Exercise and COPD

Providers
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Dyspnoea

- Dyspnoea or “breathlessness” is the invisible final pathway for many sufferers of lung disease
- Dyspnoea creates behavior and psychological responses in people
- These responses limit exercise in many COPD patients
Pulmonary Rehab Program

- A multi-disciplinary exercise program for people with lung disease
- Tailored to suit each individual's ability and needs
- Designed to maximize individuals' goals
- Targeted to optimise psychological and physical wellbeing
Lismore Program
Carroll Centre St Vincent’s

- Four programs a year
- Two exercise sessions a week
- One education session a week
- Over an eight week program
- Twelve clients per program
- Carers, family and partners encouraged to attend education sessions
Exercise Program

- Breathing Techniques
- Warm Up / Stretches / Walking
- Exercise Circuit
  - Cardiac
  - Strength
  - Endurance
- Cool Down  Stretches  Relaxed Breathing
- HOME PROGRAM
Psychological Barriers to Exercise

- Fear of breathlessness
- Fear escalates into panic and helplessness
- Increasing dyspnoea
- Sudden panic stimulates the adrenals and sympathetic nervous system as well as the central limbic structures
- Which in turn amplifies the sensation of respiratory discomfort
Emotional Impact..

- Of COPD can be equal to or greater than the physical symptoms
- Suffers feel like they are “a burden”
- Embarrassment
- Fear
- Altered body image
- Guilt
- Altered role in the family
- Shame
- Loss of control and independence
- Isolation

- Altered relationships and friendships
- Panic
- Frustration
- Anxiety
- Loss of intimacy
- Depression
- Inability to work loss of income
Managing the Psychosocial Impact

- Goal setting
- Good communication
- Involving your patients in the decision making
- Education leads to self efficacy
- promotes self management
Managing Psychosocial Impact

- Encourage people to develop their own coping strategies
- Encourage pharmacological as well as non-pharmacological
- Relaxation
- Counselling
- Social work
- Financial Advice
- Referrals as needed
Emotional Benefits of Exercise

- Very Subjective people feel “Better Happier”
- They enjoy the socializing associated with Pulmonary Rehab
- They enjoy the peer interaction and start to rethink their illness
- They realize it’s ok to become breathless; they can still exercise just pace themselves
- They find a new self-confidence
- Their perception of the disease burden changes when they realize they can exercise
Common Psychological Benefits

- Improved Mood
- Reduced Stress
- Improved Self-Esteem
- Pride in Accomplishments
- Improved Body Image
- Increased Energy
- Improved Confidence
- Decreased Anxiety
- Decreased Fear
- Decreased depression

Association of Applied Sportpsychology
Physical benefits of Exercise in COPD
- Increased functional exercise capacity (1), (4)
- Increased muscle strength (2), (3)
- Decreased dyspnoea (3), (8)
- Decreases risk factors of associated co-morbidities (8)
Possible benefits

- Stabilisation or improvement in pulmonary function (9),(10), (13)
Benefits differ between individuals with COPD

WHY?

- Complex range of individual responses to exercise based on age, gender, Phx, genetics
- COPD is a complex and poorly defined condition that potentially includes a multitude of physiological processes in various systems of the body.
- Difficult to ascertain accurately what factors are driving disease progression in any given individual
The multisystem effects of Exercise remain elusive

“~50% of protection afforded by physical activity remains unexplained” (5)

P. Darrell Neufer et al 2015
Evidence that exercise has a systemic anti-inflammatory effect (6), (12)

To what extent does this benefit individuals with COPD?

Does regular physical activity modulate inflammation and tissue remodelling and assist in disease stabilisation?
Long term benefits of exercise for people with COPD difficult to accurately ascertain

- Most studies have 6-12 week interventions which show benefits gradually decline over 12-18mths (7)
- Long term maintenance of progressive exercise programmes difficult d/t a variety of factors
L.F.F Reis et al.

- 41 individuals with diagnosed COPD, 96 week pulmonary rehab programme, 3x per week
- Ongoing improvements in 6mwt, dyspnoea, hemodynamic and lipid profile
We know that regular exercise has many benefits for individuals with COPD but it is likely that the reasons for these benefits are multi-factorial and individually specific.
QUESTIONS???
References

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