KNOCKING OUT PARKINSON’S: A COLLABORATIVE, COMMUNITY-BASED PARTNERSHIP

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OBJECTIVES

1. Interpret the significance of establishing and aligning community partners for long-term promotion of health and fitness for individuals with neurologic dysfunction.
2. Describe collaborative fitness models between physical therapists and community-based fitness specialists who work with people with disability.
3. Identify the implications of community-based partnerships on physical therapy practice related to consultation services, referral sources, and direct access.
4. Discuss the development and outcomes related to an exemplary collaborative, community-based partnership for health promotion of people with Parkinson disease.
5. Recognize the recommendations for incorporation and implementation of a collaborative, community-based partnership in various settings.

SESSION OUTLINE

• Health promotion activities for people with disability
• Overview and current evidence for Rock Steady Boxing
• Models for community based fitness programs
• Implications for physical therapy practice
• Example of the Collaborative, Community-based partnership model
  • Therapist and trainers points of view with case examples
• Practical suggestions for development of collaborative, community-based partnerships in other settings
• Questions/Open discussion

HEALTH PROMOTION ACTIVITIES FOR PEOPLE WITH DISABILITY

ADHERENCE AND OPPORTUNITIES
ACTIVITY LEVELS

- 60% of Americans older than the age of 65 do not achieve the recommended daily amount of physical activity (Macera et al., 2005)
- Activity levels for people with Parkinson disease (PD) are 1/3 lower than those without PD (van Nimwegen et al., 2011)

INACTIVITY IN PD

BARRIERS TO EXERCISE

Barriers

- Knowledge / Education
- Self-Efficacy
- Depression
- Access / Convenience
- Motivation
- Cost
- Poor Health / Functional

Mathews et al., 2010
DeGroof & Pagenstecher, 2011
Bethancourt et al., 2014

Quinn et al., 2010
Ellis et al., 2011
Ene et al., 2011

MOTIVATORS TO EXERCISE

Motivators

- Setting goals
- Social interaction
- Knowledge of exercise benefits
- Slow progression / Prevent decline
- Family support

O’Brien et al., 2008
Quinn et al., 2010
Ene et al., 2011

OTHER MOTIVATORS

- Fun
- Music
- Structure of Program
- PD specific
- Group based
- Intensity
- Non-traditional

Combs-Miller et al., 2015
Ene et al., 2011

FACTORS THAT CONTRIBUTE TO EXERCISE ADHERENCE

- Perceived functional benefits
- Self efficacy
- Reassurance from trained instructors
- Social benefits
- Camaraderie within a group

de Paula et al., 2006
States et al., 2011
O’Brien et al., 2008
Citiz & Newhouse, 2012
Combs-Miller et al., 2015
**Motivation**

**Adherence**

**Social Support**

**Cohesion**

**Group Exercise**

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**GROUP EXERCISE FOR PD**

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Barriers</th>
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<tbody>
<tr>
<td>Increased Adherence</td>
<td>Space</td>
</tr>
<tr>
<td>Social Support</td>
<td>Group Size</td>
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<tr>
<td>Action Oriented vs. Talk-Based</td>
<td>Self-Efficacy</td>
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<tr>
<td>Increased Quality of Life</td>
<td></td>
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<tr>
<td>Cost Effective</td>
<td>Efficient</td>
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O’Brien et al, Disabil Rehabil, 2008; Crizzle & Newhouse, Occup Ther Health Care, 2012; Fraser & Spink, J Behav Med, 2002; Rodrigues de Paula et al, Mov Dis, 2006

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**PHYSICAL THERAPY AND PD**

- Does physical therapy benefit people with PD?
  - **YES!!**
  - Physical therapy results in **short-term (<3 months)** improvements in:
    - Walking speed
    - Endurance
    - Mobility
    - Balance
    - Motor symptoms of PD

  Tomlinson et al, 2013; Cochrane Review

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**BUT...**

- What happens after discharge from PT?
- What happens to those patients not referred to PT?

