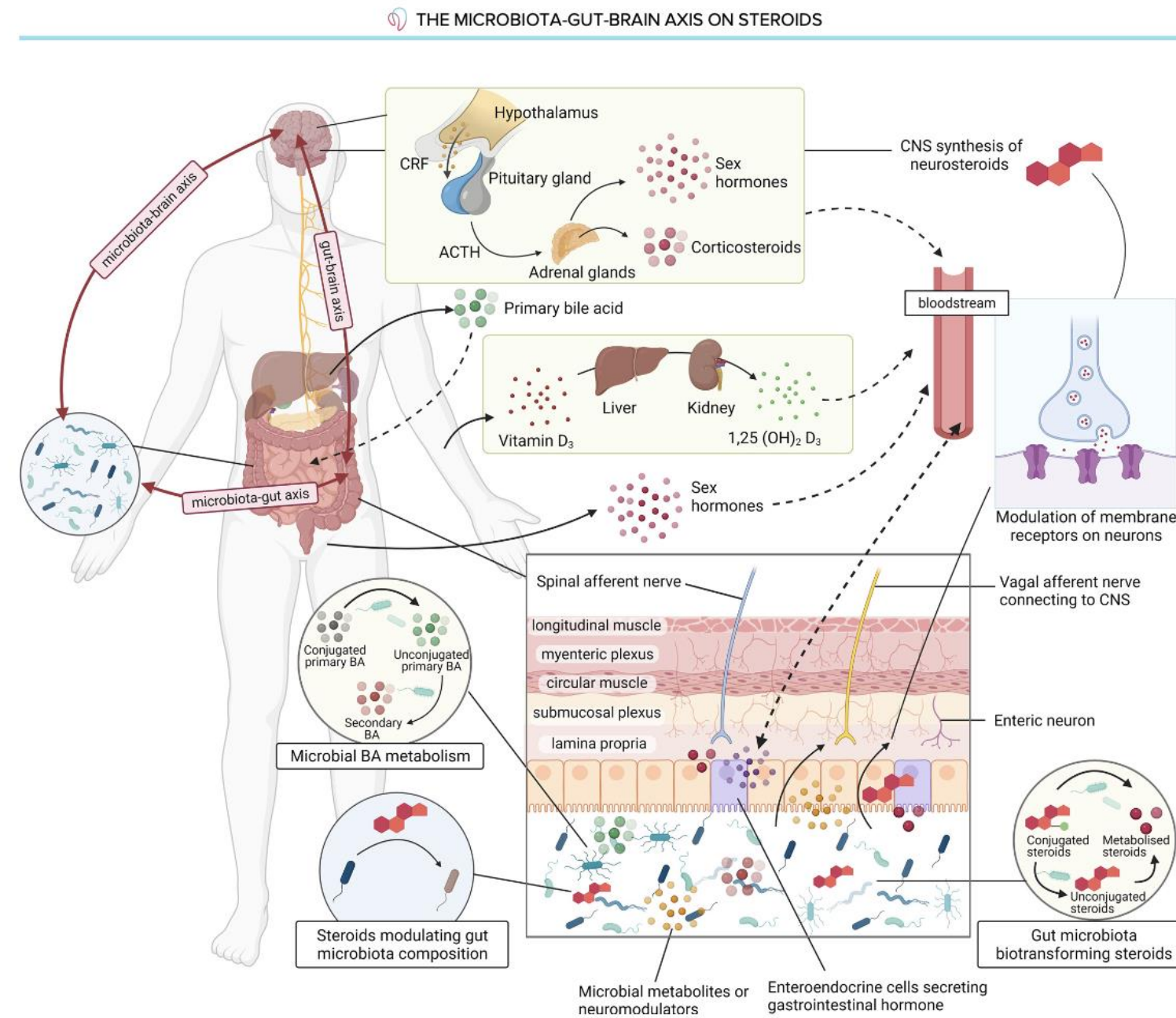
Impact of Cancer Directed Treatments



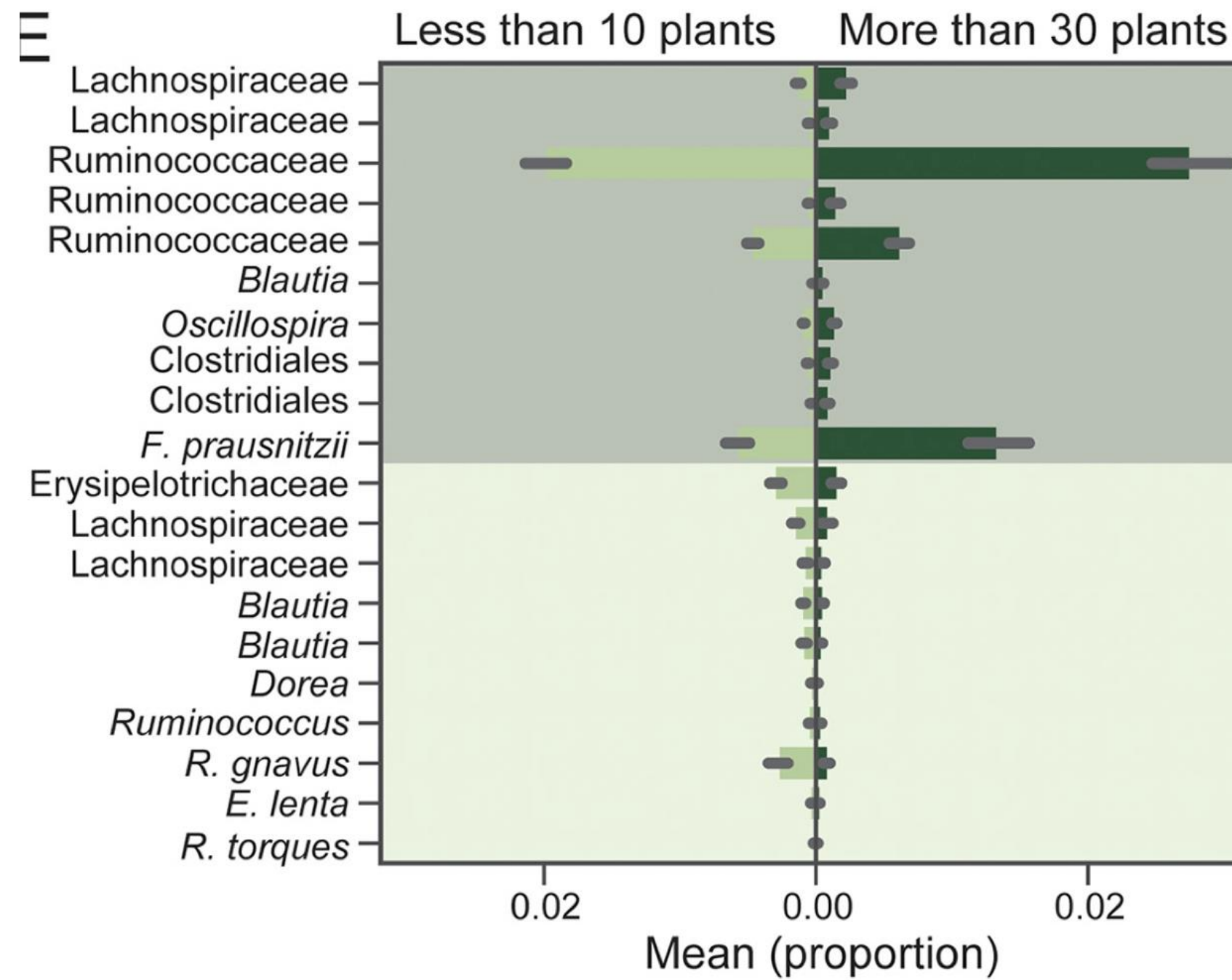
Tamoxifen



Microbiome and the HPA axis



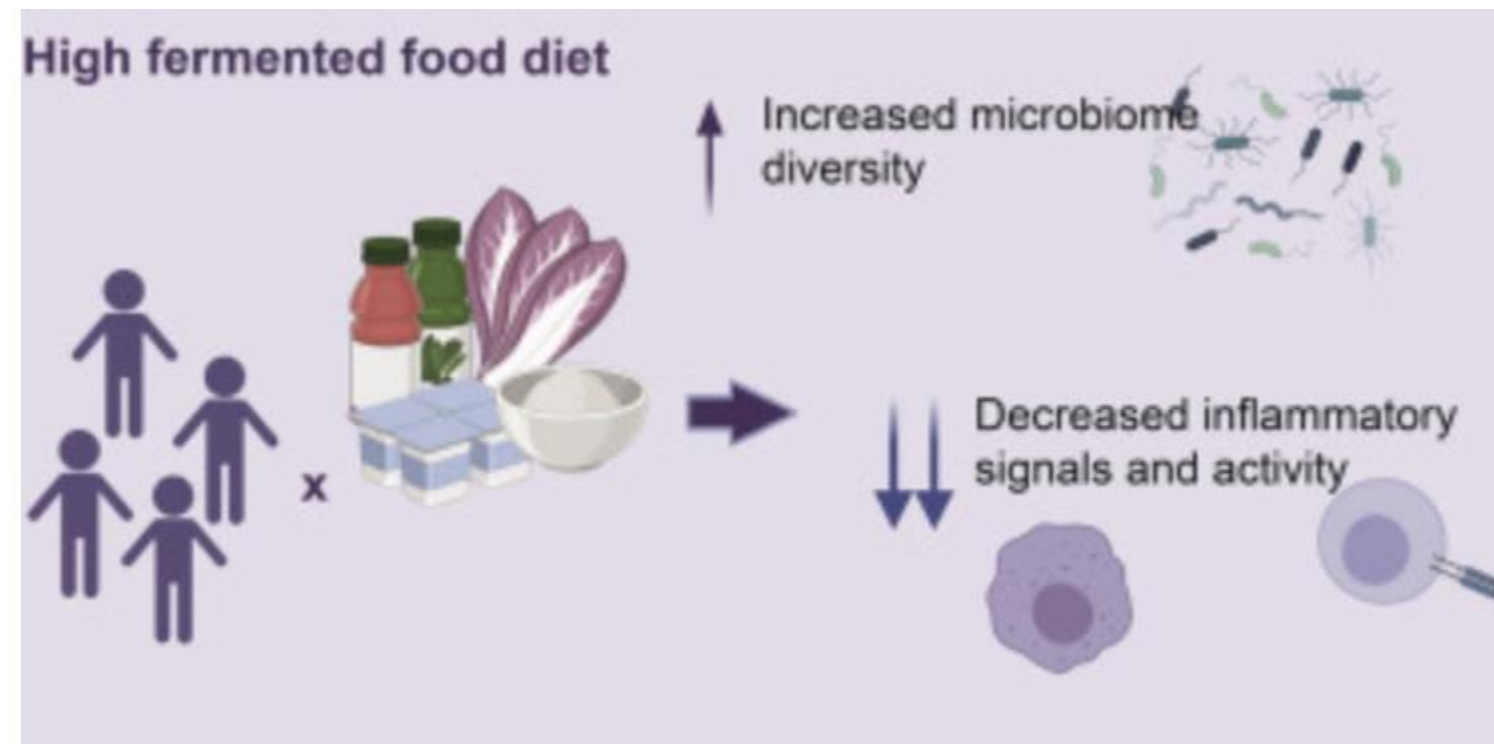
