

Yoga for Veterans with Chronic Low Back Pain



Erik J. Groessl, PhD

VA San Diego Healthcare System

Associate Professor

Department of Family Medicine and Public Health

University of California, San Diego



Acknowledgements



- **VA Rehabilitation Research & Development**
- **Study Staff:**
- Sunita Baxi, MD
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- Co-investigators: Drs. Bormann, Atkinson, Chang, Liu, & Wetherell.



Polling Question



- ❧ From what stakeholder perspective are you attending today? Please pick one.
- ❧ A. Clinician
- ❧ B. Researcher
- ❧ C. Administrator
- ❧ D. Patient
- ❧ E. Other

Polling Question



- ❧ **Does your facility offer any yoga programs?**
- ❧ **A. VA facility - Yes**
- ❧ **B. VA facility - No or Don't Know**
- ❧ **C. Non-VA facility - Yes**
- ❧ **D. Non-VA facility - No or Don't Know**
- ❧ **E. Does not apply**

Veterans and cLBP



- ❧ Veterans experience higher rates of cLBP¹
- ❧ In the past, pain medication was the primary treatment for many veterans² and yet was often ineffective and has side effects
- ❧ VA patients are more likely to experience mental health issues (PTSD, substance use) and have fewer personal resources



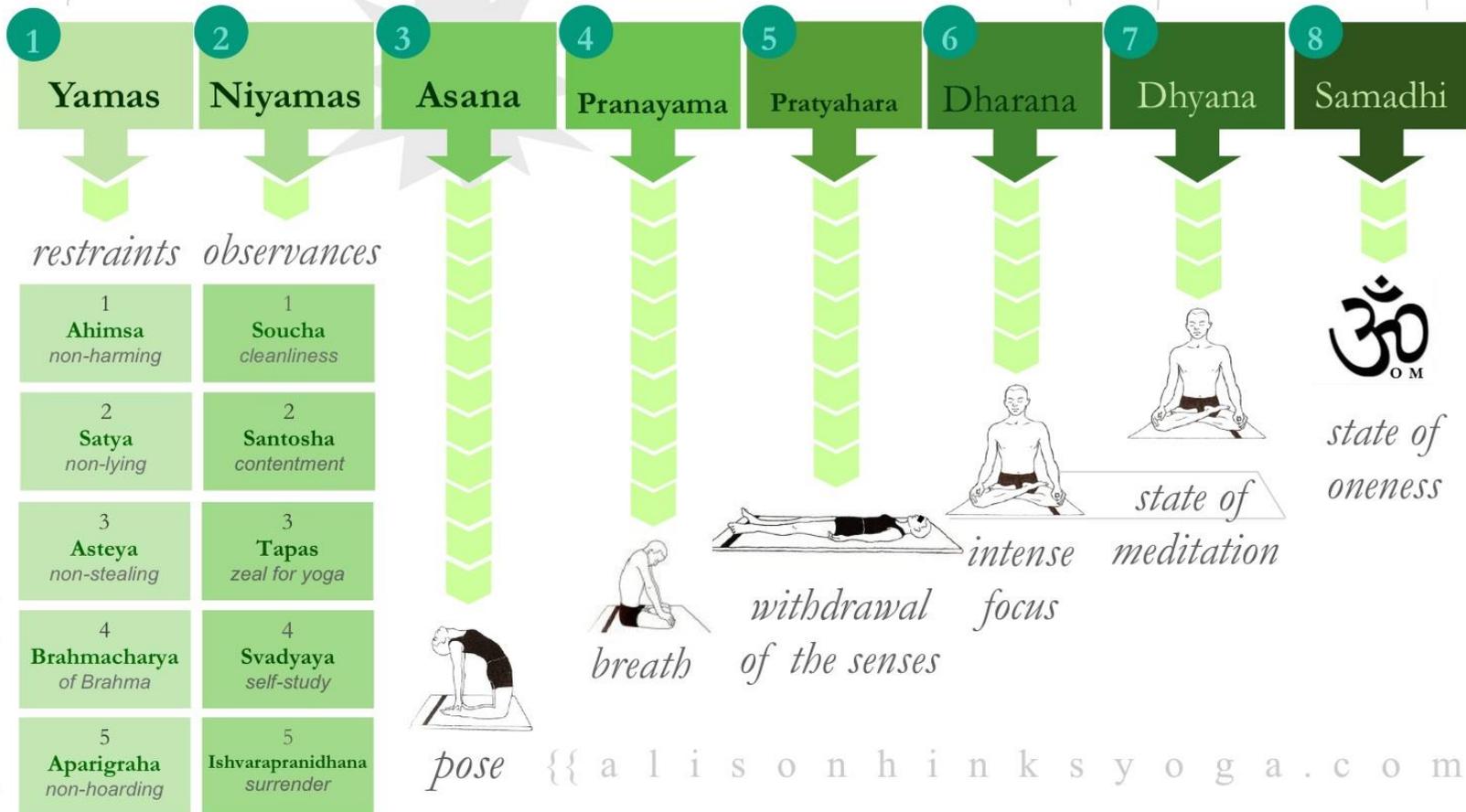
¹Lew HL, et al. Prevalence of chronic pain, ...in OIF/OEF veterans: polytrauma clinical triad. *J Rehabil Res Dev.* 2009;46(6):697-702.

²Kerns RD, et al. Veterans' reports of pain and ... use of the healthcare system. *J Rehabil Res Dev.* Sep-Oct 2003;40(5):371-379.

