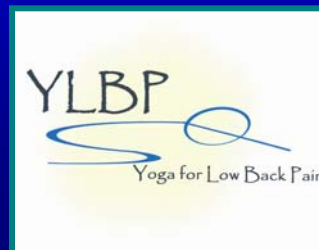


# Pilot RCT of Hatha Yoga for Chronic Low Back Pain in a Predominantly Low Income Minority Population

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# Chronic Low Back Pain (CLBP)

- Large cause of suffering and cost in society
- Minorities with CLBP receive less patient education, analgesics, rehabilitation, and CAM therapies
- Several studies in mostly white patients suggest yoga is helpful for CLBP
- Feasibility, safety and effectiveness of yoga for people from predominantly low income minority backgrounds with CLBP is unknown

# Study Aims

1. Determine the feasibility of a RCT comparing yoga to a usual care wait-list control for predominantly lower income minorities with CLBP
2. Collect pilot data on pain, back-related dysfunction, medication use, and safety

# Study Population

- **Inclusion Criteria**
  - 18 to 64 years old
  - Non-specific LBP  $\geq$  12 weeks
  - Average pain intensity of  $\geq$  4 on 11 point numerical rating scale
  - Ability to understand English
- **Exclusion criteria**
  - Yoga in previous 12 months
  - Pregnancy
  - Non-muscular causes of CLBP
  - Active substance abuse or suicidality
  - Ongoing litigation/claims

# Recruitment

- Targeted 2 community health centers
- Flyers in clinics and neighborhood
- Educate providers
- MD letters
- Community newspaper and radio ads
- Honorarium

DO YOU SUFFER FROM  
**CHRONIC  
LOW BACK PAIN?**



**YOGA may help!**

You may be able to receive  
*12 weeks of free yoga classes* in a research study  
of yoga for low back pain at the  
**Dorchester House Multi-Service Center**  
1353 Dorchester Avenue

Adults of all backgrounds who have had low back pain  
for at least 12 weeks are encouraged to call

For more information, please call (617) 414-6795  
or email [Yoga.BackPainStudy@bmc.org](mailto:Yoga.BackPainStudy@bmc.org)  
Compensation will be provided



# Hatha Yoga Protocol

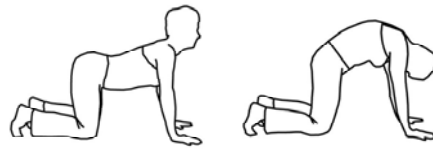
- Constituted diverse expert panel
- Systematic review of lay and scientific literature on yoga and LBP
- Designed protocol based upon professional experience and literature
- Consensus and iterative refinements



Knee to chest



Knee to chest with twist



Cat and Dog Pose

# Protocol

- 12 weeks
- 1 class/wk
- 75 mins/class
- ≤8 people/class
- 2 teachers/class
- Variations
- World music
- Home practice
- Audio CD
- Handbook
- Yoga supplies



Chair Pose



Chair Pose Modified



Mountain Pose



Shoulder Opener



Half Moon (Crescent)



