COMMUNITY-BASED WELLNESS:
Evidence for Mind-Body Exercise

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OBJECTIVES

- Review the current evidence supporting the use of mind-body exercise to improve health.
- Identify patient populations that might benefit from mind-body exercise.
- Discuss implementation strategies for incorporating mind-body exercise into clinical practice.
WHAT IS MIND-BODY EXERCISE?

A mind-body exercise is a physical exercise that is performed with an intense focus.

http://naturalhealthperspective.com/resilience/mind-body-exercise.html
“Mind-body medicine focuses on the interactions among the brain, mind, body, and behavior, and the powerful ways in which emotional, mental, social, spiritual, and behavioral factors can directly affect health. It regards as fundamental an approach that respects and enhances each person’s capacity for self-knowledge and self-care and emphasizes techniques that are grounded in this approach.”

COMMUNITY-BASED EXERCISE RESOURCES

- Tai Chi
- Qigong
- Yoga
- Pilates
TAI CHI CHUAN

- Originated in China as an internal/soft martial art

- 5 main styles; Yang most popular (13-108 postures)

- Involves slow, gentle body movements while incorporating deep breathing and meditation ("moving meditation")

- Is adaptable for individuals of all ages with a wide range of abilities and conditions
• http://www.youtube.com/watch?v=-ZtpwmjMC7Q&feature=related
TAI CHI EVIDENCE

Meta-analyses

  - insufficient evidence regarding physical activity

  - Improved in sedentary adults
TAI CHI EVIDENCE


  - Included in exercise interventions for balance


  - 8 mind-body interventions including yoga and Tai Chi
  - Found safe but insufficient evidence

- 5 studies with cardiovascular variables, 2 with balance/fall outcomes
- Effective in reducing falls and blood pressure in older adults

- Safe and effective in promoting balance, flexibility and cardiovascular fitness in older patients with chronic conditions
TAI CHI EVIDENCE

- Systematic review for treatment of osteoarthritis

  - 12 studies (5 RCTs) – mixed results
  - Encouraging evidence for pain reduction; not conclusive for pain reduction or improved function
TAI CHI EVIDENCE

Effects of Tai Chi Exercise in Elderly with Knee Osteoarthritis
Lee, Hea-Young1 Lee, Keum Jae2

연구의 필요성
TAI CHI – Current Clinical Trials

- Bone health
- Rheumatoid arthritis
- Osteoarthritis of the knees and hips
- Chronic heart failure
- Sleep in older adults
- Fibromyalgia
- Balance – Parkinson’s pts, vestibular disorders, peripheral neuropathy
- Effects on immune system
- Chronic low back pain

http://www.clinicaltrials.gov
QIGONG

- Qigong, Chi Kung
  - Chi – vital energy within the body
  - Gong – training & practice
QI GONG

- Root of Traditional Chinese Medicine
- Health (internal) & Medical (external)
- Various styles
  - Eight Section Brocades (Baduanjin)
QI GONG

PATHWAY:

Psychoneuroendoimmunology (PNI)

Interlinking of nervous, endocrine and immune systems

- Reciprocal regulation between the CNS and the immune system via hormonal and neuronal pathways
- Down-regulation of the sympathetic nervous system
• http://www.youtube.com/watch?v=r9QHP-h3cGg

Meta-analysis of 26 RCTs (1996-2006)

- Immune system (white blood cells and lymphocytes)
- Cardiac system (stroke volume, peak transmitral filling capacity)
- Pulmonary system (forced vital capacity & expiratory volume)
- Lower total cholesterol
- Lowered blood pressure
- Improved depressive mood scores
YOGA

- Sanskrit word meaning “to yoke” – union between mind and body with the energy of the universe
- Foundation in India, over 5,000 yrs ago
- To U.S. in 1800’s; popular in 1960’s
- Estimated 15-18 million adults practicing yoga in the U.S.
NOT ALL YOGA IS CREATED EQUAL
YOGA STYLES

- Hatha yoga most popular – combines physical postures (asanas), breathing techniques, and relaxation/meditation

- Ashtanga – power yoga. Physically demanding.

