



Memorial Sloan Kettering
Cancer Center

“What can I do?”

Integrative Medicine for Patients with Lung Cancer

Jun J. Mao, MD, MSCE

Chief of Integrative Medicine Service

Laurance S. Rockefeller Chair in Integrative Medicine

Conflict of Interest

- Grant Support from
 - National Institutes of Health
 - Department of Defense
 - Patient-Centered Outcomes Research Institute
 - Cheezheng
 - ZhongKe

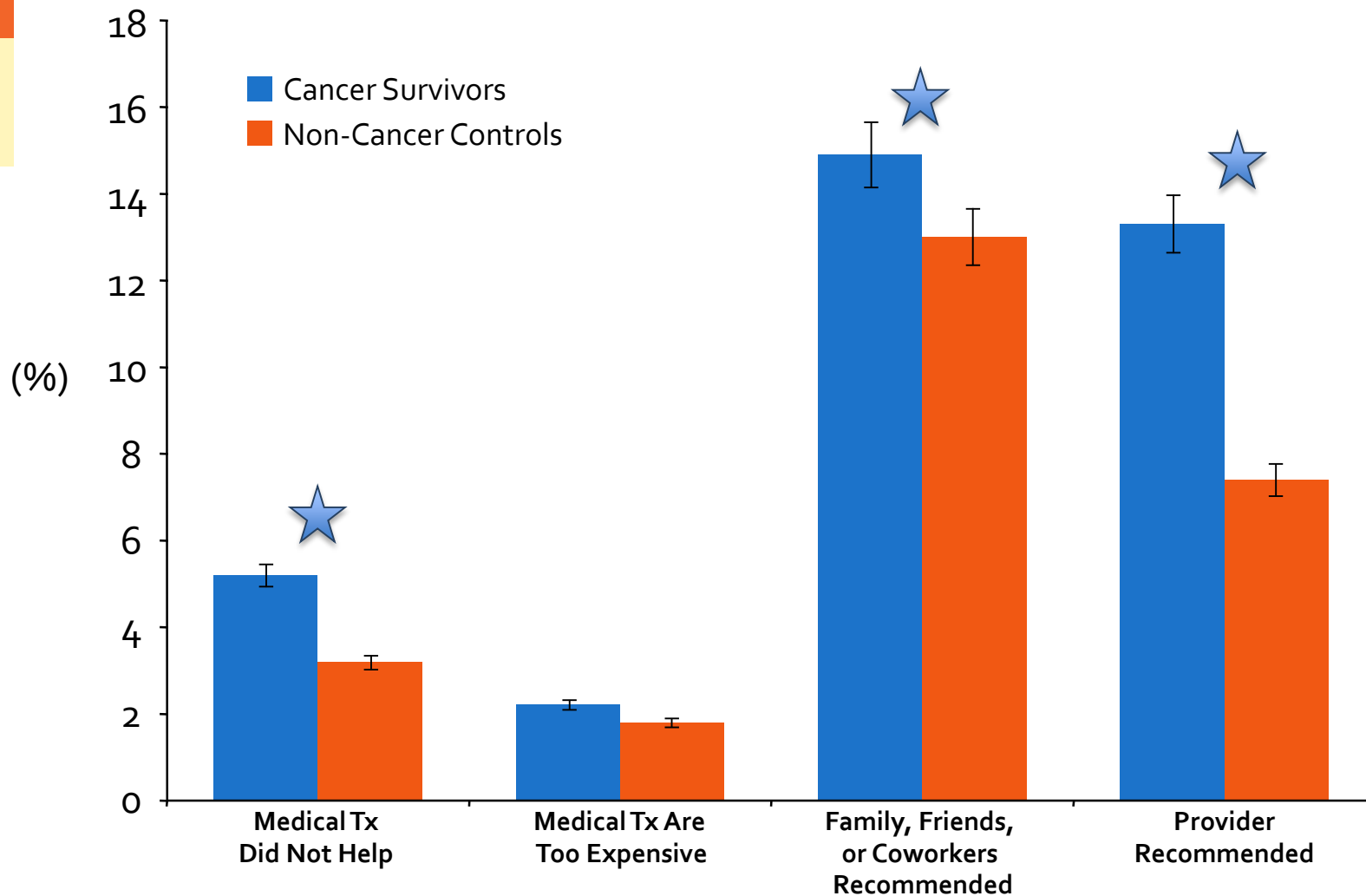


Complementary and Alternative Medicine (CAM)

- 6 of 10 Cancer survivors used CAM
- 4 of 10 Cancer survivors used CAM in the last 12 months



Why use CAM?