Child's Pose



Cobra and variation



Bridge pose



Cat and Dog Pose Variation

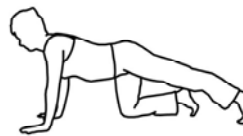


Table Top Leg Extension



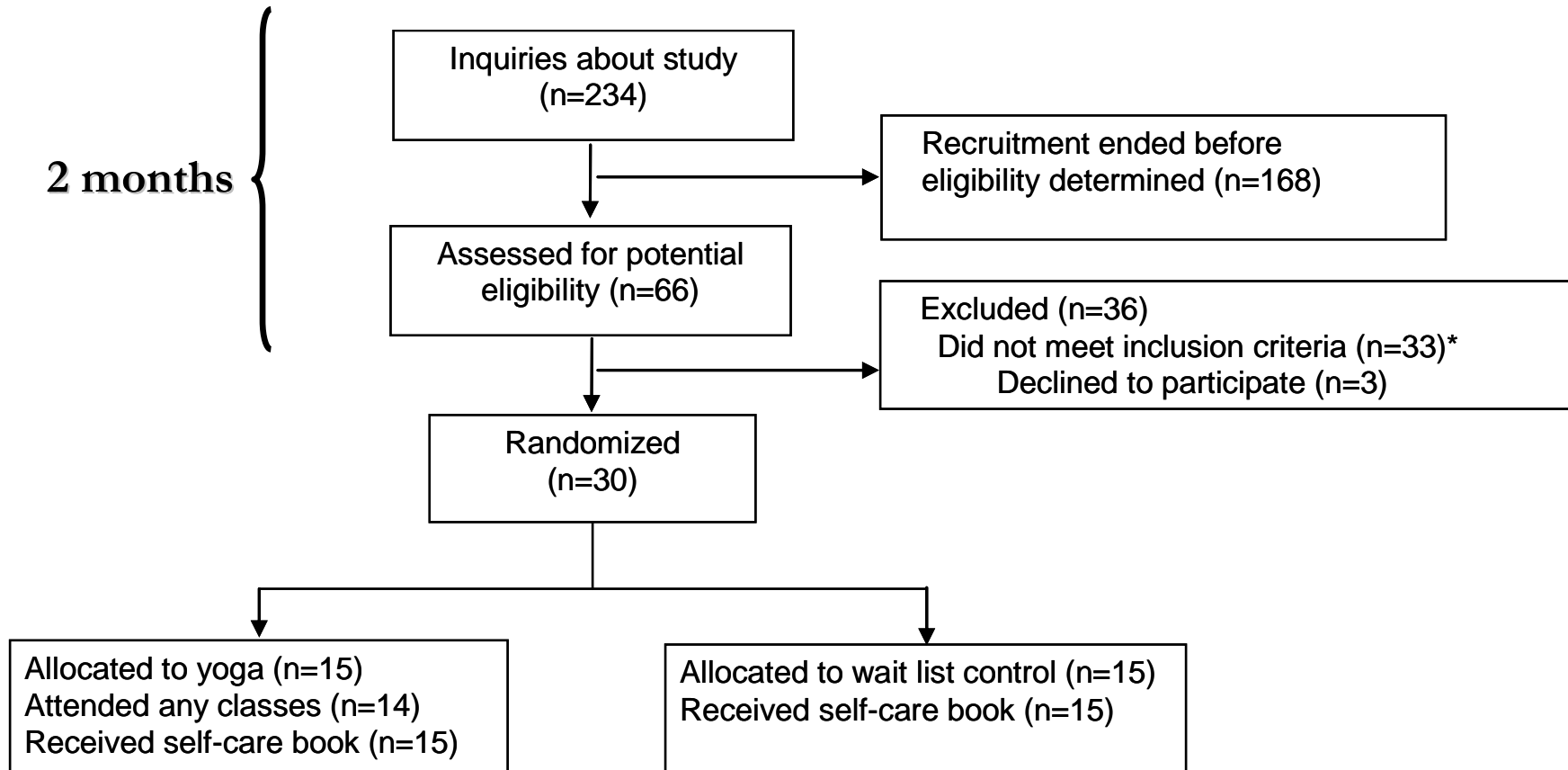
Triangle at wall



# Data Collection

- **Baseline, 6, 12, and 26 weeks**
  - Paper questionnaires, assessor not masked
- **Primary Outcomes – Feasibility**
  - Time to recruit 30 subjects
  - % ethnic/racial minorities
  - Adherence
- **Secondary Outcomes – Effectiveness/Safety**
  - Pain (0-10)
  - Modified Roland Morris Disability Scale (0-23)
  - Pain medication use
  - Adverse events

# Participant Flow Chart



# Baseline Characteristics

Mean age, yrs	44
% female	83
Race, %	
White	24
Black	70
Other	6
% Hispanic	13
% Ethnic or racial minority	83