Patanjali's 8 Limbs of Yoga

things you do

things that happen to you



clipart from
yogamsharanam{dot}com

{{ alisonhinksyoga.com }}

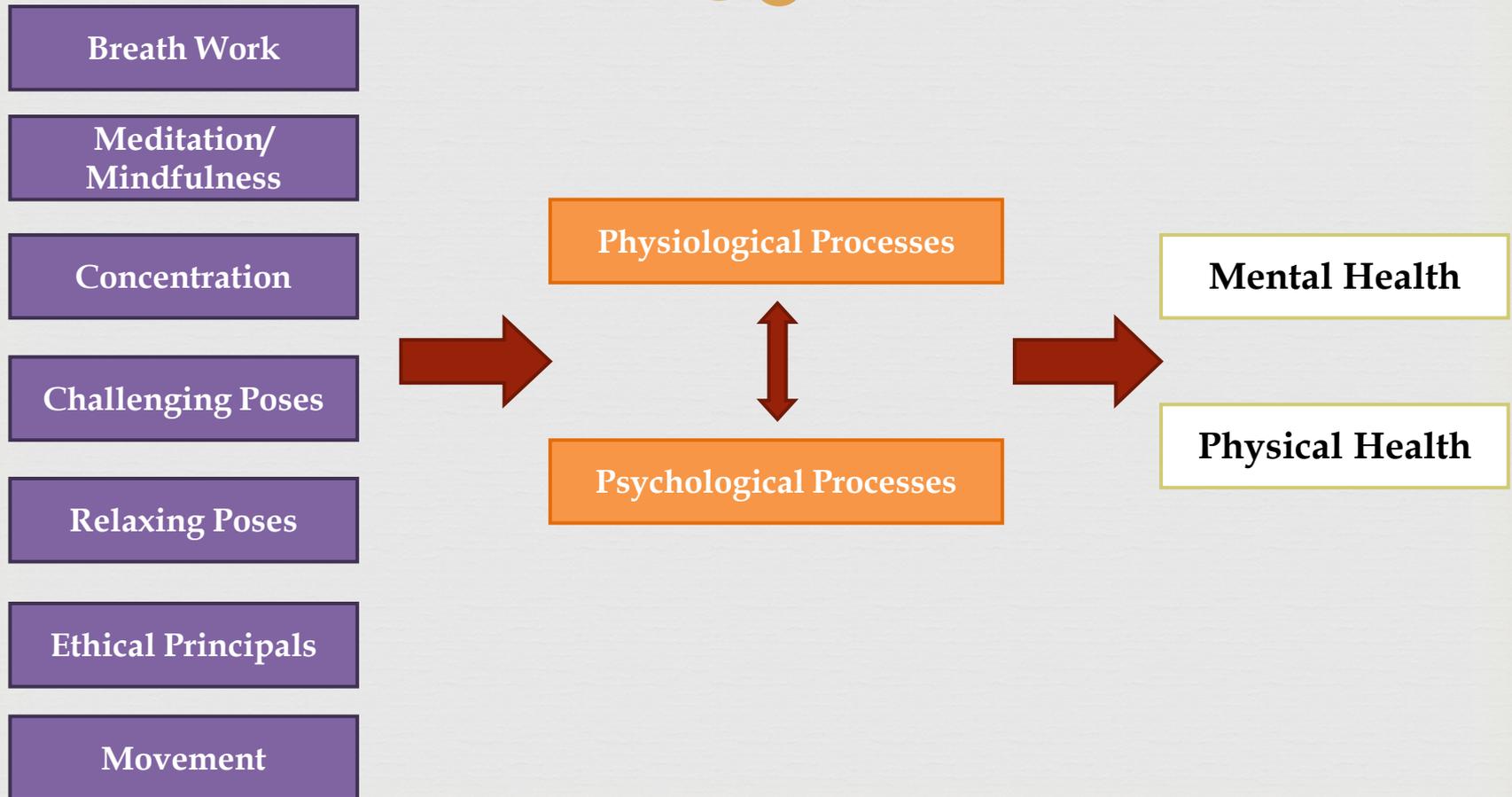
Modern Yoga



- ❧ “Traditional” yoga has been transformed
 - ❧ Greater emphasis on postures and movement
 - ❧ Less of a spiritual emphasis, meditation viewed as separate
 - ❧ Yoga is used to treat various health conditions

- ❧ Yoga therapy - “...empowering individuals to progress toward improved health and well-being through the application of the philosophy and practice of Yoga.”
---International Assoc. Yoga Therapists

Yoga is Multidimensional



Heterogeneity of Yoga



Yoga Research on cLBP



∞ Larger RCTs

- Sherman (2011) – yoga better than self-care for reducing pain, disability & medication use (not better than stretching)
- Tilbrook (2011) - yoga better than usual care for reducing disability

∞ Conducted in community HMO settings, hard to generalize to VA patient populations

Yoga Research on cLBP



- ❧ Saper 2013 – 2x weekly yoga for cLBP was not superior to 1x weekly yoga
 - Better attendance in 1x weekly ($p = 0.04$)
- ❧ Saper 2017 – Yoga was not inferior to physical therapy
- ❧ Reviews
 - ❧ Goode AP, et al. *Complementary therapies in medicine*. 2016.
 - ❧ Chou R, et al. *Ann Intern Med*. 2017.
 - ❧ Wieland LS, et al. *Cochrane database of systematic reviews*. 2017.