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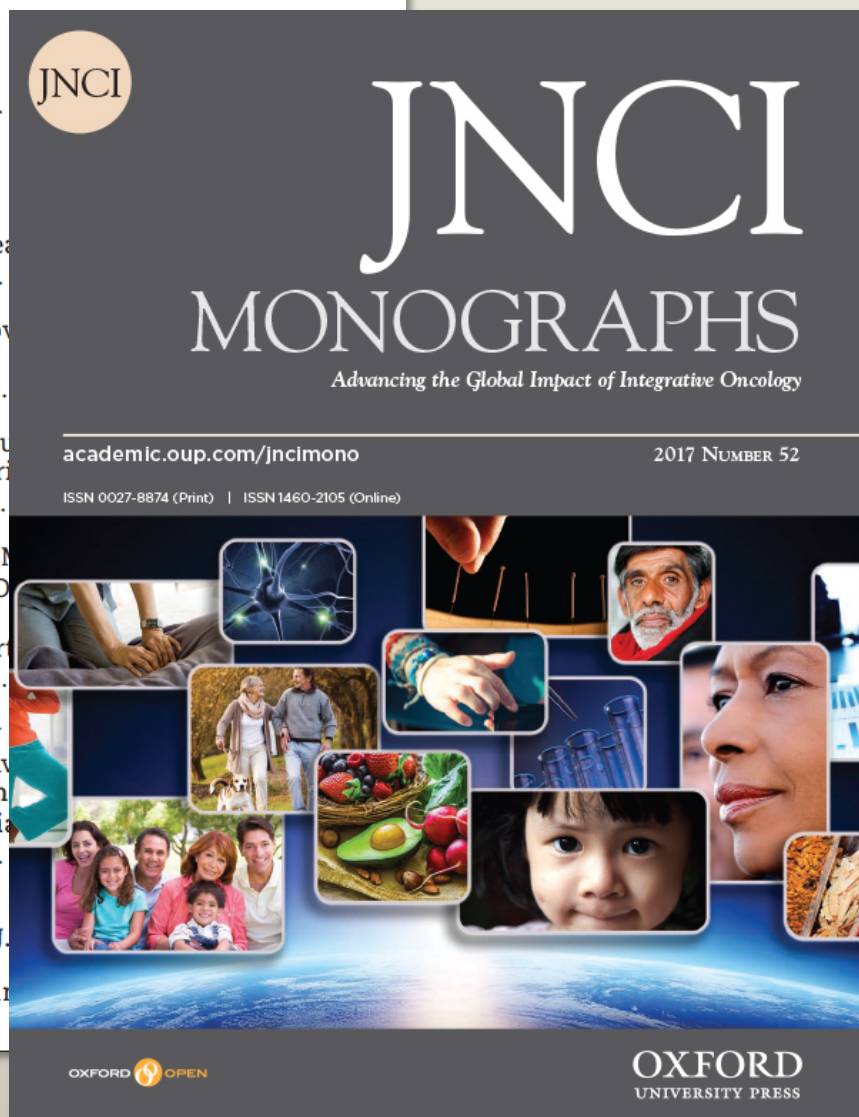
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ARTICLE

A Comprehensive Definition for Integrative Oncology

Claudia M. Witt, Lynda G. Balneaves, Maria J. Cardoso, Lorenzo Cohen,
Heather Greenlee, Peter Johnstone, Ömer Küçük, Josh Mailman, Jun J. Mao

Affiliations of authors: Institute for Complementary and Integrative Medicine, University of Zurich and University Hospital Zurich, Zurich, Switzerland (CMW); Institute for Social Medicine, Epidemiology and Health Economics, Charité - Universitätsmedizin Berlin, Berlin, Germany (CMW); Center for Integrative Medicine, University of Maryland School of Medicine, Baltimore, MD (CMW); College of Nursing, Rady Faculty of Health Sciences, University of Manitoba, Winnipeg, MB, Canada (LGB); Breast Cancer Unit, Champalimaud Cancer Center, Lisbon, Portugal (MJC); Mama Help Association, Support Centre for Breast Cancer Patients, Porto, Portugal (MJC); Integrative Medicine Program, The University of Texas MD Anderson Cancer Center, Houston, TX (LC); Department of Epidemiology, Mailman School of Public Health, and Herbert Irving Comprehensive Cancer Center, Columbia University, New York, NY (HG); Moffitt Cancer Center and Research Institute, Tampa, FL (PJ); Winship Cancer Institute of Emory University, Atlanta, GA (ÖK); NorCal Carcinet Community, Oakland, CA (JM); Memorial Sloan Kettering Cancer Center, New York, NY (JJM).

Correspondence to: Claudia Witt, MD, MBA, Institute for Complementary and Integrative Medicine, University Hospital Zurich and University Zurich, Sonneggstr. 6, CH-8091 Zurich, Switzerland (e-mail: claudia.witt@uzh.ch).

Abstract

Background: Integrative oncology, which is generally understood to refer to the use of a combination of complementary medicine therapies in conjunction with conventional cancer treatments, has been defined in different ways, but there is no widely accepted definition. We sought to develop and establish a consensus for a comprehensive definition of the field of integrative oncology.

Methods: We used a mixed-methods approach that included a literature analysis and a consensus procedure, including an interdisciplinary expert panel and surveys, to develop a comprehensive and acceptable definition for the term “integrative oncology.”

Results: The themes identified in the literature and from the expert discussion were condensed into a two-sentence definition. Survey respondents had very positive views on the draft definition, and their comments helped to shape the final version. The final definition for integrative oncology is: “Integrative oncology is a patient-centered, evidence-informed field of cancer care that utilizes mind and body practices, natural products, and/or lifestyle modifications from different traditions alongside conventional cancer treatments. Integrative oncology aims to optimize health, quality of life, and clinical outcomes across the cancer care continuum and to empower people to prevent cancer and become active participants before, during, and beyond cancer treatment.”

Conclusions: This short and comprehensive definition for the term integrative oncology will facilitate a better understanding and communication of this emerging field. This definition will also drive focused and cohesive effort to advance the field of integrative oncology.

ARTICLE

A Comprehensive Definition for Integrative Oncology

Integrative oncology is a patient-centered, evidence-informed field of cancer care that utilizes mind and body practices, natural products, and/or lifestyle modifications from different traditions alongside conventional cancer treatments.

Integrative oncology aims to optimize health, quality of life, and clinical outcomes across the cancer care continuum and to empower people to prevent cancer and become active participants before, during, and beyond cancer treatment.

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Conclusions: This short and comprehensive definition for the term integrative oncology will facilitate a better understanding and communication of this emerging field. This definition will also drive focused and cohesive effort to advance the field of integrative oncology.

“What can I do?”