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**OPPORTUNITIES FOR EXERCISE BEYOND PT**

- Traditional Exercise Activities
  - Individual-based exercise
  - Home gym
  - DVD
  - Neighborhood walk/run
  - Walking/biking trails
  - One-on-one (client-to-trainer approach)
  - Community group-based programs
  - YMCA programs
  - Silver Striders
  - Indy CLIMB

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**OPPORTUNITIES FOR EXERCISE BEYOND PT**

- Non-Traditional Exercise Programs
  - Tai Chi
  - Qigong
  - Yoga
  - Dance
  - Boxing
WHAT IS ROCK STEADY BOXING?
A COMMUNITY-BASED FITNESS PROGRAM FOR PD

ROCK STEADY BOXING
LIVE DEMONSTRATION

NON-CONTACT BOXING

ROCK STEADY BOXING
DESCRIPTION AND EVIDENCE

EVOLUTION OF RSB

Then (2006)
- Designed for young onset
- Mild PD severity
- 1 trainer
- 6-8 classes/week
- 2 class levels

Now (2015)
- Ages 30-90 years
- All levels of PD severity
- 3+ trainers
- 18+ classes/week
- 4 class levels

PD1 → PD2 → PD3 → PD4
www.rocksteadyboxing.org/

RSB TRAINING PROGRAM

- 90 minute sessions:
  - 30 min. stretching/warm up
  - 45 min. boxing workout/PD specific activities
  - 5 min. core strengthening
  - 10 min. cool down/stretching
- Circuit training – rotate stations
- Interval training – 2-4 minute training bouts/1 minute rest breaks
- Encouragement:
  - “train as intensely as they can tolerate”
  - “push further than they think they can go”
- Hand wraps/Boxing Gloves
RSB TRAINING PROGRAM

- Boxing Specific Exercises
- Functional Training
- Calisthenics/Strengthening
- Core Exercises
- Stretching
- Additional activities:
  - Voice Activation
  - Deep Breathing
  - Dual Tasks

EVIDENCE

- Boxing is safe and feasible for persons with PD
  - Combs et al, Physical Therapy, 2011
- Boxers with PD exhibit significant short-term improvements in:
  - Walking speed
  - Endurance
  - Mobility
  - Balance
  - Dual tasks
  - Health-related quality of life
    - Combs et al, NeuroRehabilitation, 2012

LONG-TERM EFFECTS OF BOXING IN PD

- Community-based longitudinal cohort study (n=88)
  - Hoehn & Yahr Stages 1-4
- Non-randomized:
  - boxers and non-boxers with PD
- Assessment:
  - 5 times over 2 years
    - Baseline, 6, 12, 18, 24 months
    - Measures of impairment/activity/participation

LIMITATIONS?

- Study dropout rates
- RSB membership attrition
- What are the ongoing needs of RSB members?
  - PD symptom progression
  - Cognitive changes
  - Co-morbidities
  - Athlete-type injuries
  - Orthopedic issues
  - Pain

How can physical therapists get involved?

MODELS FOR SERVICE TRANSITION

1. Transitional therapist-to-trainer model
2. Partnership model for community-based wellness (i.e. Stroke wellness program)
3. Collaborative, community-based partnership model between volunteer physical therapists and Rock Steady Boxing

COLLABORATIVE MODELS FOR COMMUNITY BASED FITNESS PROGRAMS
THERAPIST TO TRAINER MODEL

Purpose of model:
1. Enhance access to fitness programs after rehab
2. Decrease risk of secondary health conditions
3. Optimize health and fitness

Formalize relationships among health and fitness professionals
- Encourages collaboration between therapists and fitness professionals
- Encourages fitness professionals to advance knowledge related to disability with certifications
  - Registered clinical exercise physiologist (RCEP)
  - Certified inclusive fitness trainer (CIFT)

Limitations:
- Limited to those patients already within rehabilitation settings at the onset
- May not work for all patient populations
- Linear approach
- What happens if problems/questions arise in the community?