Yoga for CLBP at the VA



- ❧ In 2003, Dr. Sunita Baxi, Director began the Yoga Clinic for CLBP.
- ❧ Instructor leads patients through:
 - ❧ 32 yoga poses chosen to be safe with CLBP patients
 - ❧ Transition of poses occurs at a slow to moderate pace
 - ❧ Poses are modifiable for many different levels of patients
- ❧ VA patients are referred to the yoga clinic by providers
- ❧ Screening visit with physician to ensure safe participation

Yoga for cLBP





Pelvic Tilt



Hip Opener
A



Hip Opener
B



Bridge



Cobra Prep



Sphinx



Locust



Head To(wards)
Knee



Seated Forward
Bend



Lying Sinal Twist
A



Lying Spinal Twist
B



Corpse

VA Yoga Clinic - Pilot Study



- ❧ In 2005, began unfunded research – questionnaires pre-post 10 weeks of yoga (n=33)
 - ❧ Improved pain severity, energy, depression, QOL¹
 - ❧ Dose response – home practice/attendance ↑ health¹
 - ❧ Women (n=13) had better outcomes than men (n=40)²

¹Groessl et al. J Altern Complement Med. 2008 Nov;14(9):1123-9

²Groessl et al. J Altern Complement Med. 2012 Sep;18(9):832-8

Yoga for Veterans with CLBP



- ❧ 4-yr VA funded study of 150 VA patients w/ CLBP randomized to either – 2012
 - Yoga
 - Delayed treatment group receiving usual care
- ❧ Referrals through primary care, other clinics, flyers
- ❧ Assessments at baseline, 6-weeks, 12-weeks, and 6-months





Yoga Intervention



- ☞ 60-minute yoga sessions, 2x weekly for 12 weeks
- ☞ Classic Hatha yoga, (Iyengar & Viniyoga influences)
- ☞ Certified Yoga Instructor (7 years experience)
- ☞ Manualized protocol and home practice manual
- ☞ Progressively more challenging

Data Sources



Self-report Questionnaires

Physiological

VA Medical records

Diagnoses

Attendance

Biological

Questionnaires



- ❧ ***Physical Function/Disability** - RMDQ (12-weeks)
- ❧ **Pain** - Brief Pain Inventory (BPI) severity, interference
- ❧ **Depression** - CES-D 10
- ❧ **HRQOL** - SF12, EQ5D
- ❧ **Self-Efficacy** - Confidence in managing CLBP impact
- ❧ **Fatigue/Energy** - 5 items adapted from MOS
- ❧ **Home Practice**
- ❧ **Non-VA Treatments and Medications**

Physiological



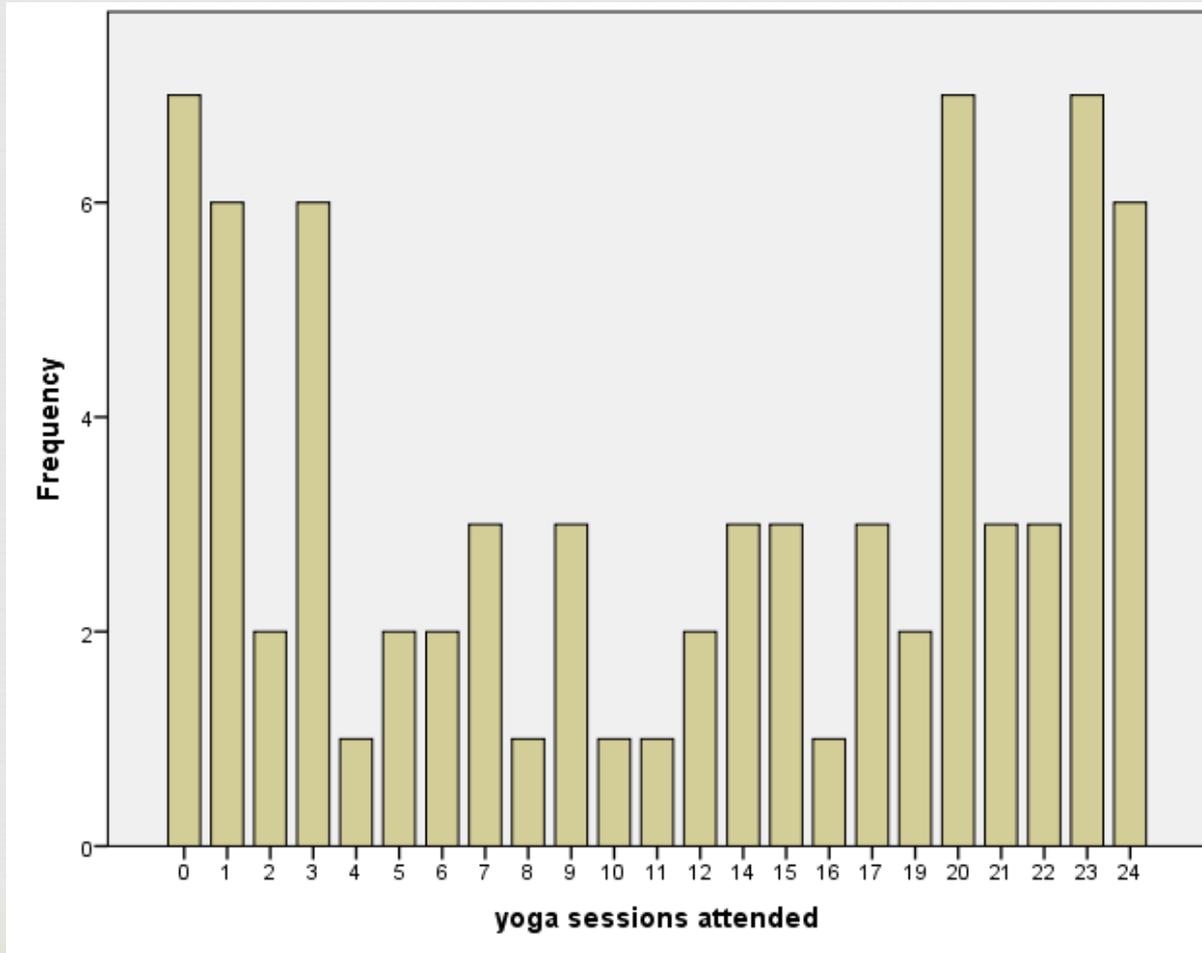
- ∞ **Range of Motion** - measured using a digital inclinometer
- ∞ **Grip Strength** - measured using a dynamometer, predicts disability/mortality
- ∞ **Core Strength Tests, Balance**
- ∞ **BMI, Waist Circumference**