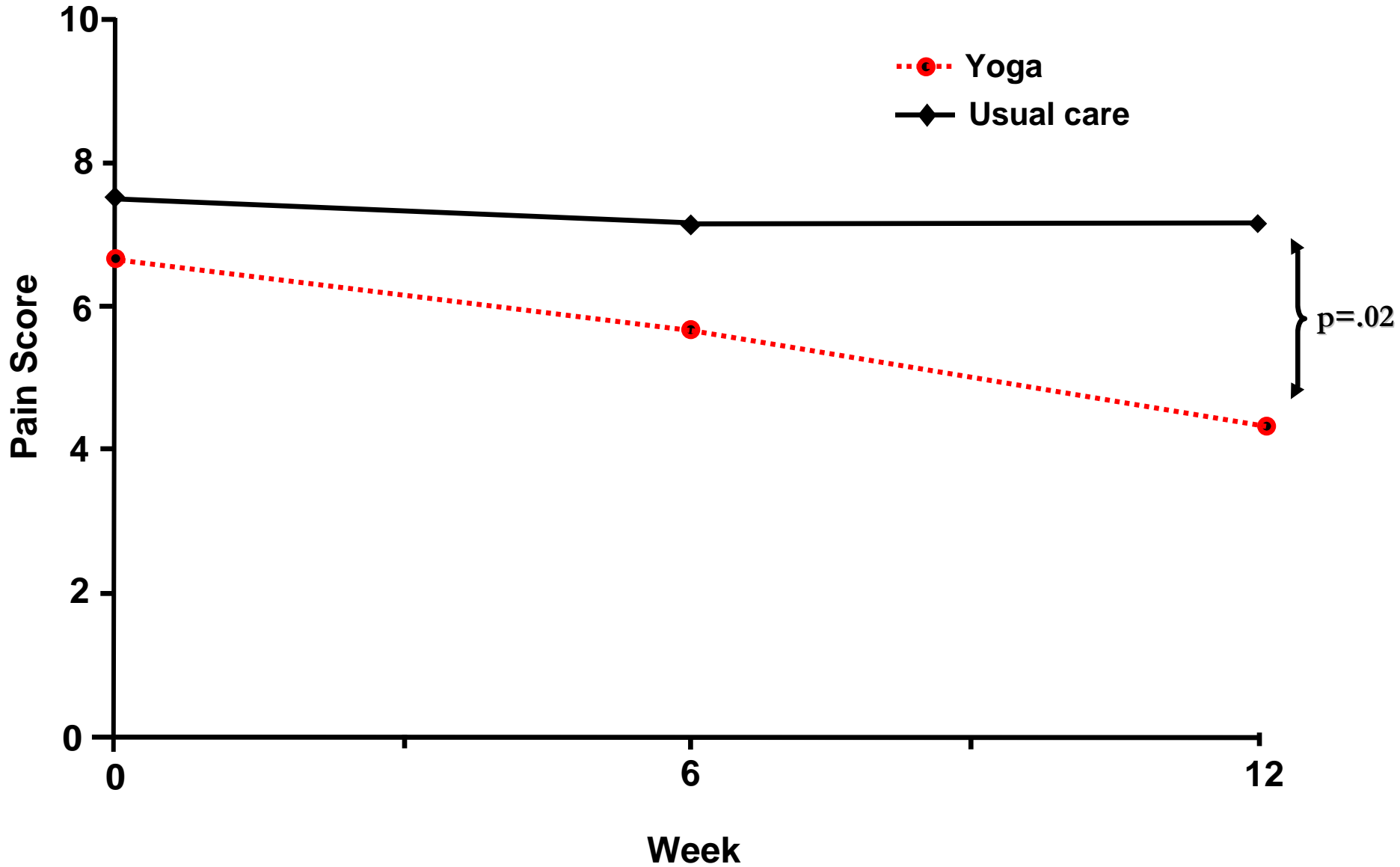
% Annual household income $\leq$ \$30,000	44
% No or public-funded health insurance	50
% $\leq$ High school grad	33
% LBP duration $>1$ yr	80
Mean pain score	7.1
Mean Roland score	15.3
% Pain medication use	70