Nutrition



Nutrition

- . Fruit and vegetables
- . Legumes
- . Grains
- . Nuts and seeds
- . Herbs and spices

Nutrition



Probiotics: Caution

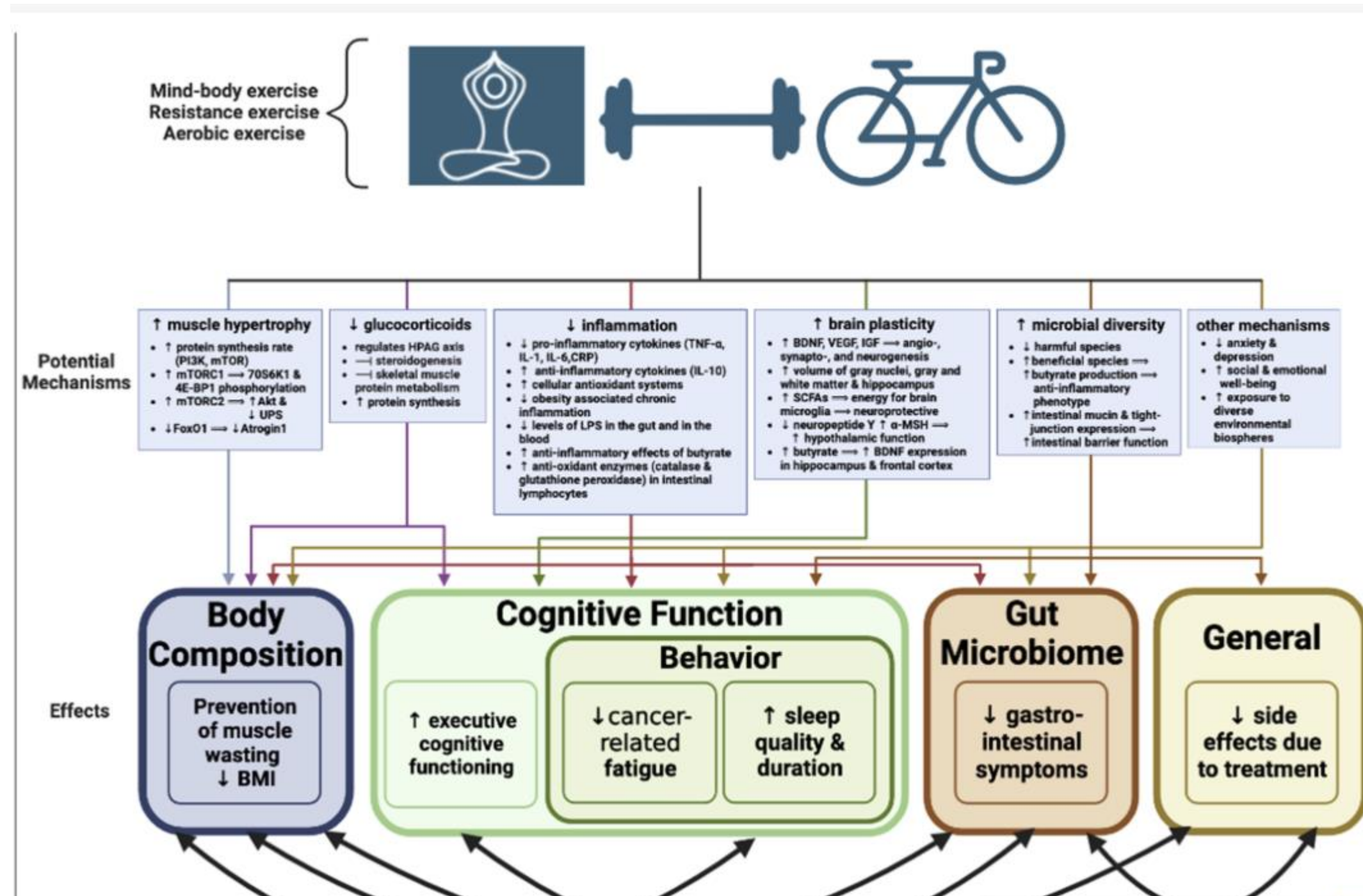
Immunocompromised patients

- Stem or solid organ transplant
- Immunosuppressive agents for autoimmune disease
- Corticosteroids
- Chemotherapy (Taxol/platinum, immunotherapy)
- Radiation