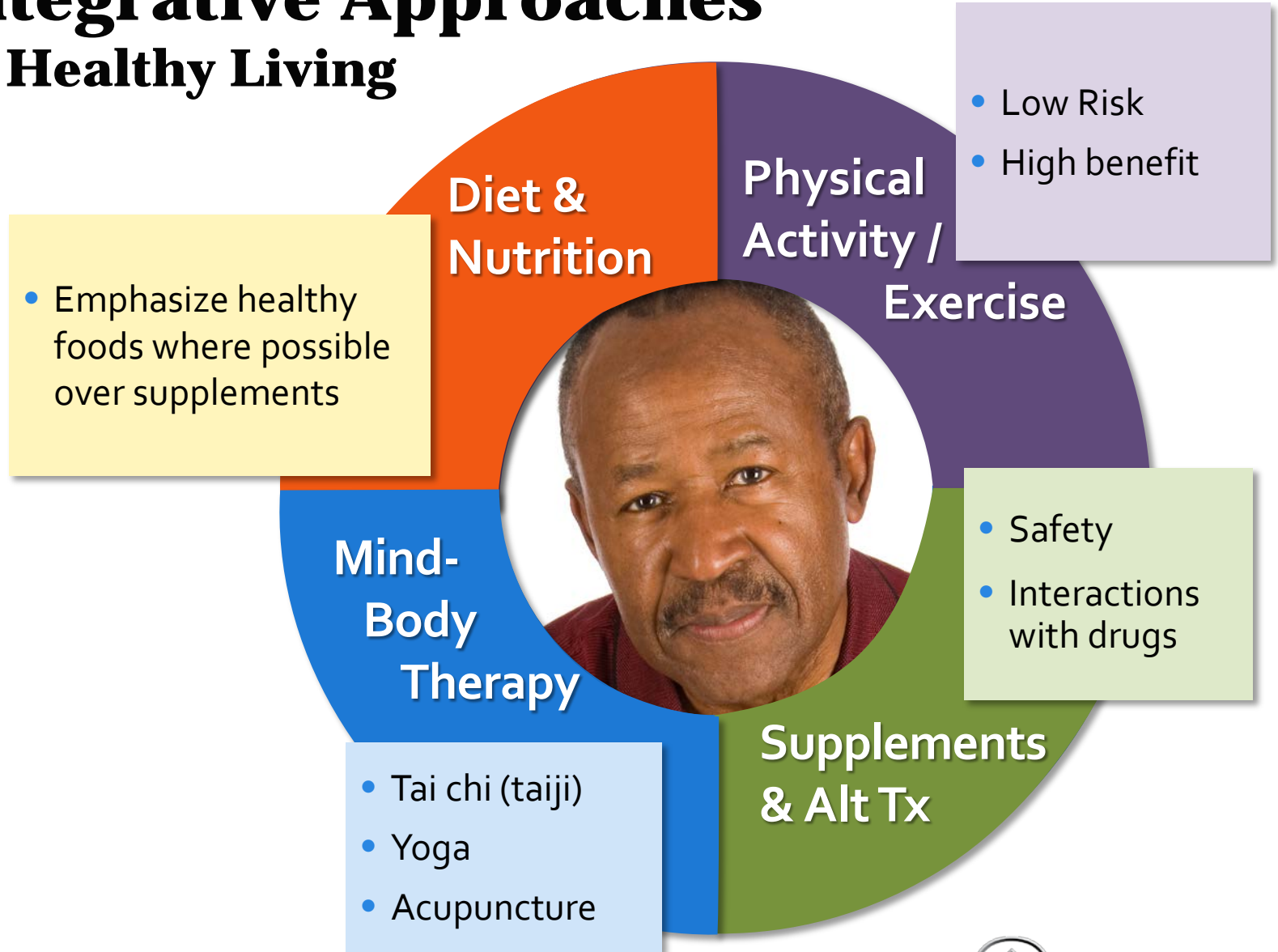
“...when we want to improve lives, you've got to deal with more basic things...”

Bill Gates



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Integrative Approaches to Healthy Living



Physical Activity Benefits Lung CA Pts

High benefit; low risk vs usual care

- Feasible/effective to manage anxiety/depression ¹
- Inverse association of midlife cardiorespiratory fitness (mCRF) and incident lung CA ²
- High mCRF associated with lower mortality risk ²
- Adjusted HR for lung CA with high CRF ²
0.45 (95% CI, 0.29–0.68)

1. Chen HM et al. *Br J Cancer* 2015;112:438-445

2. Lakoski SG et al. *JAMA Oncol* 2015;1:231-237



Mediterranean Diet **Benefits CA Pts**

- Inverse association between CA risk and intake of **fruits, vegetables, fish, and nuts** ¹⁻³
- Meta-analysis confirms an **important inverse association** between the Mediterranean Diet and **cancer mortality / risk of several cancers** ²
- Possible association of *dietary* tocopherol with reduced lung CA risk ^{4,5}

Dietary sources include: plant-derived oils such as wheat germ, soybean, sunflower, almond, safflower oils, eggs, nuts, seeds, green leafy vegetables, whole grains

1. Pascual-Geler M et al. *Aging Male*. 2017;1-9
2. Schwingshackl L et al. *Nutrients*. 2017;9
3. SEE ALSO [AH Monograph on Mediterranean Diet](#).
4. Mahabir S et al. *Int J Cancer* 2008;123:1173-1180
5. Wu QJ et al. *Int J Cancer* 2015;136:610-617



Tai Chi Reduces CA-Related Fatigue

- In lung CA pts undergoing CT vs low-impact exercise ¹
 - Reduced general and physical **fatigue**
 - Increased **vigor**
- Preliminary data in other cancer populations ²
 - Improved **QoL, fatigue, depression, and sleep**
 - Improved **neuropsychological functioning**
 - Feasible in **senior CA survivors**