Participants



- Age = 53.4 years
- 25% Women
- 51% non-White
- 54% college graduate
- 66% Single, divorced, widowed, or separated
- 33% employed (21% unemployed)
- 18% homeless in last 5 years
- 15% in group living or shelter
- 25% do not have own vehicle
- 15 years = mean length of back pain (57% 10+ yrs)
- 20% being treated with opioid meds

Attendance



Attendance by cohort



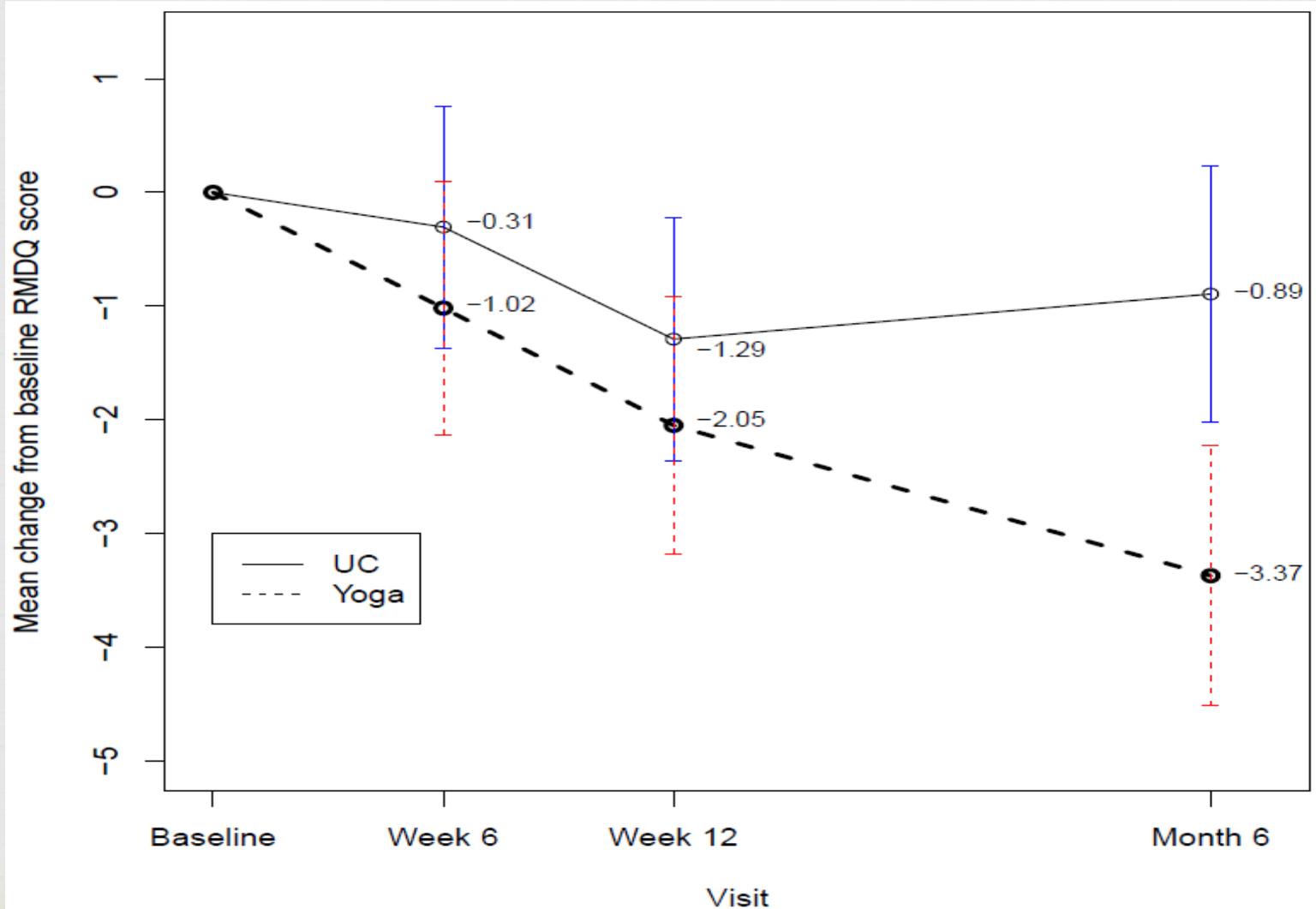
		50% (12 of 24)
Attendance improvement efforts →	Cohort 1	42%
	Cohort 2	42%
	Cohort 3	54%
	Cohort 4	75%
	Cohort 5	54%
	Cohort 6	54%
	Total	53% (42% -> 59%)