Many co-morbidities and few had previous yoga experience

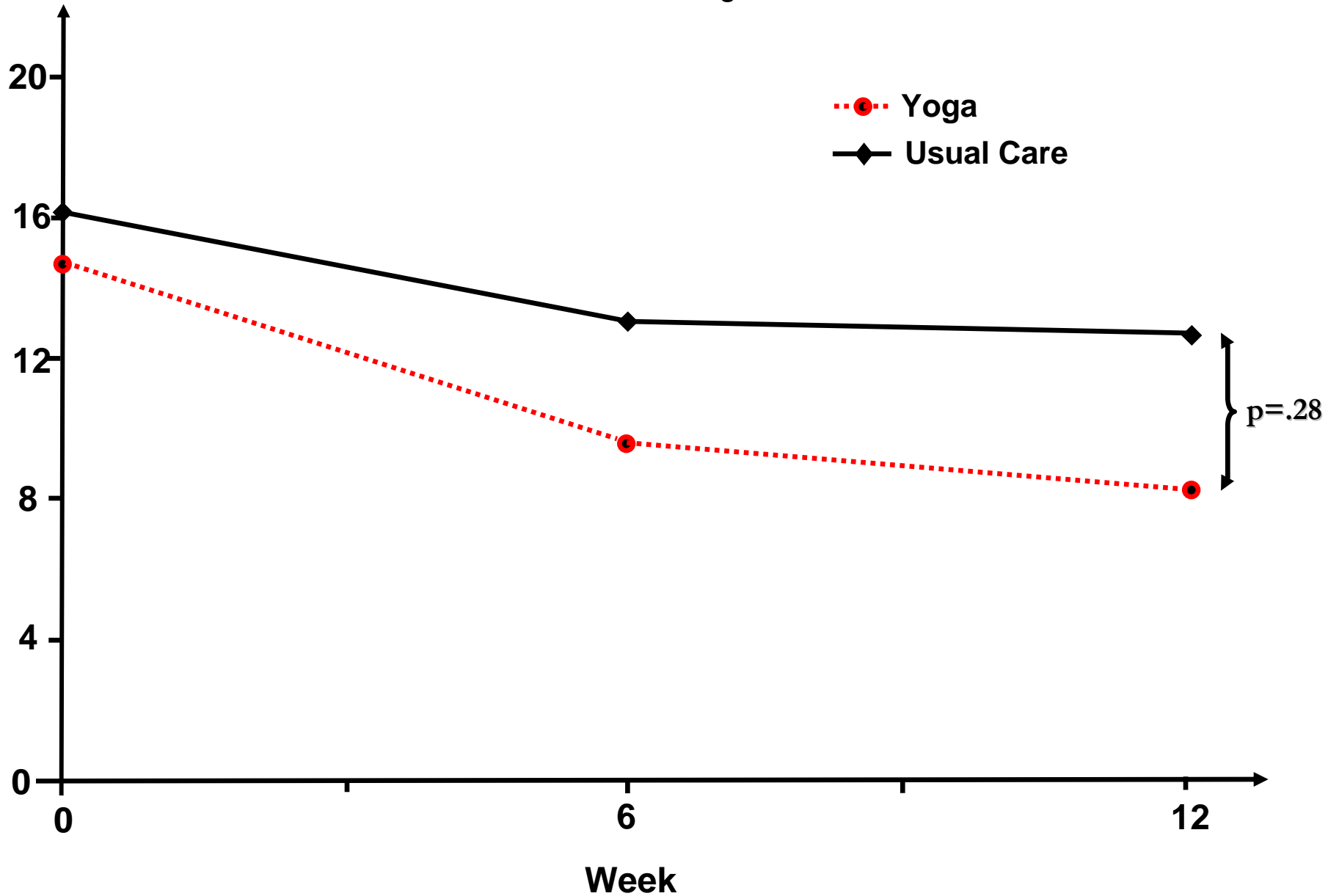
# Adherence and Safety

- Median classes attended: 8
- 14/15 attended  $\geq 1$  yoga class
- 13/15 practiced at home
  - Average 4 days/wk for 25 mins/day
- 1 pt with transient worsening of LBP
- The case of JP