1. Zhang LL et al. *J Pain Symptom Manage* 2016;51:504-511

2. SEE ALSO [AH monograph on Tai Chi](#)



Yoga Dyadic Therapy Pilots^{1,2}

- Safe, feasible, and useful for lung CA pts during active treatment
- A majority of completers had advanced disease
- Sig improved spiritual well-being, mental health, and benefit finding
- Medium effect sizes on depression and sleep disturbance + corresponding clinical reductions
- Caregivers: Large fx on fatigue and anxiety; medium to sig fx on sleep disturbance and benefit finding

1. Milbury K et al. *Psychooncology* 2015;24:117-120

2. Milbury K et al. *Integr Cancer Ther* 2015;14:446-451

SEE also [AH monograph on Yoga](#)



Yoga In Other CA Populations

- Reduced **pre-existing + RT-related fatigue** ¹
- Improved **fatigue** and **joint pain** ^{2,3}
- Improved **QOL** and **RT-associated physical functioning / physiological changes** ⁴
- Improved **lung function** ⁵
- Well documented to **improve sleep, quality** and **reduce sleep medication** use ⁶

1. Ben-Josef AM et al. *Int J Radiat Oncol Biol Phys*. 2017;98:1036-1044

2. Carson JW et al. *Support Care Cancer*. 2009;17:1301-1309

3. Bower JE et al. *Cancer*. 2012;118:3766-3775

4. Chandwani KD et al. *J Clin Oncol*. 2014;32:1058-1065

5. Fouladbakhsh JM et al. *J Complement Integr Med*. 2013;10

6. SEE Multiple citations in [AH monograph on Yoga](#)



Acupuncture for **Dyspnea, Fatigue, QoL**

- Preliminary **feasibility** and **effectiveness** in lung ca pts with clinically significant dyspnea
- **10 weekly acupuncture sessions**; follow-up 4 wk post
- 1° OC: dyspnea severity
- Majority women and/or Caucasian
10/12 (**83.3%**) completed all 10 sessions
- Mean (SD) dyspnea scores sig improved from BL 6.3 (1.7)
Post-Tx 3.6 (1.9; $P = .003$)
4 wk FU 3.2 (2.3; $P = .008$)
- **Fatigue** and **QoL** also improved ($P < .05$)
- Well tolerated; mild AEs

Acupuncture for **Dyspnea/Reduced Meds**

- In **NSCLC or mesothelioma** patients (**N=173**)
- VAS dyspnea score ≥ 4
- **Randomized** to acupuncture (A), morphine (M), or both (AM)
- Points: upper sternal, thoracic paravertebral, trapezius trigger, LI₄
- Semi-permanent AC studs massaged when symptomatic; **rescue morphine available**



Acupuncture for **Dyspnea/Reduced Meds**

VAS dyspnea ≥ 1.5 at 4 h		Day 7 Lar Anxiety Score $P < .003$	
Acupuncture (A)	74%	Acupuncture (A)	1.5
Morphine (M)	60%	Morphine (M)	no change
Both (AM)	66%	or Both (AM)	1.2
Maintained at 2 wk	45%		
Relaxation improved	$P < .001$	≥ 1 Morphine Dose	$P < .001$
Acupuncture (A)	1.06	Acupuncture (A)	21%
Morphine (M)	-0.19	Morphine (M)	87%
Both (AM)	1.48	or Both (AM)	87%
Acupuncture relieved anxiety and provided an alternative to morphine			

CHOICE: Choosing Options for Insomnia in Cancer Effectively

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PATIENT AND SURVIVOR CARE

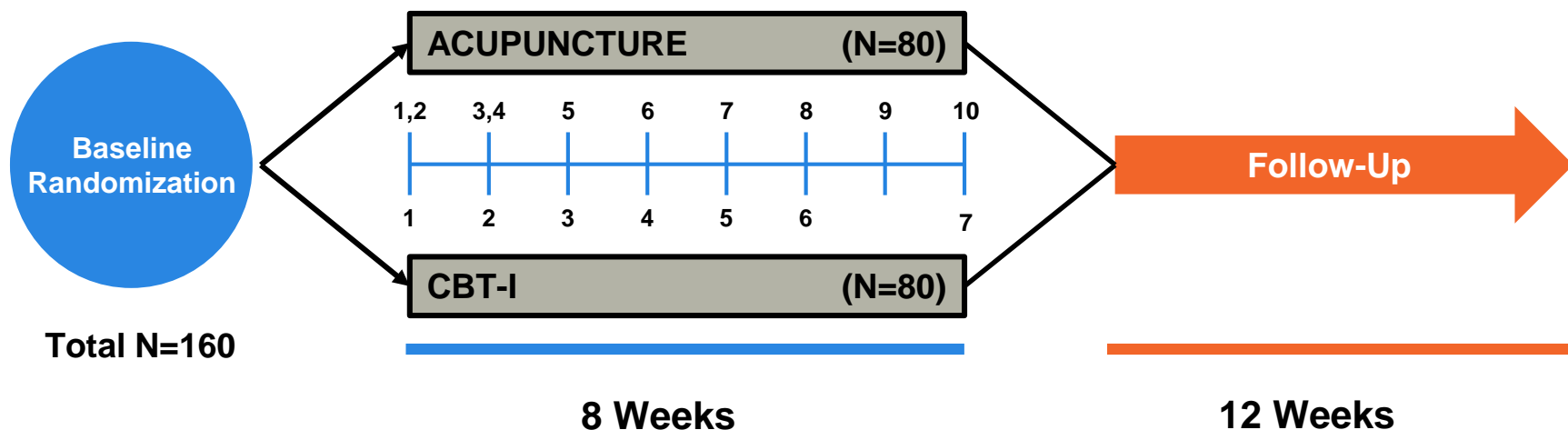
The effect of acupuncture versus cognitive behavior therapy on insomnia in cancer survivors: A randomized clinical trial.

