An Evidence Based Walking Resource for Arthritis Management

2019 OSPA Annual Fall Conference
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Reyna, J., Chui, K., Yen, SC., Tudini, F., Hilliard, J. Physical Therapy for the Older Adult: An Evidence Based Approach to Examination and Intervention. Lewis, Chui, Gray and Huber (Editors), Wolters Kluwer Health, Philadelphia, PA, 2017: 1262-1298


Reyna, J., Hinkel, J. (Co-PI). Increasing access to arthritis-appropriate evidence-based interventions (AAEBIs) among adults living with arthritis: Walk With Ease. $4,000, 2017, National Association of Chronic Disease Directors

Reyna, J., Hinkel, J. (Co-PI), Harris, A (Co-PI). Walk With Ease Program Services. $8,000, 2018, Oregon Health Authority, Public Health Division CPHP, Health Promotion and Chronic Disease Prevention.

Learning Objectives:

1.) Identify the different stages of osteoarthritis, prevalence, epidemiology and impact on the quality of life of individuals living with arthritis.

2.) Identify candidates who would benefit from an evidence based community program with varying formats- Walk With Ease.

3.) Learn how to develop a workflow that provides either a hands on or a hands off approach and increases the awareness of evidence based programs within a waiting room/lobby
AUDIENCE BACKGROUND?

- How many in attendance are:
  - Surgery
  - Emergency Medicine
  - Family Medicine/General Practice
  - Internal Medicine
  - Hospital Medicine
AUDIENCE BACKGROUND?

- How many in attendance know of evidence-based community program(s)?
- Know of someone who has arthritis?
- Know of an elderly person who sustained a fall?
- Know of someone whose health deteriorated after sustaining a fracture?
- Know of someone who needed surgery due to arthritis (e.g., joint replacement)?
WHAT ARE EVIDENCE-BASED COMMUNITY PROGRAMS?

• Research Based
• Designed to promote health and prevent diseases among all adults
• Lower the risk of chronic diseases and falls OR
• Improve long-term effects of chronic diseases and falls
EXAMPLE OF A CHRONIC DISEASE

- Arthritis:
  - Effects the joints and tissues around the joint
  - Fibrocartilage
  - Hyaline cartilage
  - Synovial membrane
  - Over 100 types of arthritis
- Most Common Types of Arthritis:
  - Osteoarthritis (most common)
  - Rheumatoid Arthritis
  - Psoriatic Arthritis
  - Fibromyalgia
  - Gout

[Image: https://commons.wikimedia.org/wiki/File:Rheumatoid-Arthritis.png]
STAGES OF OSTEOARTHRITIS

• Stage 0 (Normal):
  • No Joint damage

• Stage 1 (Minor):
  • Minimal degeneration & bone spurs
  • Negligible pain
  • X-ray unremarkable

• Stage 2 (Mild):
  • Joint space preserved
  • Additional bone spurs
  • Symptoms of joint pain are evident

• Stage 3 (Moderate):
  • Obvious degeneration present
  • Joint space decreased
  • Obvious joint inflammation
  • Additional bone spurs are evident
  • Crepitus is experienced

• Stage 4 (Severe):
  • Significantly reduced joint space
  • Joint is inflamed and warm
  • Cartilage has deteriorated completely
  • Synovial fluid is decreased
  • Significant bone spur accumulation
  • Significant pain
EXAMPLE OF COMPLICATIONS FROM A FALL

- Sequela: A condition which is the consequence of a previous disease or injury
- 70 year old female falls and sustains a hip fracture
- In 95% of cases a fall is the primary cause
  - Females make up 81% of hip fractures sustained
    - Live longer
    - Average age is 79 years old
- According to Keene et al. she should expect a mortality rate within 1 year:
  - At age 70: 28.9%
  - At age 75: 24.3%
  - At age 80: 36.4%
  - At age 85: 41.9%
  - Except at age 75, mortality rate has a positive correlation with age.
CO-MORBIDITIES ASSOCIATED WITH ARTHRITIS

• Co-Morbidity:
  • Simultaneous presence of two chronic diseases or conditions in a patient

• Among Oregon Adults (2016)
  • 39% are obese (defined as body mass index of ≥ 30)
  • 38% of those who have ever had diabetes mellitus
  • 47% of those who have ever had cardiovascular disease
PREVALENCE OF ARTHRITIS IN OREGON

• Age adjusted to the standard 2000 US population
• Among Oregon Adults (2016)
  • 24% have some form of arthritis
  • 53% of those ≥ 65 years of age have some form arthritis
  • 15,420 people were hospitalized due to rheumatoid arthritis and/or osteoarthritis
  • ~$237 million was spent on hospitalizations attributed to rheumatoid arthritis and/or osteoarthritis
IMPACT ON QUALITY OF LIFE