Reasons for low attendance

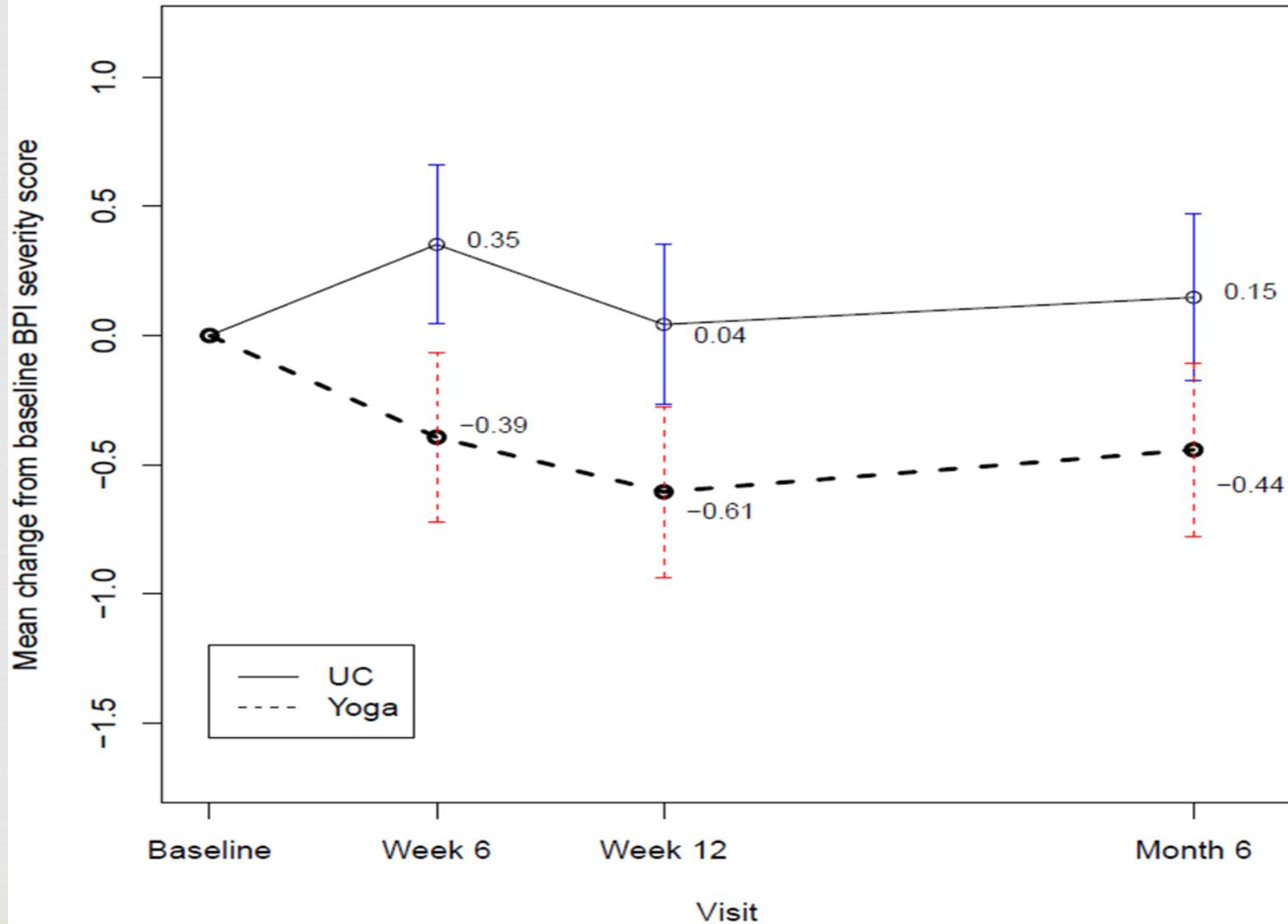


- œ People who attended < 12 yoga classes (35/75; 47%)
 - Transportation/financial problems - 11
 - Work/school conflict - 8
 - Other health issues - 8
 - No contact or no show - 3
 - Depression - 1
 - Fight / Post Traumatic Stress issues - 1
 - SUD Rehabilitation - 1
 - Became homeless - 1
 - Back pain worsened - 1

