Alternative Solutions to Pain Management

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Data from the American Productivity Audit
28,902 working adults between August, 2001 and July 2002
Over half (53.7%) of the workforce surveyed reported having musculoskeletal pain in the past two weeks
12.7% of all workforce lost productive time in a two-week period
Headache (5.4%)
Back pain (3.2%)
Arthritis pain (2%)
Other musculoskeletal pain (2%)
Overall, workers lost an average of 4.6 hours per week of productive time
Lost productive time from common painful conditions was estimated to be $61.2 billion per year
76.6% of lost productive time was explained by reduced work performance, not absenteeism.

Chronic Pain
• Staggering statistics
  –Chronic pain..... 100 million Americans
  –Diabetes.....25.8 million Americans
  –Coronary Heart Disease.....16.3 million Americans
  –Stroke.....7.0 million Americans
  –Cancer.....11.9 million Americans

http://www.painmed.org/patientcenter/facts-on-pain/
Predictors of return to work
- Initial pain and physical impairments?
  - NO
- Identifying psychosocial variables
  - YES
- Outcomes surveys
  - Oswestry Back Disability Index
  - Fear Avoidance Beliefs Questionnaire
  - Pain Catastrophizing Scale
  - Tampa Scale of Kinesiophobia

Pain-Related Fear and Catastrophizing Predict Pain Intensity and Disability Independently Using an Induced Muscle Injury Model
- Healthy subjects n=126
- Completed fear avoidance scales and disability scales
- Isokinetic until less than 50% MVIC
- PCS and TSK were strong predictors of pain and disability scores following injury

The role of fear avoidance beliefs in acute low back pain: relationships with current and future disability and work status
- Confrontation vs. avoidance
- 4 factors
  - Previous stressful life events
  - Personal pain coping strategies
  - Prior pain experiences
  - Personality characteristics
Study continued...

- N= 78 low back pain patients, less than 3 weeks of pain, in classification based groups
- Outcomes surveys: depression scale, Oswestry, FABQ
- Most predictive of return to work was FABQ work subscale
- Classification based exercise group did better than generalized treatment

So what can help chronic pain?

- Evidence – Cochrane reviews
  - Moderate evidence for exercise in Chronic Fatigue Syndrome
  - Yoga and exercise for chronic low back pain
  - Strengthening and manual therapy for neck pain
  - Spinal manipulation for acute low back pain
  - Multidisciplinary approach for low back pain

Physical Therapy Interventions and Evidence

- Washington Post Article
  - Embrace PT
  - Socialize
  - Treat depression and anxiety
  - Practice mindfulness and anxiety
  - Join a support group
  - Avoid extended use of addictive pain medications
  - Discover meaning and purpose
  - Seek help
Neuroscience education

- Educating patients about pain
- Individually or in groups
- Main concepts
  - Acknowledging pain
  - Tissue damage doesn’t equal pain intensity
  - Tissues heal
  - Central sensitization

Research – Does it Work?

- YES
- Single case study design
  - Improved fMRI in less widespread brain activity during task
  - Analogy: “pain meeting”

Systematic Review – Louw, Diener, Butler, Puentedura

- Neuroscience education
- Not biomechanical/anatomy/pathology based
- 30 minutes to 4 hours of education
- One on one better than group
- Positive effect on pain perception, disability and catastrophization
- Improvement in physical measures (SLR, lumbar ROM, decreased PPT)
Systematic Review and Meta-Analysis - Clarke, Ryan, Martin

- 2 articles
- Significantly better effect on pain with Pain Neurophysiology Education (PNE) than control group
- Improvement in attitudes toward pain and catastrophizing
- Participants receiving PNE 4x more likely positive shift in work status medium term and 2x more likely in long term

Future Research Needed

- Group vs individual setting?
- How much education is ideal time?
- Long term follow up
- Larger studies
- In person vs booklet

Summary

- Exercise – the wonder drug
- Multimodal approach
- Biomedical education likely increases fear and anxiety
- Pain science education appears very effective
- More research needed!
  - David Butler
  - Lorimer Moseley
  - Adriaan Louw
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