- Age adjusted to the standard 2000 US population
- Among Oregon Adults (2015)
  - 53% report their symptoms limit their ability to conduct routine activity
  - 41% of those between 18-64 years of age
    - influences the amount and type of work performed (not age adjusted)
- Average joint pain score: 4.5/10, despite use of medication(s)
  - Visual Analog Scale on a 0-10 pain rating (0 is no pain; 10 is maximum pain)
ADVICE AND SELF MANAGEMENT

• Among Oregon Adults (2015)
  • 63% report their healthcare provider has suggested:
    • Exercise or physical activity for arthritis or joint pain
  • 81.5% have NEVER taken a class to help manage problems related to their arthritis
    • However, 49% of those with arthritis reported walking for physical activity
  • 15.5% have EVER taken a class to help manage problems related to their arthritis
CONSERVATIVE MEASURES

- Medications
  - NSAIDs
  - Corticosteroid Injections
  - Disease Modifying Anti-Rheumatic Drugs
  - Transient Receptor Potential Channels
    - Vanilloid 1 (TRPV1)
    - Ankyrin 1 (TRPA1)

- Physical Therapy
  - Gentle Strengthening
  - Gentle Stretching
  - Cardiovascular Training
  - Balance/Proprioceptive Training
CONSERVATIVE MEASURES

• Assistive Devices
  • Single Point Cane
  • Front/Four Wheeled Walker
    • More stable
    • Permits rest periods (stand/sit)
  • External Devices(s)
    • Knee Sleeve
    • Knee Braces

WALK WITH EASE (WWE)

- Evidence-Based Community Program
  - Simple and Cheap
    - Free through OSU Extensions
  - Self Directed
  - Group
  - Virtual (Hybrid)

- Structured Walking Program
  - Performed over a period of 6 weeks
  - 18 total sessions
  - Up to 30 minutes in duration each
  - Benefits all age groups
  - Warm up/Cool Down Phases (Stretching & Strengthening)
WALK WITH EASE

• Supporting Evidence for Wellness Programs

• Meta-analysis by Chapman, L.
  • 26% reduction in healthcare costs
  • 27% reduction in worker’s compensation claims
  • Assessed wellness programs within a workplace

• Nyrop et al. 2011
  • Workplace Activity Limitations Scale (WALS) (e.g., sit, stand, kneel)
  • Assessed WWE in adults with arthritis
  • Scores were statistically significant at 6 weeks (p<0.001) from baseline
  • Values were maintained at 1 year follow-up (p<0.87)
Supporting Evidence for Wellness Programs

Nyrop et al., 2014
- Self Directed vs. Group
  - Self-reported outcomes were similar at 6 weeks post intervention and 1 year follow-up
  - Walking duration goal of 30 min at 3x/week
  - Maintained by all participants at 1 year follow-up

Callahan et al., 2011
- 468 participants
- No difference in self directed vs. group formats
- Decreased pain and disability (modest to moderate effect sizes)
- Increased strength, balance and walking pace (modest to moderate effect sizes)
- No safety concerns were associated with participation
WALK WITH EASE- PROMOTING

- Establish group courses with community partners in Oregon
  - Requires leadership training (4 hour self directed online course)

- Establish direct referrals by healthcare providers to our community partners

- Develop workflows with providers for registration of self-directed participants
  - Web portal with QR code
  - https://extension.oregonstate.edu/walk-ease
  - Favorable for those with a busy agenda
  - Highly integrated regardless of environment
  - No special equipment
WALK WITH EASE - PROMOTING

- Site(s) for Promotion:
  - Company web-site
  - Social media (e.g., Facebook; Instagram; Blogs)
  - Check-in/lobby posting
  - Upon establishing plan of care
  - Upon discharge
WALK WITH EASE

- Potential Challenges:
  - Draws on administrative personnel resources
  - Establish rapport between providers and with community partners
  - Establish champions with resources to execute a workflow at their facility
  - Rural communities struggle to incorporate due limited walking paths (e.g., sidewalks)
  - Impact of weather
  - Language barriers
  - Health literacy barriers
WALK WITH EASE

• Perfect World
  • Available to all individuals with arthritis wishing to initiate a walking program
  • Available to all individuals regardless of disease or medical condition
  • Consistently offered by healthcare providers to all patients who benefit from physical activity
  • Patients are proactive and follow through with recommendations
  • Covered by third-party payers.
QUESTIONS?

Thank you!

- Audience
- 2019 OSPA Committee


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