Probiotics: Caution

- Indwelling medical devices (central venous catheters)
- Severe acute pancreatitis
- Critically ill patients (organ failure)
- Cardiac valve abnormality
- History of endocarditis
- Previous bowel surgery and short gut syndrome
- Diabetes
- Lactose and yeast allergy/hypersensitivity

Exercise



Benefits

- Decreases stress and anxiety
- Improves focus
- Improves balance and flexibility
- Improves neurocognition
- Decreases inflammation

Exercise

- Improves functional status
- Quality of Life
- Improved neurocognitive and physiologic outcomes
- Survival
- No adverse effects

Exercise

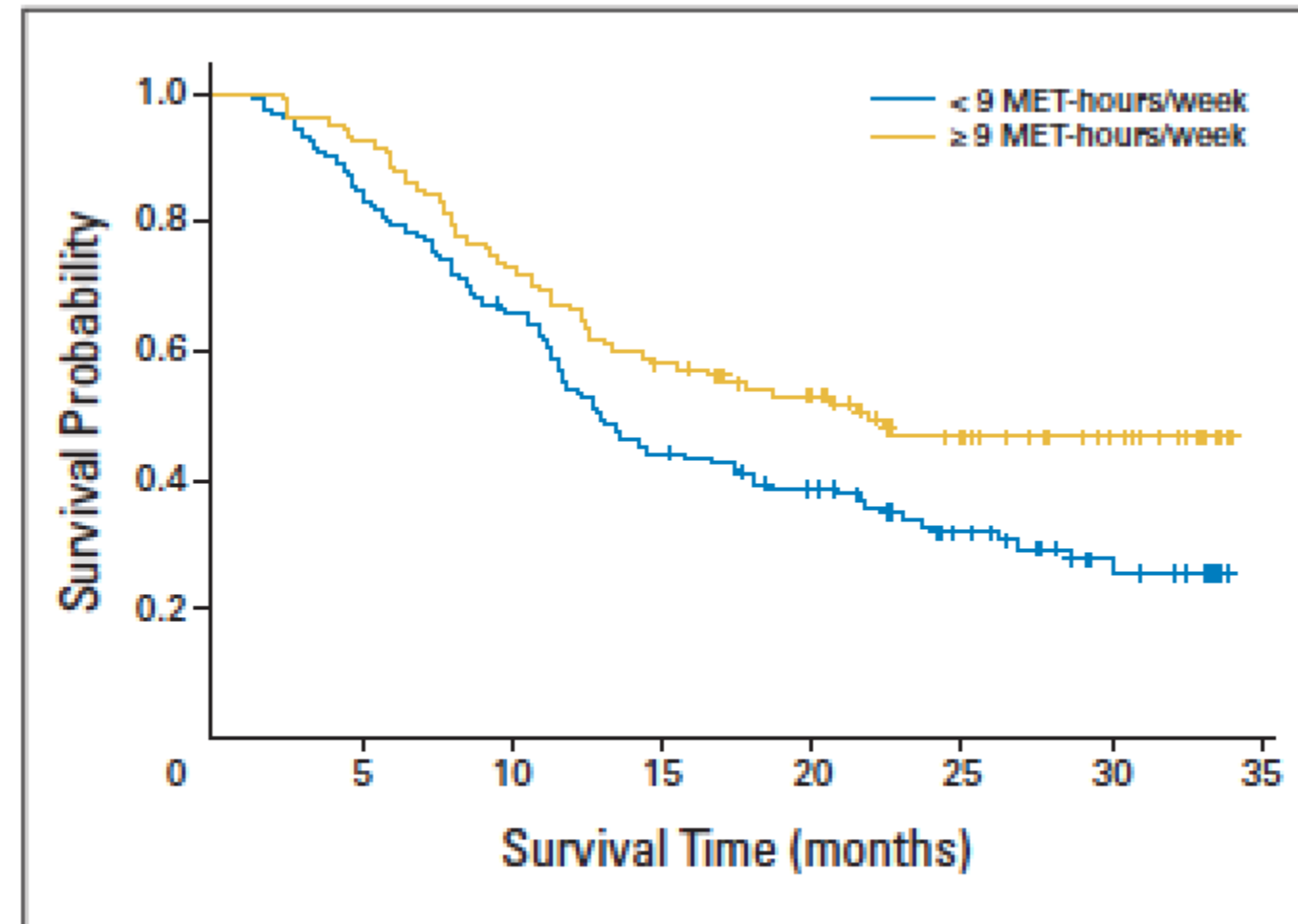
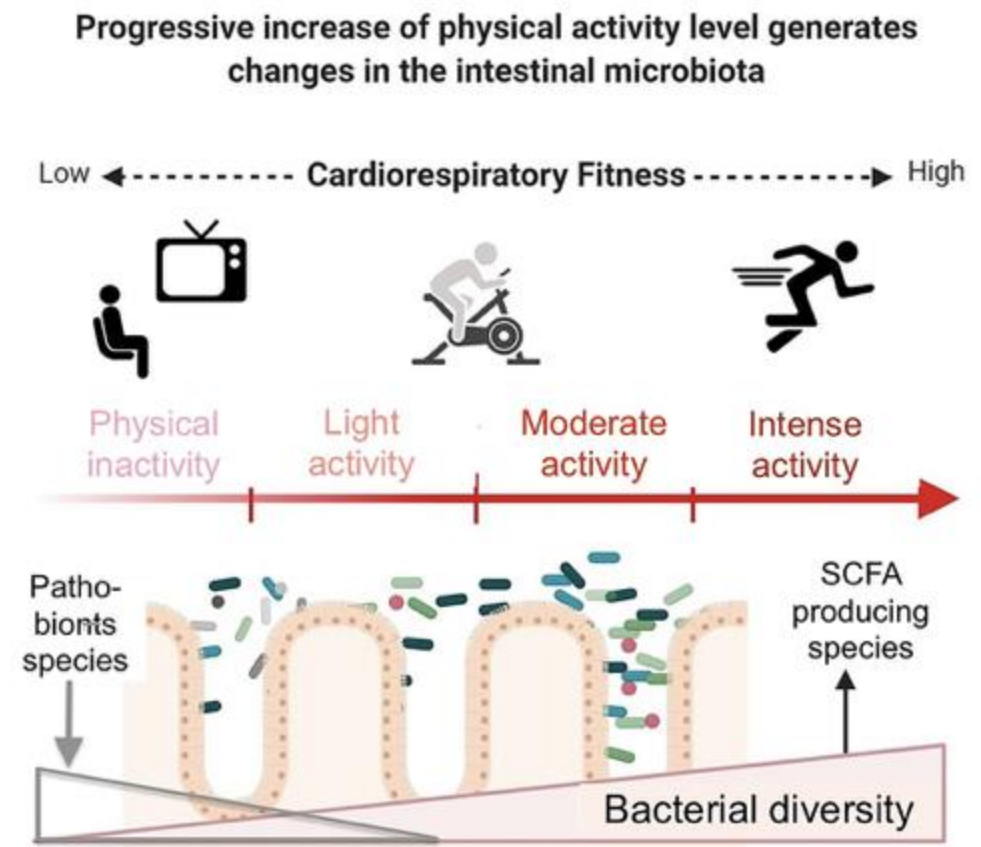