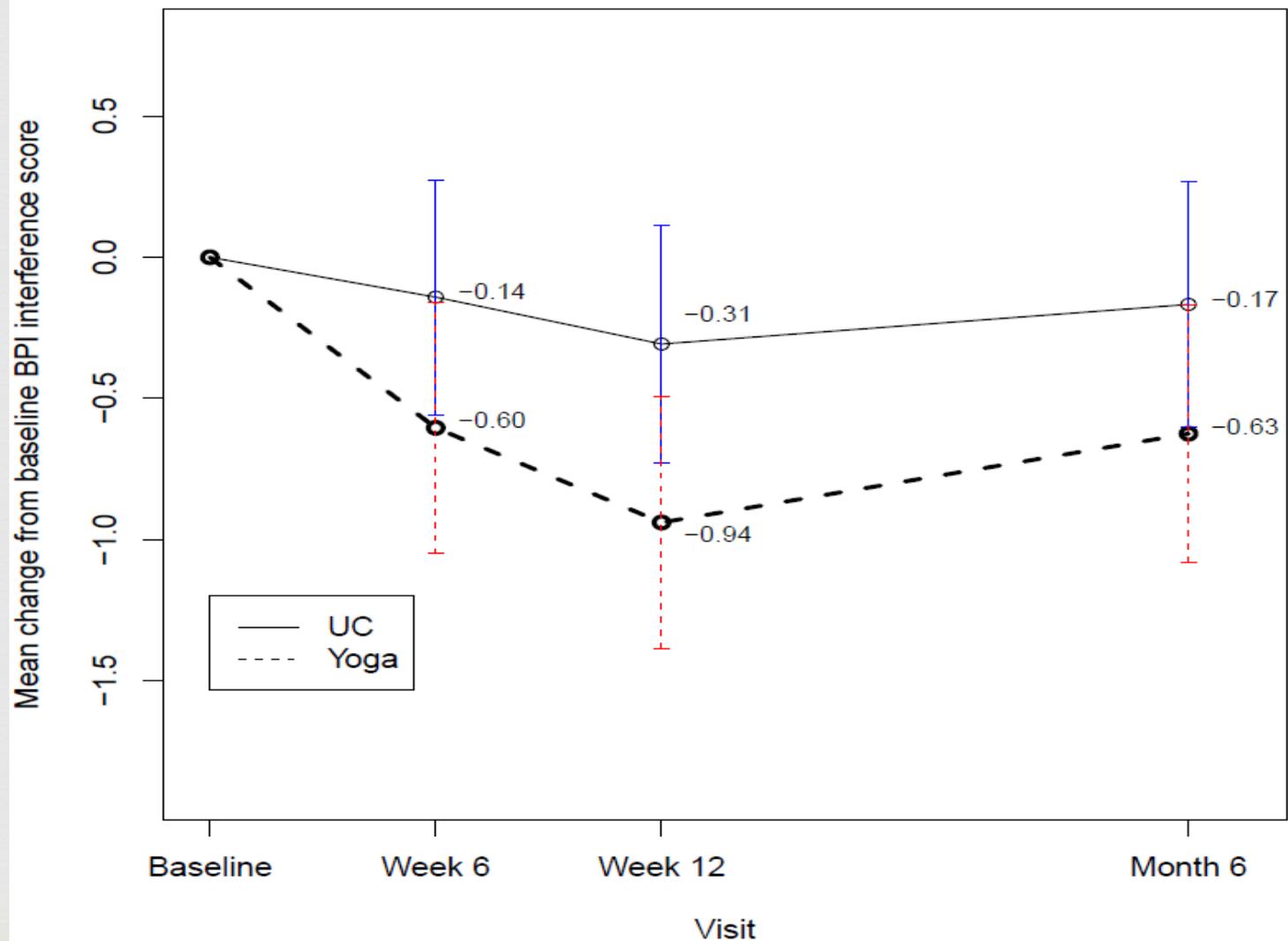
RMDQ - Primary Outcome



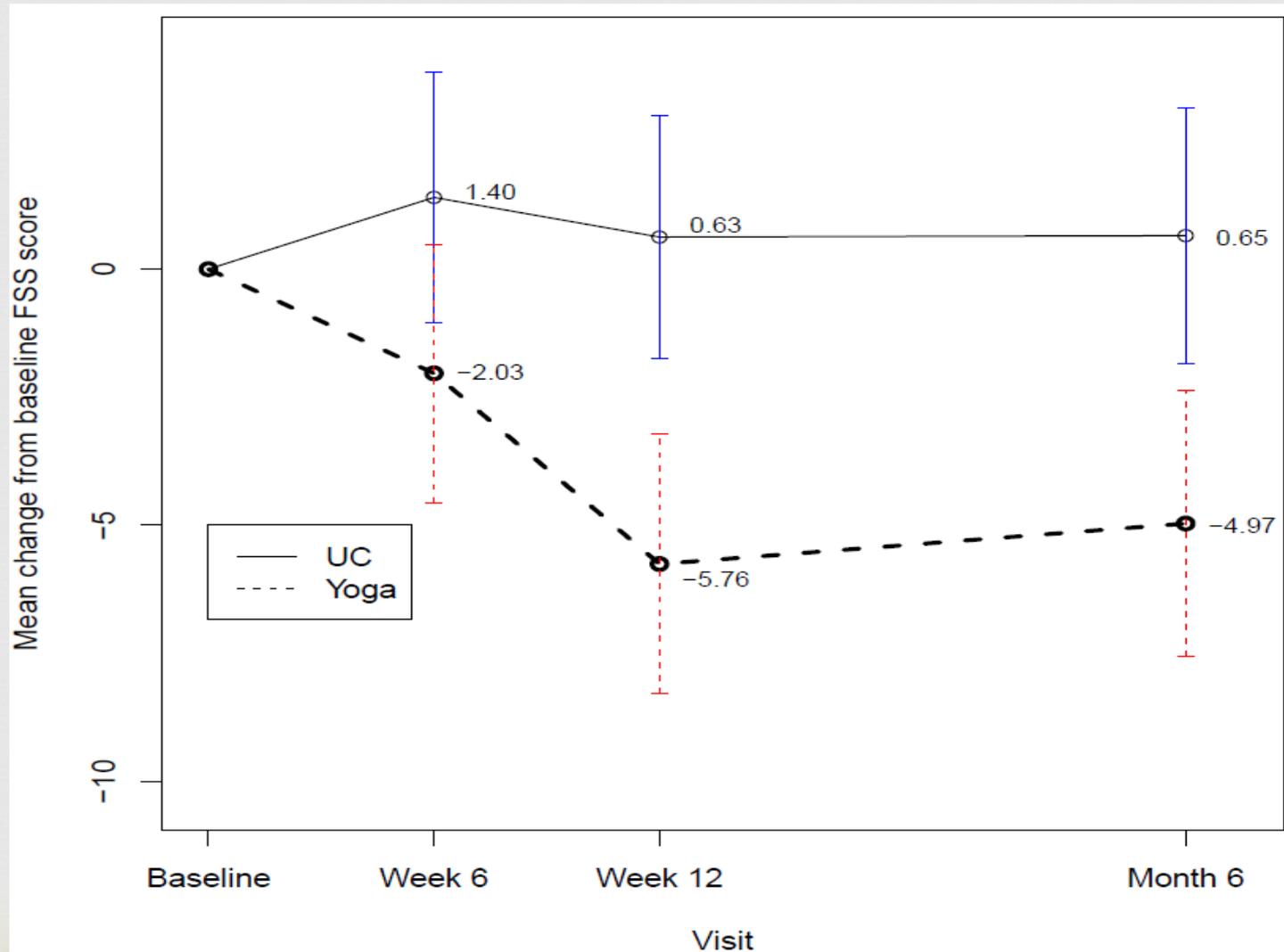
Pain Severity ($p = 0.006$)