PARTNERSHIP MODEL FOR COMMUNITY-BASED WELLNESS

Stroke Wellness Program (SWP)
- Partnership between Brooks Rehabilitation (Jacksonville, FL) and local YMCA
- Objectives:
  1. To change attitudes, perceptions, knowledge of exercise post stroke
  2. To decrease number of second strokes
  3. To improve physical function after stroke
  4. To improve quality of life
- Before starting the program, all participants:
  - Receive MD approval
  - Evaluated by a PT
  - PT suggests exercise categories based on assessment

ONGOING, COLLABORATIVE PARTNERSHIP

Community-based fitness centers:
- Many have no formal relationships with local clinicians or rehab services for transition.
  - Immediate need:
    - Develop an ongoing, interactive collaboration between volunteer physical therapists and community-based fitness centers to serve needs of members with disability.
  - Long-term plan:
    - Develop a sustainable community-based collaborative network.
ONGOING, COLLABORATIVE PARTNERSHIP

- Aims for partnership:
  1. Improve access to healthcare services
  2. Reduce potential risks for secondary complications
  3. Enhance adherence to exercise
  4. Generate immediate and appropriate referrals to health care professionals
  5. Greater awareness by health care professionals of community-based fitness opportunities
  6. Sustainable partnership through engaged volunteers

IMPLICATIONS FOR PHYSICAL THERAPY PRACTICE

GUIDELINES FOR SCOPE OF PRACTICE

- “Preventing injury, impairment, functional limitation, and disability, including the promotion and maintenance of health, wellness, fitness, and quality of life in all age populations.”

- Indiana Practice Act: Section 1(D)
  “Provision of consultative, educational, and other advisory services for the purpose of preventing or reducing the incidence and severity of physical disability, bodily malfunction and pain.”

NEW VISION STATEMENT FOR THE PT PROFESSION

“Transforming Society by optimizing movement to improve the human experience.”

PRINCIPLES TO ACHIEVE THE VISION

- Identity
- Quality
- Collaboration
- Value
- Innovation
- Consumer-centricity
- Access/Equity
- Advocacy

COLLABORATION

“The PT profession will demonstrate the value of collaboration with other healthcare providers, consumers, community organizations and other disciplines to solve health-related challenges that society faces.”
ACCESS/EQUITY

“The PT profession will recognize health inequities and disparities and work to ameliorate them through innovative models of service delivery, advocacy, attention to the influence of the social determinants of health on the consumer, collaboration with community entities to expand the benefit provided by PT, serving as a point of entry to the health care system, and direct outreach to consumers to educate and increase awareness.”

“VISION 2020” STATEMENT FOR PHYSICAL THERAPY

• “Physical therapy, by 2020, will be provided by physical therapists who are doctors of physical therapy and who may be board-certified specialists. Consumers will have direct access to physical therapists in all environments for patient/client management, prevention, and wellness services. Physical therapists will be practitioners of choice in patients'/clients' health networks and will hold all privileges of autonomous practice.”

DIRECT ACCESS

• Indiana Practice Act: IC 25-27-1-2.5 Evaluations and treatment without a referral.

“A Physical Therapist may evaluate and treat an individual during a period not to exceed 24 calendar days beginning with the date of initiation of treatment without a referral.”

ONGOING, COLLABORATIVE PARTNERSHIP

DEVELOPMENT OF PARTNERSHIP

• Identified key partners:
  • Coaches and Executive Director at RSB
  • Healthcare professionals (Mestrich and Combs-Miller)

• Identified needs, developed plan for monthly screenings

• Invited PT volunteers (neuro/ortho)

• Developed screening forms

• Selected ‘optional’ outcome tools with established norms and/or cut off scores

DEVELOPMENT OF PARTNERSHIP

Tests

5XSTS

MoCA

45ST

MiniBEST

DHI

ABC

10MWT

Standing Tests

Property of Stephanie Combs-Miller, Jeff Mestrich, and Christine Timberlake
Do not copy without permission.
DEVELOPMENT OF PARTNERSHIP

- Generate supply list
- Developed lists of referral sources (ongoing):
  - Physicians/specialists
  - Rehabilitation specialists
    - Occupational therapy
    - Speech therapy
    - Neuropsychology
    - Physical therapy
      - Orthopedic
      - General Neuro
      - Vestibular

IMPLEMENTATION

- Monthly screening sessions
  - 3 hours (30 minute blocks per patient)
  - Saturday mornings
  - RSB gym
- Additional screening opportunities on a ‘need’ basis
- Patient sign-up
  - Coach recommendation
  - Self-referral
  - Family/friend recommendation
- Triage
  - Neuro or ortho schedule based on primary complaint
  - RSB staff makes schedule and collaborates with PTs prior to screenings.

PRACTICAL SUGGESTIONS

QUESTIONS/DISCUSSION

THANK YOU!

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