Fig 2. Association between exercise behavior (metabolic equivalent [MET]-h/wk) and survival.

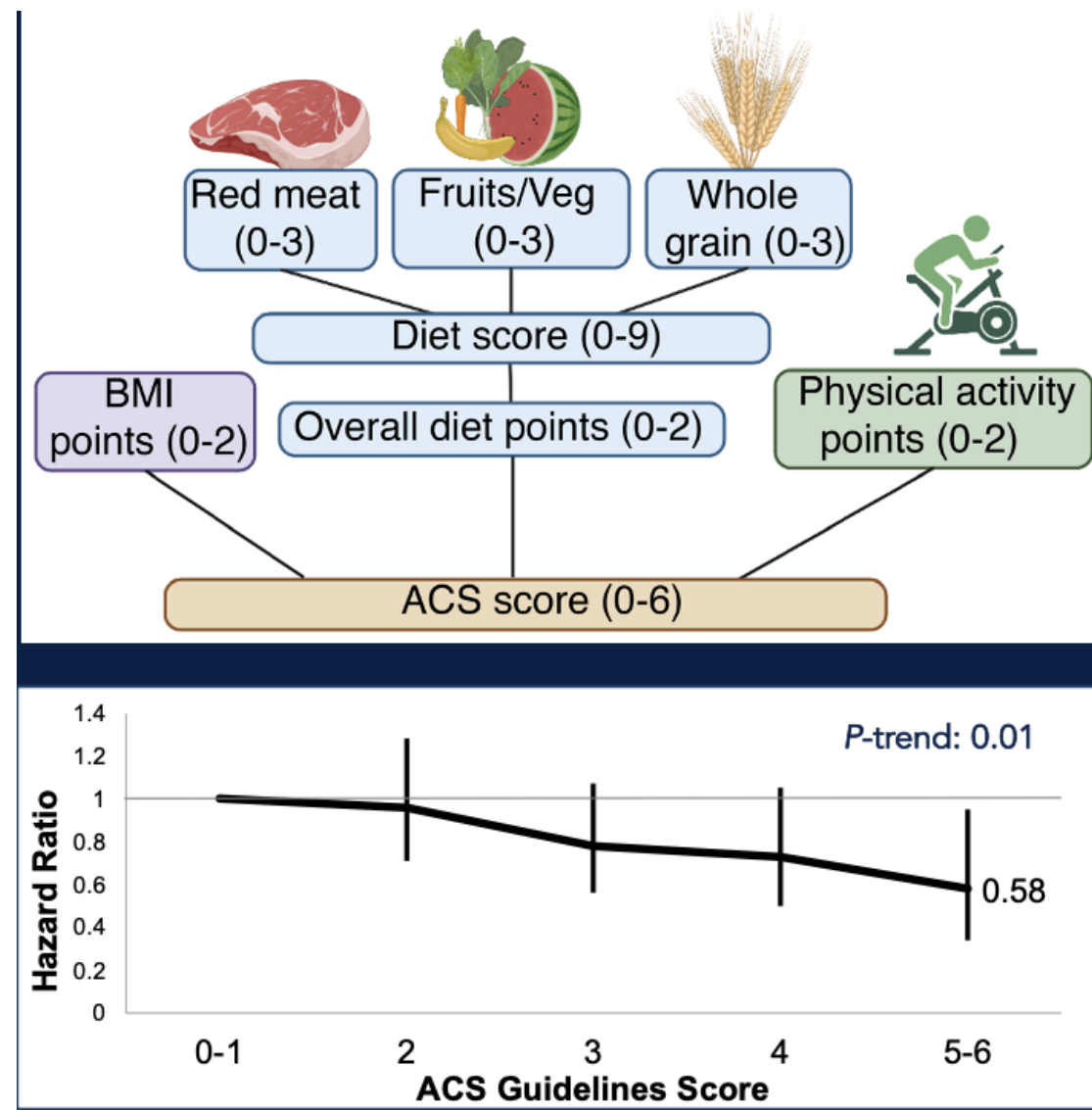
Exercise

Physical activity	MET ^[a]
Light-intensity activities	< 3
writing, desk work, using computer	1.5 ^[10]
walking slowly	2.0 ^[10]
Moderate-intensity activities	3 to 6
walking, 3.0 mph (4.8 km/h)	3.0 ^[10]
sweeping or mopping floors, vacuuming carpets	3 to 3.5 ^[10]
yoga session with asanas and pranayama	3.3 ^[11]
Tennis doubles	5.0 ^[10]
Weight lifting (moderate intensity)	5.0 ^[12]
sexual activity, aged 22	5.8 ^[13]
Vigorous intensity activities	≥6
aerobic dancing, medium effort	6.0 ^[12]
bicycling, on flat, 10–12 mph (16–19 km/h), light effort	6.0 ^[10]
jumping jacks	>6.0 ^[14]
sun salutation (Surya Namaskar, vigorous with transition jumps)	7.4 ^[11]
basketball game	8.0 ^[10]
swimming moderately to hard	8 to 11 ^[10]
jogging, 5.6 mph (9.0 km/h)	8.8 ^[12]
rope jumping (66/min)	9.8 ^[12]
football	10.3 ^[15]
rope jumping (84/min)	10.5 ^[12]
rope jumping (100/min)	11.0 ^[12]
jogging, 6.8 mph (10.9 km/h)	11.2 ^[12]


Exercise



And better together!



SIO Clinical Practice Guidelines



CHEST

Supplement

DIAGNOSIS AND MANAGEMENT OF LUNG CANCER, 3RD ED: ACCP GUIDELINES

Complementary Therapies and Integrative Medicine in Lung Cancer

Diagnosis and Management of Lung Cancer, 3rd ed: American College of Chest Physicians

Clinical Practice Guidelines on the Use of Integrative Therapies as Supportive Care in Patients Treated for Breast Cancer

Heather Greenlee, Lynda G. Balneaves, Linda E. Carlson, Misha Cohen, Gary Deng, Dawn Hershman, Matthew Mumber, Jane Perlmutter, Dugald Seely, Ananda Sen, Suzanna M. Zick, Debu Tripathy; for the Society for Integrative Oncology Guidelines Working Group