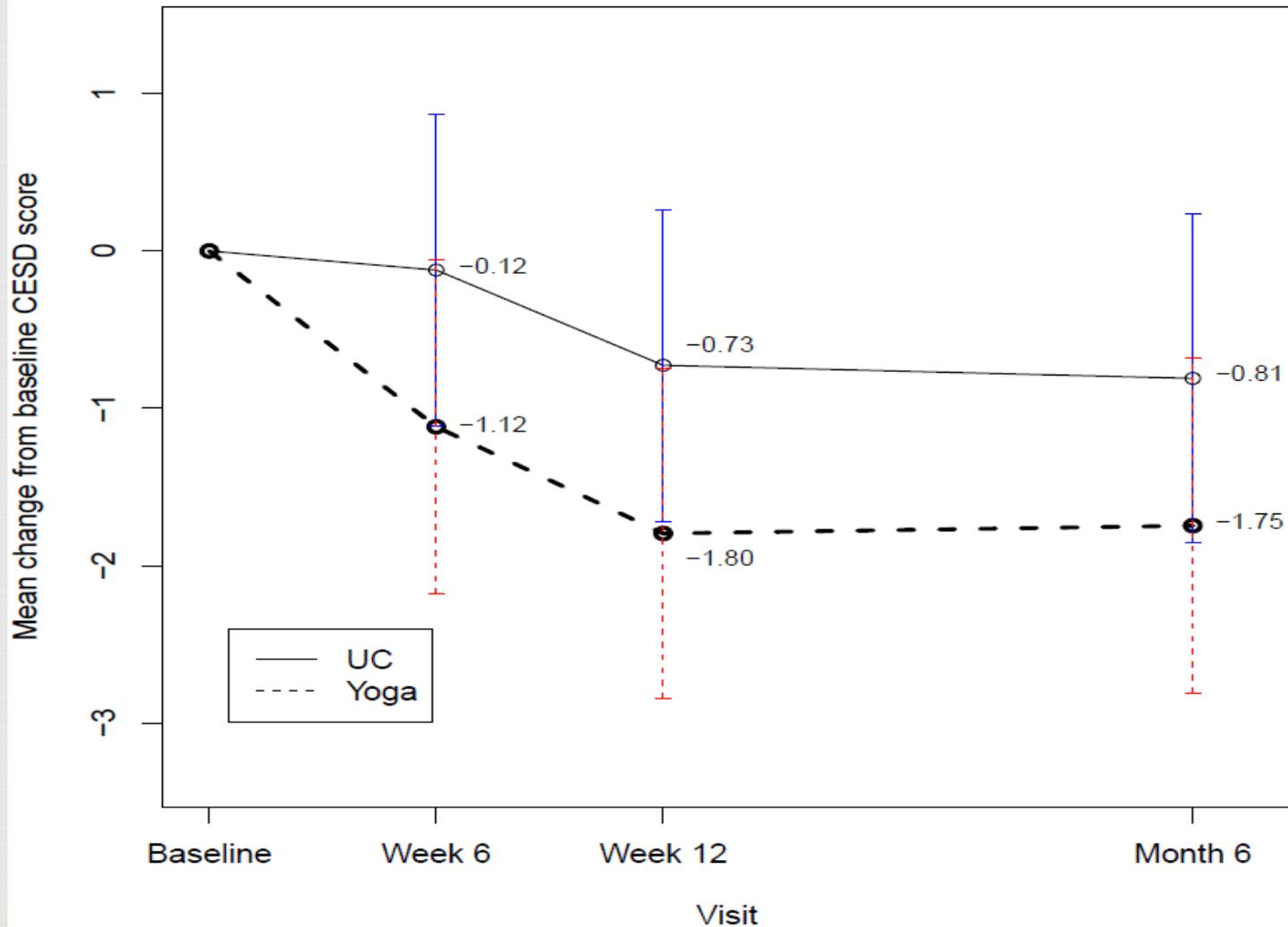
Pain Interference ($p = 0.04$)