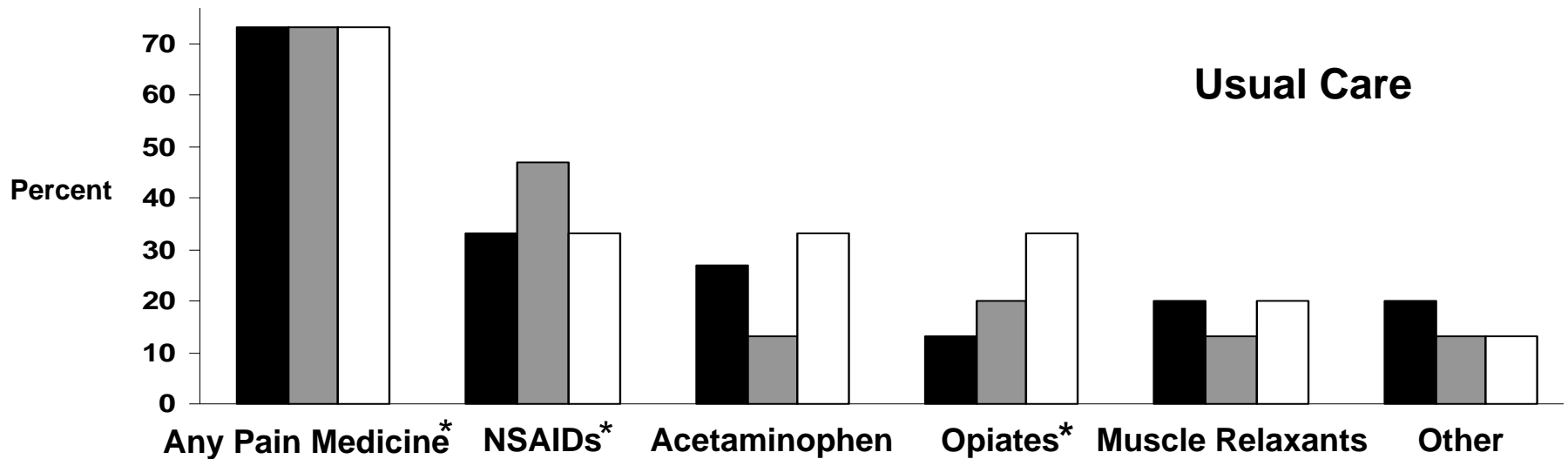
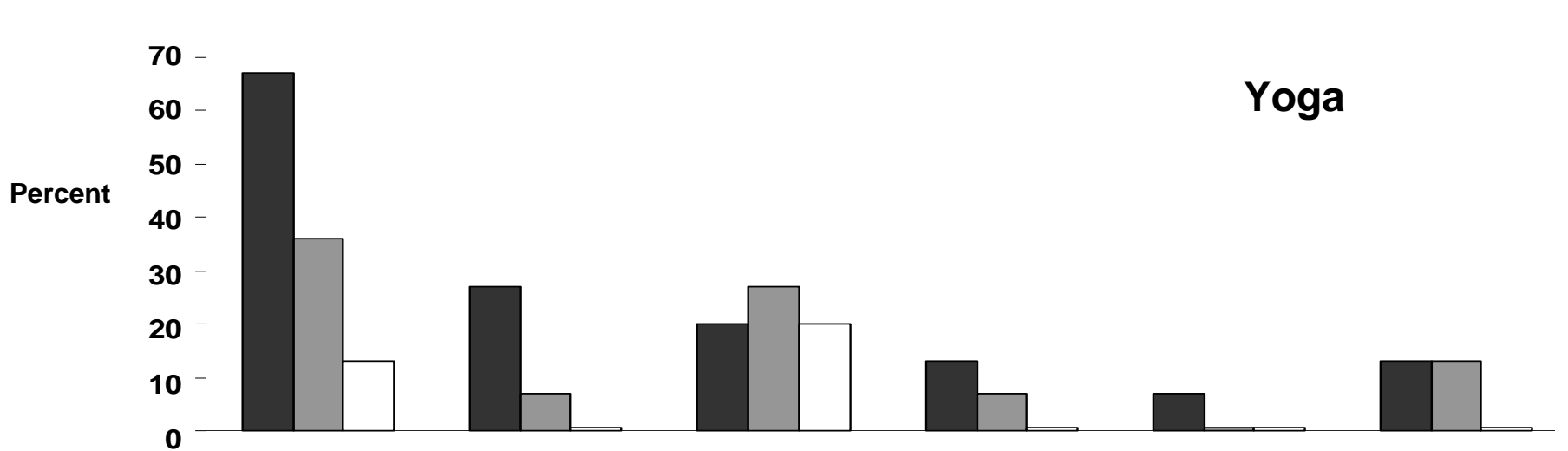
# Pain



# Back Related Dysfunction



# Pain Medication Use in Last Week



\*p<.05

■ Baseline ■ 6 Weeks □ 12 Weeks

# 26 Week Follow-up

- **Yoga**
  - Maintained improvement
  - But 7/15 loss to follow-up and increase in non-study treatments
- **Usual Care**
  - Improved
  - 0/15 loss to follow-up
  - But non-study treatments increased to 87% at 26 weeks including 5 who did yoga



# Limitations

- **No control for attention and group effect**
- **Small sample size**
- **Long-term loss to follow up in yoga group**
- **Long-term high use of non-study treatments in control group**

# Conclusions

- An RCT of a standardized yoga program for CLBP in a predominantly lower income minority population is at least in the short-term feasible
- Yoga is a promising therapy for CLBP in this population
- Larger studies with methods to increase long-term adherence and follow-up are needed

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