Correspondence to: Heather Greenlee, ND, PhD, MPH, Department of Epidemiology, Mailman School of Public Health, Columbia University, 722W. 168th Street, 7th Floor, New York, NY 10032 (e-mail: hg2120@columbia.edu).

Clinical Practice Guidelines on the Evidence-Based Use of Integrative Therapies During and After Breast Cancer Treatment

Heather Greenlee, ND, PhD, MPH^{1,2}; Melissa J. DuPont-Reyes, MPH, MPhil³; Lynda G. Balneaves, RN, PhD⁴; Linda E. Carlson, PhD⁵; Misha R. Cohen, OMD, LAc^{6,7}; Gary Deng, MD, PhD⁸; Jillian A. Johnson, PhD⁹; Matthew Mumber, MD¹⁰; Dugald Seely, ND, MSc^{11,12}; Suzanna M. Zick, ND, MPH^{13,14}; Lindsay M. Boyce, MLIS¹⁵; Debu Tripathy, MD¹⁶

CME CNE

¹Assistant Professor, Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, NY; ²Member, Herbert Irving Comprehensive

Abstract: Patients with breast cancer commonly use complementary and integrative therapies as supportive care during cancer treatment and to manage treatment-related side effects. However, evidence supporting the use of such therapies in the oncology setting is limited. This report provides updated clinical practice guidelines from the Society for Integrative

JOURNAL OF CLINICAL ONCOLOGY

ASCO SPECIAL ARTICLE

Integrative Therapies During and After Breast Cancer Treatment: ASCO Endorsement of the SIO Clinical Practice Guideline

Gary H. Lyman, Heather Greenlee, Kari Bohlke, Ting Bao, Angela M. DeMichele, Gary E. Deng, Judith M. Fouladbakhsh, Brigitte Gil, Dawn L. Hershman, Sami Mansfield, Dawn M. Mussallem, Karen M. Mustian, Erin Price, Susan Rafte, and Lorenzo Cohen

ABSTRACT

Purpose

The Society for Integrative Oncology (SIO) produced an evidence-based guideline on use of integrative therapies during and after breast cancer treatment that was determined to be relevant to the American Society of Clinical Oncology (ASCO) membership. ASCO considered the guideline for endorsement.