[Jun J. Mao](#), [Sharon Xie](#), [Katherine Duhamel](#), [Ting Bao](#), [Philip W. Kantoff](#), [Qing Susan Li](#), ...



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Study Methods

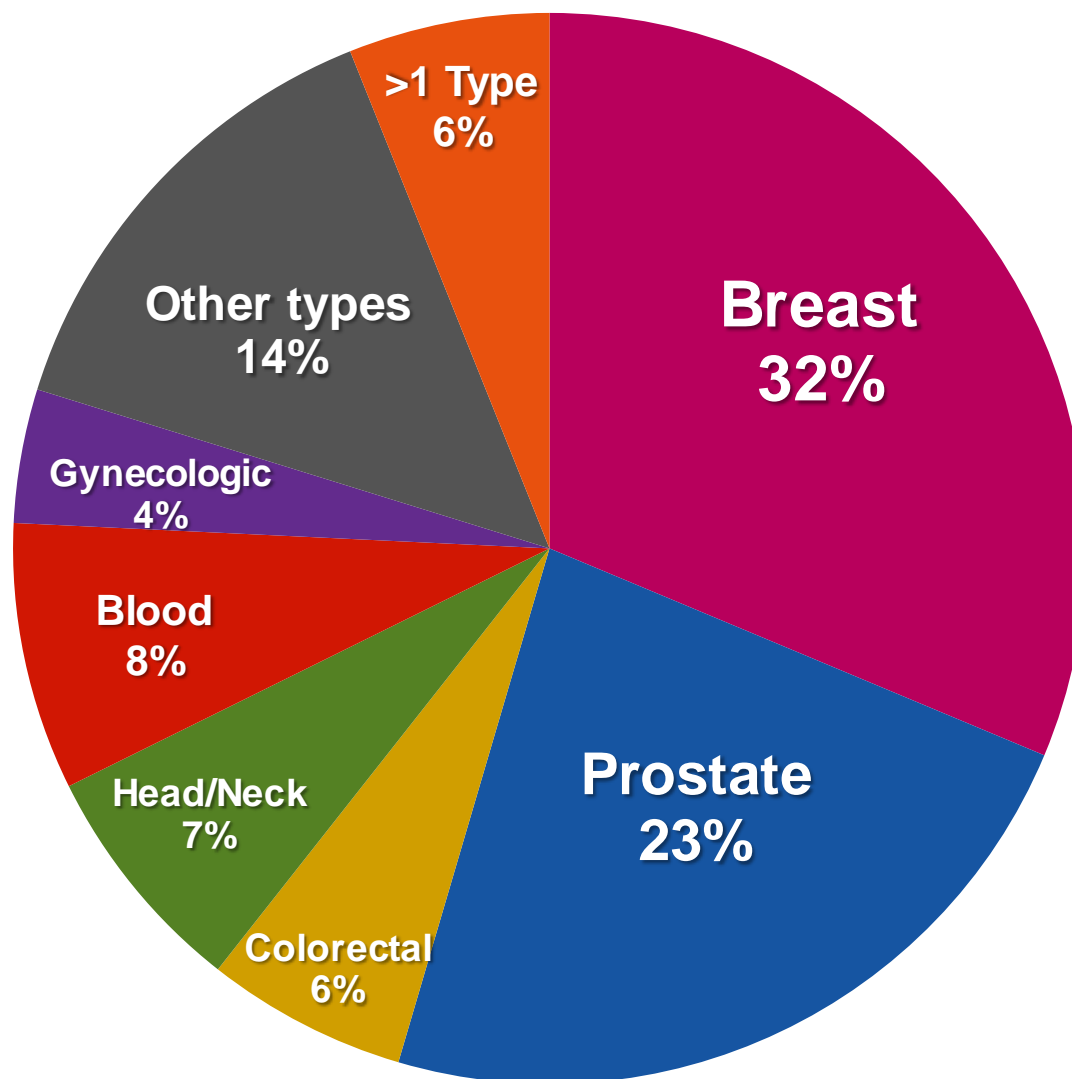


Patients evaluated at:

- **Week 8:** End of treatment
- **Week 20:** 12 weeks after treatment ended

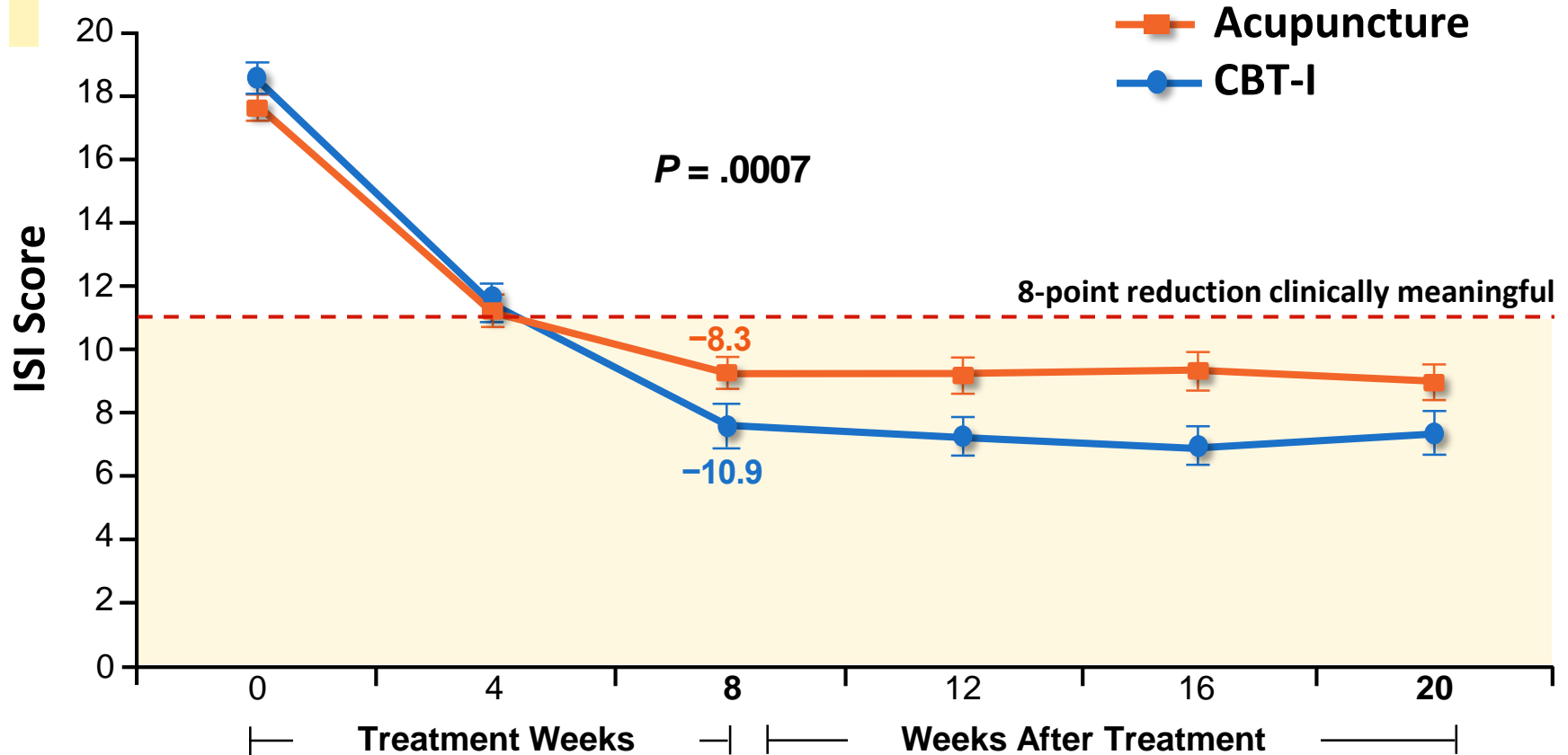


N=160

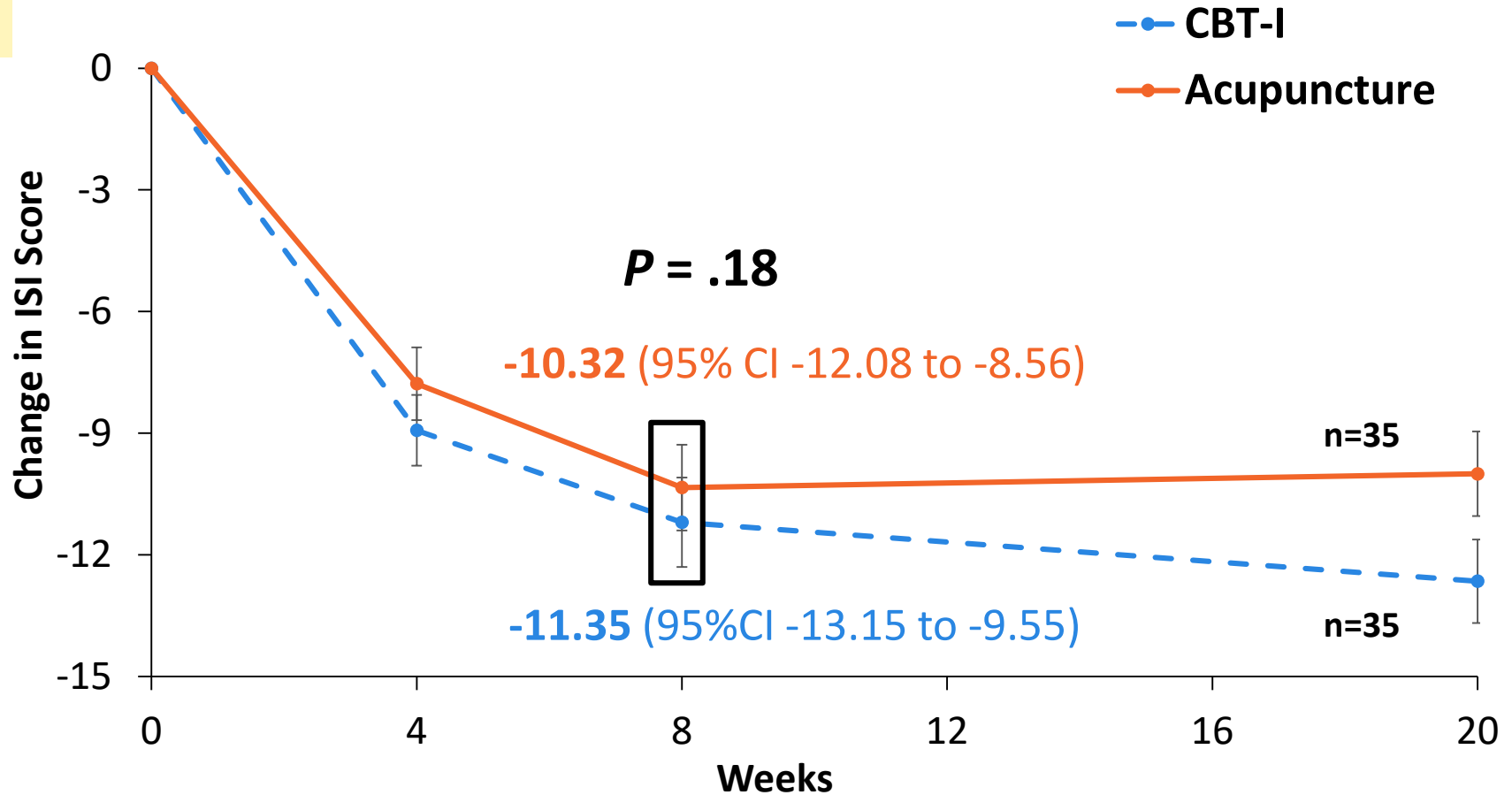