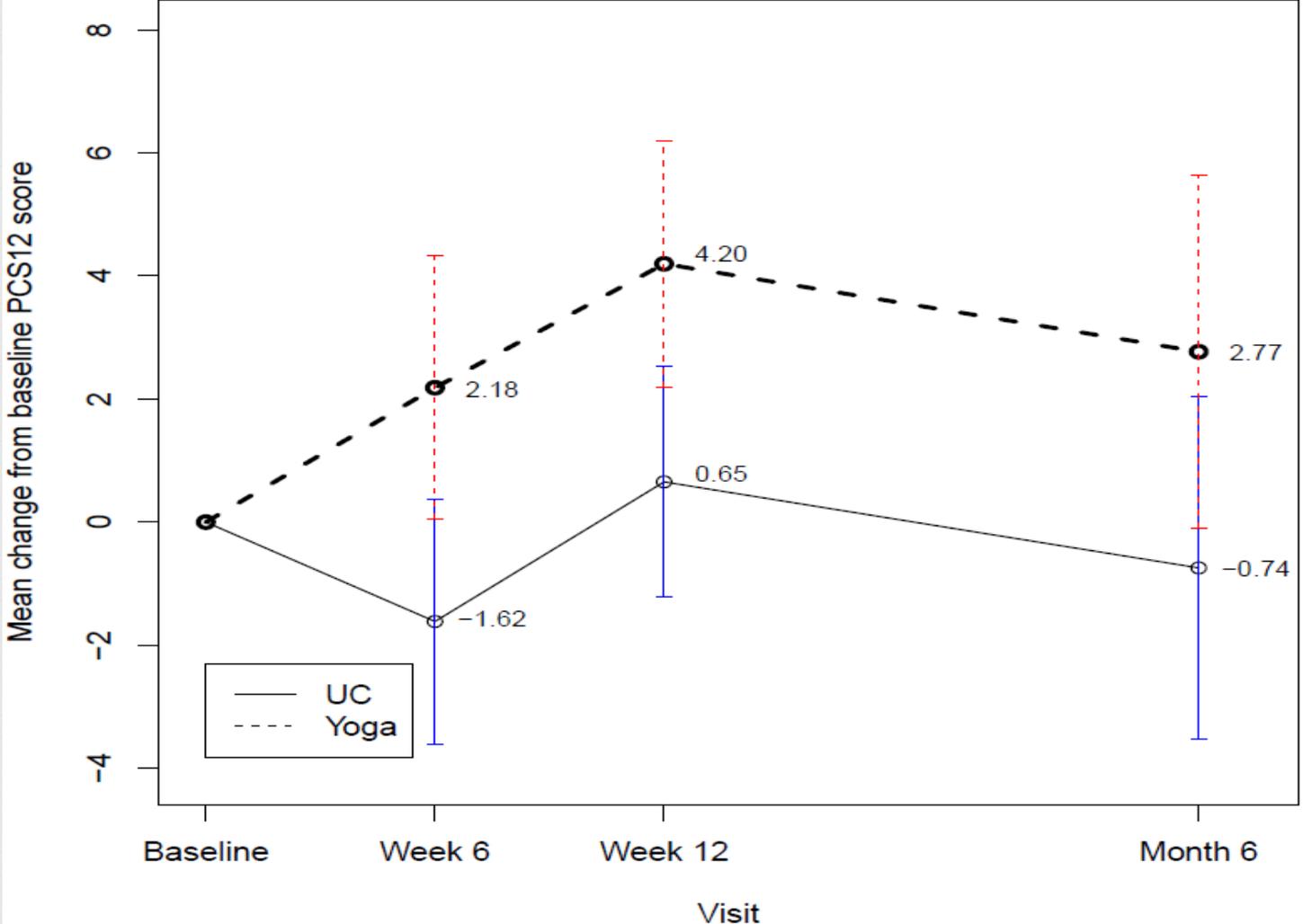
Fatigue (p = 0.002)



Depression ($p = 0.16$)



SF12 - Physical Score (p = 0.004)



Opiate Pain meds ($p < 0.001$)

Variable	Baseline	6 weeks	p	12 weeks	p	6-month	p
Narcotic Pain Medication							
Yoga (n=75)	19%	11%		12%		9%	
Usual Care (n = 75)	21%	12%		11%		7%	
Total Sample (n =150)	<u>20%</u>	<u>11%</u>	<u>0.007</u>	<u>11%</u>	<u>0.007</u>	<u>8%</u>	<u>< 0.001</u>
Other Medical Treatments for pain							
Yoga	56%	44%		44%		39%	
Usual Care	47%	44%		47%		37%	
Total Sample (n =150)	51%	44%	0.070	45%	0.137	38%	0.001
Self-help pain treatments							
Yoga	76%	71%		71%		68%	
Usual Care	72%	75%		69%		60%	
Total Sample (n =150)	74%	73%	0.744	70%	0.334	64%	0.020

Discussion



- ❧ Yoga group had larger decreases in disability and other outcomes (pain, fatigue, QOL)
- ❧ Decreases in pain and disability were moderate, but occurred despite
 - ❧ lower than optimal attendance
 - ❧ a more impaired population
 - ❧ decreased use of opiates and other pain treatments

Discussion

Variable	Sherman(2011) (n = 228)	Tilbrook(2011) (n = 313)	current study (n = 150)
Age	48.4	46.3	53.4
Women	64%	70%	25%
Non-White race	13%	-	51%
College grads	62%	58%	54%
Not employed	13%	5-13%	21- 35%
Homeless (5 yrs)	-	-	18%
Back pain - Years	10.8	10.0	15.0
RMDQ baseline	9.1	7.8	9.9
Narcotic meds	7%	-	20%
Attend rate	67%	60%	53%

RMDQ – 30% decrease*

*Ostelo RW, et al. *Spine (Phila Pa 1976)*. 2008;33(1):90-94.



Study	6-weeks	12-weeks	6-months	12-months
Sherman, 2011				
Yoga (n=92)	55	75*	66*	-
Stretching (n=91)	58	71*	72*	-
Self-Care (n=45)	49	45	55	-
Cherkin, 2017	(4-weeks)	(8-weeks)		
MBSR (n=116)	35	47	61*	69*
CBT (n=112)	25	52*	58*	59
Usual Care (n=113)	27	35	44	49
Groessl, 2017				
Yoga (n=75)	33	44	57*	-
Usual Care (n=75)	21	33	24	-

Qualitative Feedback



“I’m very excited to start yoga as I am trying to discontinue or decrease my pain medications”

“I am going to miss these classes. I like the small group.”

“I love yoga and I am so happy the VA provided me this opportunity to practice it in a safe controlled environment.”

“Continuing the program would be an added benefit to disabled vets.”

Conclusions



- ❧ Results confirm the benefits of yoga for reducing disability and pain in VA patients.
- ❧ VA patients may need yoga programs with more intensive support to promote attendance and sustained practice.
- ❧ Many VA patients want to reduce pain medication use and need programs like yoga to assist with this transition.

Future Directions



- ❧ More data to be analyzed!
- ❧ Sought renewal and follow-up funding for sustainability, booster sessions, and long-term utilization; cost-effectiveness.
- ❧ Conducting short-term cost-effectiveness analysis
- ❧ Implement Yoga for cLBP at multiple VAs nationally

Thank You!