Methods

The SIO guideline addressed the use of integrative therapies for the management of symptoms and adverse effects, such as anxiety and stress, mood disorders, fatigue, quality of life, chemotherapy-induced nausea and vomiting, lymphedema, chemotherapy-induced peripheral neuropathy, pain, and sleep disturbance. Interventions of interest included mind and body practices, natural products, and lifestyle modifications. SIO systematic reviews focused on randomized controlled trials that were published from 1990 through 2015. The SIO guideline was reviewed by ASCO content experts for clinical accuracy and by ASCO methodologists for developmental rigor. On favorable review, an ASCO Expert Panel was convened to review the guideline contents and recommendations.

Results

Author affiliations and support information (if applicable) appear at the end of this article.

Published at jco.org on June 11, 2018.

G.H.L. and L.C. were Expert Panel co-chairs.

Clinical Practice Guideline Committee Approved: March 8, 2018.

Editor's note: This American Society of Clinical Oncology (ASCO) Clinical Practice Guideline provides recommendations, with comprehensive review and analyses of the relevant literature for each recommendation. Additional information, including a Data Supplement with additional evidence tables, a Methodology Supplement, slide sets, clinical tools and resources, and links to patient information at www.cancer.net, is available at www.cancer.net.

Integrative Medicine for Pain

Management in Oncology: Society for Integrative Oncology–ASCO Guideline

FOCUS ON QUALITY

Integrative Medicine for Pain

Management in Oncology: Society for Integrative Oncology-ASCO Guideline Summary and Q&A

Jun J. Mao, MD, MSCE¹; Heather Greenlee, PhD, ND²; Ting Bao, MD¹; Nofisat Ismaila, MD³; and Eduardo Bruera, MD⁴ on behalf of the SIO-ASCO Expert Panel

People with cancer now live longer, thanks to improved diagnosis and treatments; however, many experience pain related to their disease and ongoing or past oncological treatment. Pain not only negatively affects quality of life and daily functioning¹ but also leads to treatment nonadherence that may compromise overall survival.² Therefore, effective pain management is critical throughout the cancer care trajectory. In 2016, the Centers for Disease Control and Prevention began emphasizing the importance of incorporating non-pharmacological approaches to pain management.³

This Society for Integrative Oncology (SIO)-ASCO joint guideline⁴ builds on the existing ASCO guideline Management of Chronic Pain in Survivors of Adult Cancers⁵ and was developed by an international multidisciplinary group of experts to provide evidence-based recommendations on integrative approaches to managing pain in people living with cancer. The evidence base comprises systematic reviews, meta-analyses, and randomized controlled trials published from 1990 through 2021 that involved adults and pediatric patients experiencing pain during any stage of their cancer care. The panel also identified critical gaps in knowledge, evidence, and implementation, including those fueled by health care inequities and barriers to trial participation and offers guidance on advancing the field of precision integrative pain management so that the right patient receives the right treatment to improve pain and related outcomes.

In this summary, we specifically highlight the four strongest recommendations from the guideline that are minimally based on intermediate-level evidence, benefit outweighing risk, and with moderate strength of recommendation (Fig 1). The guideline makes a total of 13 recommendations. Please refer to the guideline for recommendations with lower levels of evidence and their evidence review discussions.⁴

QUESTION: WHAT ARE THE KEY TAKEAWAYS FOR CLINICIANS ON INTEGRATIVE THERAPIES FOR MANAGING PAIN EXPERIENCED BY PEOPLE WITH CANCER?

Acupuncture should be offered to breast cancer survivors on aromatase inhibitors (AIs) who have arthralgias.⁶ Studies show that joint pain results in AI

nonadherence,^{7,8} which can lead to increased recurrence and mortality for women living with breast cancer.² In a large multicenter randomized controlled trial, true acupuncture was more effective than sham acupuncture and usual care control with a greater proportion of individuals experiencing a clinically meaningful response, defined as a two-point reduction in pain on a 0-10 scale.⁶

Acupuncture may also be offered to patients experiencing general or musculoskeletal pain from cancer. A large effect size after 10 weeks of treatment was demonstrated with minimal toxicities and durable treatment effects at 6 months after random assignment.⁹

Massage therapy can also be recommended, particularly for patients experiencing pain during palliative and hospice care.¹⁰ The immediate beneficial effect on pain was clinically significant in patients with advanced cancers who had moderate-to-severe pain, with no side effects observed; however, the long-term effects of massage are unknown.

Mind-body therapies such as yoga are generally safe but have more robust evidence for managing psychological distress and fatigue.¹¹ There is insufficient or inconclusive evidence to make recommendations for pediatric patients.