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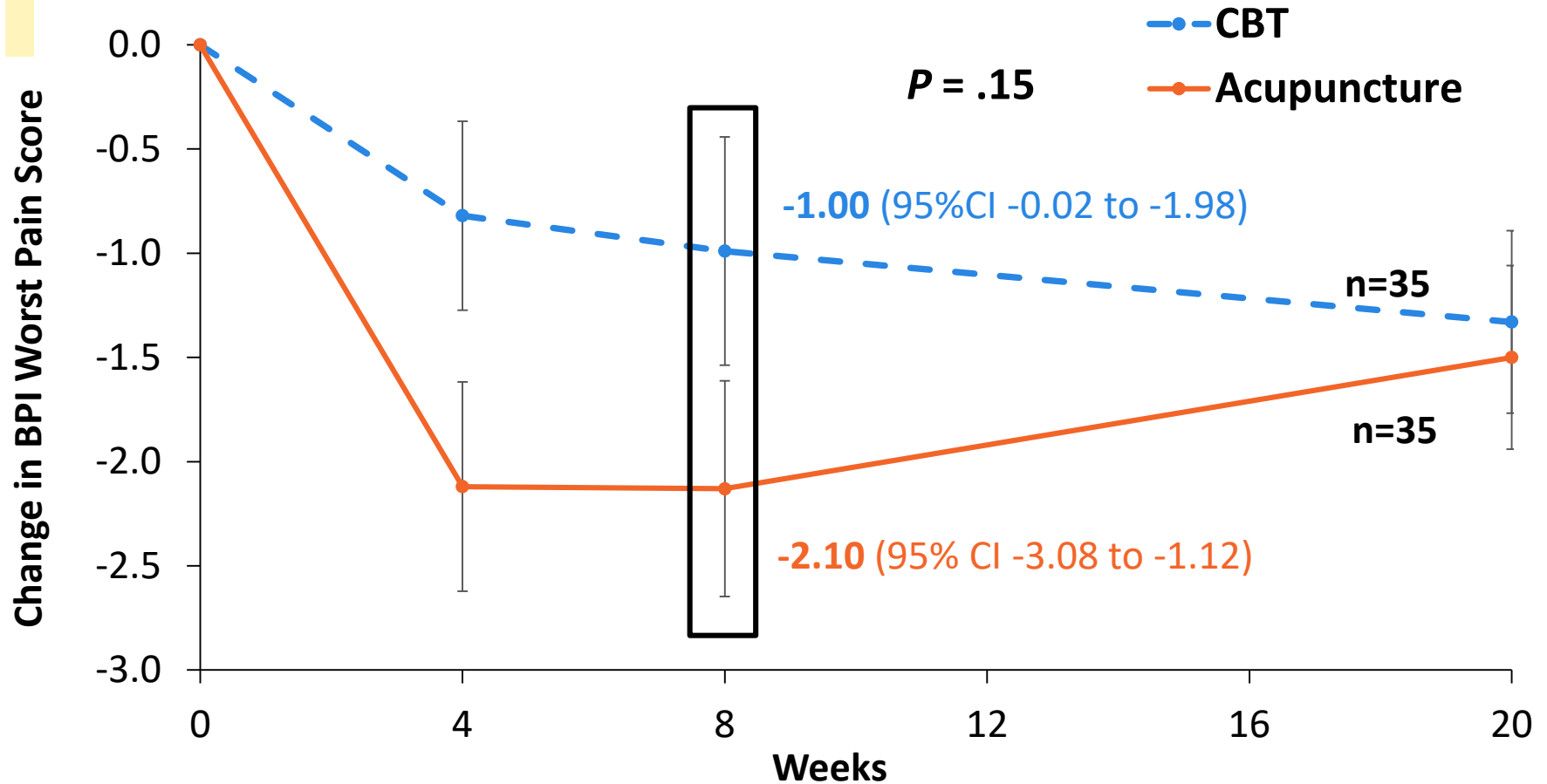
Primary Results: Insomnia Severity Score



