Implementing malnutrition screening in pulmonary rehabilitation – what is the impact?

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Malnutrition in chronic obstructive pulmonary disease (COPD)

- Malnutrition is a significant issue in COPD
- Adversely affects lung structure, respiratory muscle strength and endurance
- Pulmonary Rehabilitation (PR) is one of the key recommended approaches in the treatment of COPD
  - Malnourished patients participating in PR may benefit less and even worsen prognosis

SA Health
Malnutrition in Pulmonary Rehabilitation

Evidence shows a high proportion of participants enter PR programs either already malnourished or at risk

- 4 in 10 patients enrolled in PR were diagnosed as either moderately or severely malnourished on entry\(^1\)
- Malnutrition risk has been associated with failure to complete PR programs\(^2\)
- Insufficient protein intakes were indicated in 50% of patients referred to PR and inadequate energy intakes in 40%\(^3\)

\(^1\) Gunay et al 2013  
\(^2\) Jones et al 2014  
\(^3\) Holst et al 2019
Aims of PR

> Physical training is the core component
  > • Improve functional capacity (relieve exercise intolerance)
  > • Relieve breathlessness and fatigue
  > • Attenuate disease progression
  > • Enhance patients sense of control over their condition

> PR programs are typically 6-8 weeks
  > • 1 hour exercise session (2 x/week)
  > • 1 hour education session (1 x /week) with a range of Allied Health disciplines
We identified a problem in our PR program

> Participants did not have access to a Dietitian through the education series
> Malnutrition screening was not conducted
> Low referral rates for COPD management to Dietetics
  • PR Physiotherapists aimed to refer clients if losing weight unintentionally, poor oral intake/appetite
> Without adequate screening and given the evidence…  
  who are we missing?
Project Aims

> To implement malnutrition screening within Pulmonary Rehabilitation

> To increase access of Pulmonary Rehabilitation participants to Dietetic services
Project methods

> PR Physiotherapy and Dietetics worked collaboratively to:

1) Trial malnutrition screening in PR Physiotherapy pre-assessment clinic using the Mini Nutritional Assessment –Short Form (MNA®-SF)

2) Include a Dietitian in the group education series
   - Implement MNA®-SF within group education sessions by Dietitian (as a second screen)
   - Capture those who decline in pre-assessment
   - Individual tailoring of group education as one size does not fit all
Results

1) Trial of malnutrition screening in PR Physiotherapy pre-assessment clinics
   • Well supported, screen time less than 5 mins
   • 24 referrals during 2017-18
   • Limitation in data collection
   • No data on total number screened or number declined referral where indicated
Results

2) A Dietitian was embedded in the education series for 3 of 4 PR groups across NALHN

> MNA®-SF implemented a second time
  • 100% of participants were screened during 2017-18 by Dietitian (n=58)
  • 55% malnourished or at risk of malnutrition
  • 51% of these accepted a Dietitian referral (n=17)

> Second MNA®-SF screen benefits
  • 2 participants not screened + 1 participant who declined at PR pre-assessment who were at risk or malnourished
  • An additional 6 referrals for overweight status
Results

> In total, malnutrition screening increased Dietitian referrals for PR participants to 47 per year
  • Up from 5 per year in previous 12 months

> Malnutrition screening is now embedded within
  • All PR Physiotherapy pre-assessment clinics
  • Dietitian led education sessions
Future considerations for PR in our service

> Understand barriers to acceptance of Dietetic referral based on screening results
  • How to “sell it” for all
> Engagement in the PR education series
  • 50% or less participants stay for PR education
  • Barriers
  • Potential to provide earlier intervention
> Structure of PR group education series
  • Enable self management and behaviour change
Summary - Project impacts

> Closer collaborative partnerships between Dietetics and PR Physiotherapy has:
  • Increased access to Dietetic assessment and education within a group setting
  • Earlier identification of patients who are malnourished, at risk of malnutrition or overweight
  • Increase in total referrals for PR participants
  • Earlier intervention for adequate nutrition support and improvement in patient outcomes

*Screen and intervene*
Acknowledgements

Northern Adelaide Local Health Network Staff

> PR Physiotherapy Team
  • Sarah Armstrong
  • Ivan Lee
  • Lien Nguyen
  • Lara Graham
  • Anna Brennan

> Dietetics Team
  • Janet Nash
  • Pamela Zhang
  • Mirella Kakogianis