QUESTION: WHAT SPECIFIC FINDINGS CAN I SHARE WITH PATIENTS FOR ACUPUNCTURE OR MASSAGE THERAPIES TO IMPROVE CANCER PAIN?

The decision to use acupuncture with other treatments for AI-related or musculoskeletal pain needs to be based on patient preference, an assessment of benefit versus risk, and access to acupuncture. Patients should seek acupuncture from providers who are licensed and have experience working with patients with cancer. Patients should be aware that treatment may require 6-10 weekly sessions to achieve durable effects.^{6,9} Acupuncture is covered by Medicare for chronic low back pain,¹² but insurance coverage for other pain conditions is mixed depending on the insurance plan. Many patients will need to pay out of pocket for acupuncture services.

Therapeutic massage can provide more immediate benefit, particularly for patients with advanced cancer

Integrative Oncology Care of Symptoms of Anxiety and Depression in Adults With Cancer: Society for Integrative Oncology–ASCO Guideline

Linda E. Carlson, RPsych, PhD¹; Nofisat Ismaila, MD²; Elizabeth L. Addington, PhD³; Gary N. Asher, MD, MPH⁴; Chloe Atreya, MD, PhD⁵; Lynda G. Balneaves, RN, PhD⁶; Joke Bradt, MT-BC, PhD⁷; Nina Fuller-Shavel, MB BChir, MA⁸; Joseph Goodman, MD⁹; Caroline L. Hoffman, OAM, RN, BSW, PhD¹⁰; Alices Huxton, MD¹¹; Ashwin Mehta, MD¹²; Channing L. Rallor, MD¹³; Kimberly Richardson, MA¹⁴

Integrative Oncology Care of Symptoms of Anxiety and Depression in Adults With Cancer: SIO-ASCO Guideline Summary and Q&A

Linda E. Carlson, PhD, RPsych¹; Nofisat Ismaila, MD²; Elizabeth L. Addington, PhD³; Gary N. Asher, MD, MPH⁴; Joke Bradt, PhD, MT-BC⁵; Ashwin Mehta, MD⁶; and Julia H. Rowland, PhD⁷; on behalf of the SIO-ASCO Expert Panel

DOI: <https://doi.org/10.1200/JCO.2023.00358>

INTRODUCTION

Cancer takes a substantial psychological toll on affected individuals. Research shows that people living with cancer have a significantly elevated risk of developing a mental health disorder at any time after diagnosis compared with the general population.^{1,2} Furthermore, anxiety and depression symptoms have long been associated with lower quality of life and higher mortality in people with cancer.^{3,4} Despite this, their psychological symptoms are often underrecognized and undertreated.⁵⁻⁷ As the number of people living with cancer continues to grow,^{8,9} so does the challenge to health care providers of meeting their mental health needs. Increasing awareness and timely use of integrative as well as conventional evidence-based interventions to address these needs is critical if we are to reduce the burden of cancer internationally.

QUESTION: WHAT ARE THE MAIN TAKEAWAYS?

The strongest recommendation in the guideline¹⁰ across both anxiety and depression symptoms is that Mindfulness-Based Interventions (MBIs) should be offered to people with cancer both during active treatment and post-treatment. This recommendation is based on several meta-analyses and systematic reviews that included up to 29 individual randomized controlled trials (RCTs). MBIs are typically modeled on Mindfulness-Based Stress Reduction and offered in group format with weekly meetings (either in person or virtually) over a period of 6-9 weeks. Participants learn skills of mindfulness through daily home practice of various forms of meditation, gentle movement, didactic teaching about stress, coping and the mind-body connection, and group support and discussion. It is of note that MBIs are also included in the updated 2023 ASCO anxiety and depression guidelines¹¹ focused on conventional care, demonstrating that with an increasingly strong evidence-base, MBIs are now becoming mainstream.

The next strongest recommendation is that yoga may be offered to people with cancer for both anxiety and depression symptom reduction across the treatment trajectory. Similarly, this is supported by six systematic reviews of RCTs. Most yoga interventions in these studies involved therapeutic or restorative Hatha yoga classes on a weekly or twice per week schedule, for at least 6 weeks.

During cancer treatments such as surgery, chemotherapy or radiation therapy, music therapy, relaxation therapies, and reflexology may be offered to reduce both anxiety and depression symptoms in people with cancer while hypnosis and lavender essential oil inhalation may be recommended to help specifically with anxiety symptoms during diagnostic and treatment procedures. These therapies are especially well suited for people during treatment as they often require little energy to undertake and allow different levels of engagement for those who may feel fatigued or less motivated.

Finally, tai chi or qigong programs may be considered to help alleviate symptoms of both depression and anxiety post-treatment, and reflexology may be recommended for anxiety. Acupuncture may also be considered for women with breast cancer to reduce anxiety symptoms post-treatment.

Accepted June 18, 2023
Published August 15, 2023

JCO Oncol Pract 00:1-5
© 2023 by American Society of Clinical Oncology



View Online Article

ASCO

JCO® Oncology Practice

Conclusion

- High interest in and use of integrative therapies by our patients, at all stages of diagnosis and treatment
- Need for evidence-based counseling to support informed decision making
- Need for more research on safety and efficacy of integrative therapies