- Bikram – hot yoga. Practiced in room temperature ranging from 80-100 degrees. Requires certain amount of stamina and fitness

- *Iyengar – utilized various props to develop greater symmetry and alignment in the postures

- *Viniyoga – modifies each pose to the individual. Slower pace; more attention to breath and emphasis on biomechanics

- May improve muscular flexibility, strength, and balance
- Some efficacy as adjunct therapy for LBP, knee OA and carpal tunnel syndrome
- May add benefit to management of CV disease but also included lifestyle changes
YOGA EVIDENCE

Lipton – evidence based review. JAAPA. Feb., 2008:

- May have some positive effects on
  - Obsessive-compulsive disorder
  - Anxiety and depression
  - Other conditions exacerbated by stress such as ADHD, menopausal vasomoter symptoms, irritable bowel syndrome
YOGA EVIDENCE

- Other meta-analyses
  - Self-management strategies for pain and function in older adults – positive outcomes found in 96% of studies (yoga, Tai Chi, massage, music therapy)
  - Chronic pain in older adults – mind/body interventions review
YOGA EVIDENCE

- Chronic LBP – 3 studies, fair evidence
- Asthma – insufficient evidence
- Carpal tunnel syndrome – short-term improvement in grip and pain in 1 study; no difference in other study
- Anxiety and depression in children & young people
- Hypertension
- Anxiety
YOGA

- Purported to be safe and effective
- Injuries under-reported
- Several case studies:
  - Vertebral artery dissection
  - Basilar artery occlusion
  - Spontaneous pneumothorax
  - Conjunctival thrombosis
  - Peripheral Neuropathy
  - Bilateral sciatic nerve compression
CURRENT CLINICAL TRIALS

- Diabetes*
- Insomnia
- HIV
- Immune function
- COPD
- Breast Ca*
- Fatigue
- Metabolic syndrome*
- PTSD
- Stress management

http://www.clinicaltrials.gov
INFORMATION

- Yogaalliance.org – general information; registry for instructors who have met 200-500 hour instruction

- YogaFit – provides instructor training and referrals world-wide.

- Yoga Research and Education Center
  [www.yrec.org](http://www.yrec.org)
History of Pilates

- Joseph Pilates – German-born; sickly as a child
- Sought health and fitness through Zen meditation, yoga, boxing, gymnastics, martial arts
- Worked in British internment camp during WWI
- Devised exercises using various equipment
- Came to NY in 1920s
PILATES

- **Contrology and “the powerhouse”**
  - Mind-body system designed to enhance flexibility, strength, and coordination
  - Strong emphasis on awareness and control, stability

- Different schools, methods

- 1.7 million in 2000 to 10.5 million in 2004

"Everything should be smooth, like a cat. The exercises are done lying, sitting, kneeling, etc, to avoid excessive strain on the heart and lungs."
PILATES MAT EXERCISE
PILATES MAT EXERCISE
PILATES EXERCISE
PILATES EQUIPMENT

- Very limited quality research

- Total of 277 articles or abstracts found from 1990-2005
- No meta-analysis or systematic reviews
  - Only 10 were published in refereed, professional journals
    - Of these 5 were conducted in gymnasts and dancers
    - 2 were in special populations (urinary incontinence in women and in acutely ill hospitalized older adults
    - 3 were in healthy adults
- Conclusions – lack of defined method, small sample sizes and lack of randomization
PILATES EVIDENCE

- 4 RCTs
  - 2 included LBP patients
  - 1 on body composition in young girls
  - 1 using acutely ill hospital patients – PROM vs. resistance exercises
PILATES EVIDENCE – Low Back Pain

  - Pilates vs usual care

  - Pilates vs Back School Method
    - Results were comparable
PILATES EVIDENCE – What’s New?