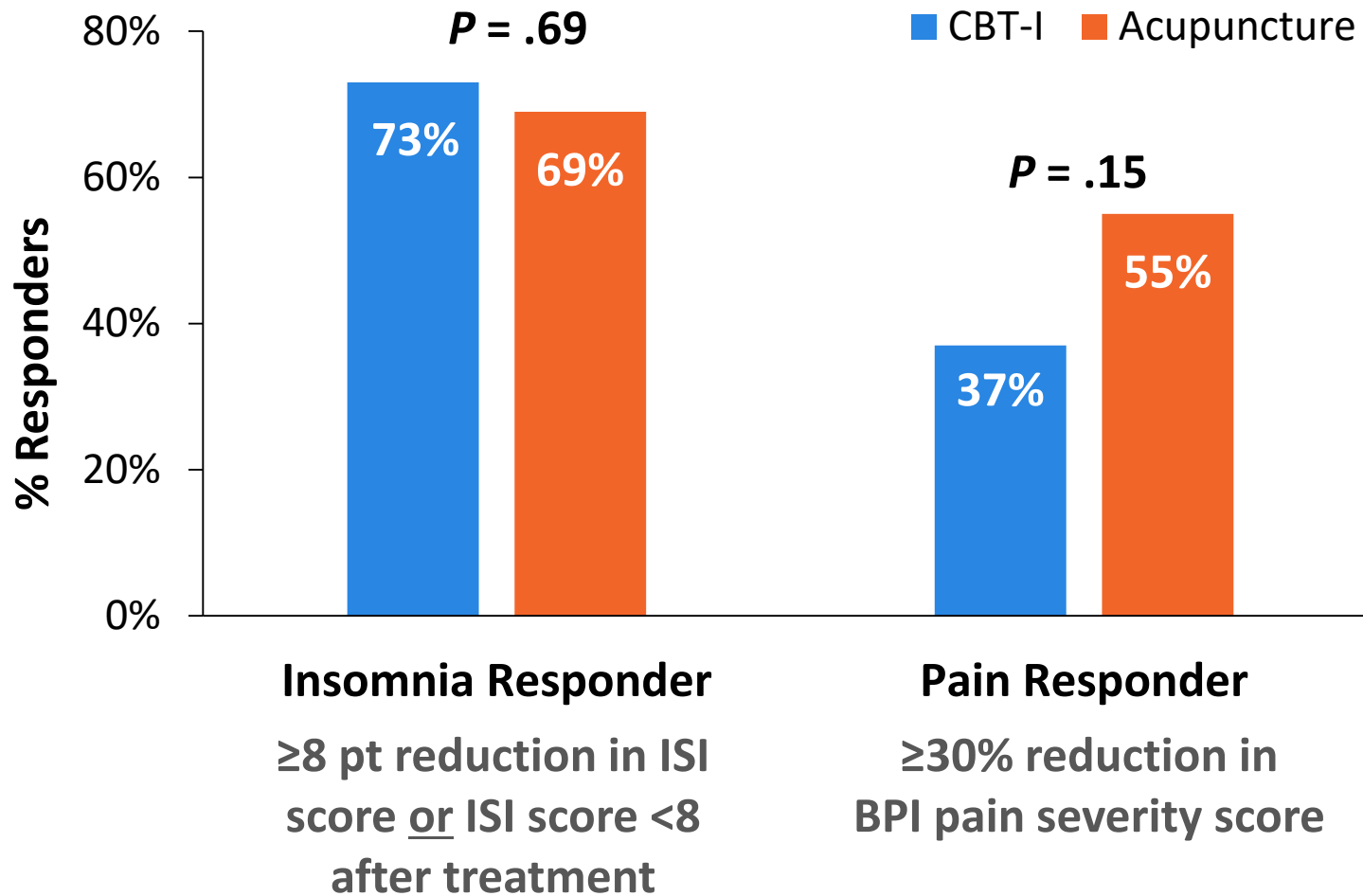
Insomnia Severity in Patients with Pain Scores ≥ 4 (N=70)



Change in Pain Severity by Treatment



Clinical Responders by Treatment



“What about supplements?”

*The evidence base suggests
supplements may provide
more harm than benefit*



Supplements: **More Harm Than Benefit**

Vitamin E ¹⁻³	<ul style="list-style-type: none">• Does not reduce cancer incidence / mortality• May increase lung CA risk / overall mortality
Beta carotene ^{1, 4-6}	<ul style="list-style-type: none">• Does not reduce cancer incidence / mortality• May increase lung CA incidence in smokers• May reduce cancer Tx efficacy, increasing recurrence / mortality
B6 and B12 individual supplements ⁷	<ul style="list-style-type: none">• Not chemopreventive for lung cancer and may be harmful• Sex- (male) and source-specific (individual, not multivitamin) associations• Increased lung CA risk among men by 30–40%• ~2-fold increased risk in highest users vs nonusers• Risk even higher among smokers
Alt therapies ⁸	<ul style="list-style-type: none">• Greater risk of death when used instead of conventional Tx

1. Lin J et al. *J Natl Cancer Inst* 2009;101:14-23
2. Bjelakovic G et al. *Lancet* 2004;364:1219-1228
3. Slatore CG et al. *Am J Respir Crit Care Med* 2008;177:524-530
4. ATBC Study Group. *N Engl J Med* 1994;330:1029-1035
5. Satia JA et al. *Am J Epidemiol* 2009;169:815-828

6. Meyer F et al. *Int J Cancer* 2008;122:1679-1683
7. Brasky TM et al. *J Clin Oncol* 2017;35:3440-3448
8. Johnson SB et al. *J Natl Cancer Inst* 2018;110
9. Moyer VA. *Ann Intern Med* 2014;160:558-564



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Since inception. Data as of September 2019.

1. McDermott CL et al. *J Altern Complement Med.* 2011



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Gut Microbiome May Improve Immunotherapy Response

- **High fiber diet** linked to
 - **More diversity** in gut microbiome
 - **Better response** to anti-PD-1 immunotherapy
- **Probiotics** actually linked to **decreased** microbiome diversity



Spencer et al. The gut microbiome (GM) and immunotherapy response are influenced by host lifestyle factors. Abstract 2838/24. AACR Annual Meeting 2019.



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Cannabidiol (CBD) for Cancer Symptoms

- May reduce cancer-related pain ^{1,2}
- Dronabinol and nabilone may reduce chemotherapy-induced nausea and vomiting (CINV) resistant to standard therapy ^{3,4}
- No appetite improvement in a multicenter phase III trial of patients with anorexia-cachexia syndrome ⁵
- Associated with reduced response to immunotherapy but not with survival⁶
- **Patients should seek guidance from a physician experienced in medical marijuana and oncology**

1. Whiting et al. *JAMA* 2015;313:2456-2473
2. Blake et al. *Ann Palliat Med* 2017;6(Suppl 2):S215-S222
3. Hesketh et al. *J Clin Oncol* 2017;35:3240-3261
4. Duran et al. *Br J Clin Pharmacol* 2010;70:656-663
5. Strasser et al. *J Clin Oncol* 2006;24:3394-3400
6. Taha et al. *Oncologist* 2019



“What Can I Do?”

- Stay **physically active**
- Work toward a **healthier diet**
- Manage **stress & mood**
- Choose **safe, effective therapies** for symptom management





**Thank
you.**



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