  - Total hip and total knee arthroplasty
  - Patient driven interest in post-op rehab

  - Posture
    - Small improvement in thoracic kyphosis
    - High compliance
    - Suitable for older healthy adults
PILATES EVIDENCE - Summary

- Inconclusive due to small sample sizes, limited quality research, and lack of defined method of Pilates
- Is showing some promise in chronic LBP but no indication that it is more effective than other forms of exercise
- Good compliance
- Growing evidence
CURRENT CLINICAL TRIALS

- Comparison of Massage and Exercise (Pilates) in Fibromyalgia
- Comparing Traditional Pelvic Floor Rehabilitation to Pilates for Increasing Pelvic Muscle Strength

http://www.clinicaltrials.gov
INFORMATION

Pilates Method Alliance (PMA)

http://pilatesmethodalliance.org/w.
COMMON KEY ELEMENTS of MIND-BODY EXERCISE

- Awareness, focus, conscious intention
- Body and postural control
- Movement and/or energy from the center
- Precision of movement
- Breath
SUMMARY

TAI CHI
Evidence for:
- Balance & fall prevention
- Reduce blood pressure
- Improve cardiovascular health
- Older patients
- Chronic illness
- Gentle, slow moving
- Safe
- Possible benefit for OA
- Overweight individuals due to low impact and safety
- Stress reduction

QI GONG
Evidence for:
Improvement in
- Metabolism of blood lipids
- Blood pressure
- Enhanced immune response
- Depressive mood scores
- Gentle, slow moving
- Safe
- Stress reduction
SUMMARY

YOGA

Evidence for:
- Increase flexibility, strength, balance
- As adjunct for knee OA
- As adjunct for chronic LBP
- As adjunct for CV disease
- Carpal tunnel syndrome?
- Disorders exacerbated by stress
Can be modified for special populations (ex. osteoporosis)
Stress reduction
Recommend small group or private instruction

PILATES

Evidence:
- Limited quality research
- May be beneficial as adjunct in the management of chronic LBP
- Recommend small group or private instruction
WHERE DO I FIND MIND-BODY EXERCISE?

- Privately owned business
- Local gyms
- Churches
- Corporate wellness programs
- Hospital-based wellness programs
- Local health stores
- Senior citizen centers
- Private instruction
- DVD/video
HOW CAN WE IMPLEMENT MIND-BODY EXERCISE?
A healthy state of well-being
Free from disease

Physicians should be held responsible for the health of their patients

The Visual Thesaurus

The quality or state of being in good health, especially as an actively sought goal

Merriam Webster’s Online Dictionary
IMPLEMENTATION

ASSESS

Readiness for Change?
- Pre-Contemplation – I can’t or won’t
- Contemplation – I may start, thinking about it, but not today
- Preparation – I will or have made an attempt to change
- Action – I am doing it, but for less than 6 mo
- Maintenance – I am successful (> 6 mo)

EDUCATE
- Health information
- Stages of change
- Expectations
- Goal setting
- Management of barriers

DIRECT TO RESOURCES
- Other healthcare providers
- Community resources
- Reputable websites
- Written/audio/visual resources
- Private resources

FOLLOW-UP

MONITOR
SUMMARY

✓ EVIDENCE AND BENEFITS OF:

☑ Tai chi
☑ Qi Gong
☑ Yoga
☑ Pilates

✓ WHERE TO FIND MIND-BODY EXERCISE
SUMMARY

✓ Importance of finding qualified instructors – no standard training program
  ▪ Inquire about training and experience
  ▪ Get to know who is in your area
SUMMARY

✔ IMPLEMENTATION

☐ Keys to being successful

- Appropriate Assessment
- Educate & Engage
- Accountability
- Follow-up
QUESTIONS???

THANK YOU!
PARTING WORDS:

DON’T FORGET YOUR OWN HEALTH!

“now, who did you say this keeps away?”
References


References


References


