Virtual pulmonary and COVID-19 rehabilitation

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Conflict of interest disclosure

- X I have no real or perceived conflicts of interest that relate to this presentation.

- I have the following real or perceived conflicts of interest that relate to this presentation:

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Pre, during and post (?) the pandemic

Strong evidence base
Guidance

Package of individually prescribed and progressed exercise training and self management support

Limited evidence
Limited guidance

Potential to increase scope
Health inequalities/ digital competency
Pre COVID-19

Programme location
97.9% of PR programmes offered were centre-based.
34.0% of services offered home-based PR but only 1.6% of PR programmes offered were home-based.

430 centres from 40 countries

1. Spruit MA et al. Differences in content and organisational aspects of pulmonary rehabilitation programmes., ERS Rehabilitation and Chronic Care, and Physiotherapists Scientific Groups., American Association of Cardiovascular and Pulmonary Rehabilitation., ATS Pulmonary Rehabilitation Assembly and the ERS COPD Audit team. Eur Respir J. 2014 May; 43(5):1326-37
• 79% preferred PR delivered face to face in a hospital or community setting
• 11% preference for an exercise manual at home supervised by weekly telephone calls
• 9% a Web-based app with no supervision

Essential components of pulmonary rehabilitation. Essential components of the pulmonary rehabilitation model were identified through a Delphi process. An essential component was defined as having a median score ≤2 (strongly agree or agree it is essential) and high consensus (interquartile range, 0).

1. An initial center-based assessment by a health care professional
2. An exercise test at the time of assessment
3. A field exercise test
4. Quality of life measure
5. Dyspnea assessment
6. Nutritional status evaluation
7. Occupational status evaluation
8. Endurance training
9. Resistance training
10. An exercise program that is individually prescribed
11. An exercise program that is individually progressed
12. Team includes a health care professional with experience in exercise prescription and progression
13. Health care professionals are trained to deliver the components of the model that is deployed
N=48, 3/12 month programme with review at 9/12

ISWT performed to identify speed of walking and music identified at correct tempo and installed on phone

Control group - advice only

RESULTS

Significant increase in distance at 8/52, 12/52 (255.8m – 307.1m-324.2m)

Improvements in QOL (SF-12)
Supervised pulmonary tele-rehabilitation versus PR

N=134
FEV₁= 31.1 (9.4)%
Age =68.3 (9.0) yrs
Female 55%

None of the group improvements exceeded the MCID at any measurement time point.
"VR is more akin to my needs. I did not feel like traditional classes were doing anything for me".
"I prefer to do it at home, partly because of getting to the venue".
"Because it was at home, I think I did it more. Whereas I would have been ringing the class to tell them I cannot make it because I don’t feel well enough".

1,170 patients
35.7% female
mean [SD] age 58 [13]yrs
68.6% white ethnicity

29.3%, 20.6%, 50.1% of the cohort had none, one, or at least two co-morbidities.

Mean follow up 5 months.

92.8 % had at least one persistent symptom with a median (IQR) number of 9 (4 to 16) symptoms

WHO = World Health Organisation. Category 3-4 = no continuous supplemental oxygen needed, 5= continuous supplemental oxygen only, 6= Continuous or Bi-level Positive Airway Pressure ventilation or High Flow Nasal O₂, 7-9 = Invasive Mechanical Ventilation or other organ support

Supporting your recovery after COVID-19

As you find yourself recovering from COVID-19 you may still be coming to terms with the impact the virus has had on both your body and mind.

These changes should get better over time, some may take longer than others, but there are things you can do to help.

Your COVID Recovery helps you to understand what has happened and what you might expect as part of your recovery.

Information for family, friends and carers

www.yourcovidrecovery.nhs.uk
Health seeking behaviours of the post Covid-19 population (Data from YourCovidRecovery)

Total users to date (1/5/20): 1,387,942
Total individual page views: 3,278,436

UK: 70%
USA: 15%
India: 4%

England city breakdown:
London: 15%
Birmingham: 2%
Manchester: 1.5%
Early tele-rehabilitation

- Post discharge
- 4/52 home based
- 1 hour aerobic ex/day
- 2 x week physio video call
- Daily monitoring by nurse for first 2/52
- N=25 (24 completed)

Paneroni M et al. Pulmonology 2021
Symptom monitoring and trackers
Shared Decision Making

PATERNALISTIC:
Information and recommendations

INFORMED MEDICAL DECISION MAKING:
Information

SHARED DECISION MAKING:
Information and recommendations
Values and preferences
## Summary

- The COVID-19 pandemic
- Promoted the development of digital models of delivery of pulmonary rehabilitation - the evidence base needs to be strengthened.
- Challenged rehabilitation services to accommodate the post COVID-19 population.
- Services need to accommodate personal preferences of the individuals and develop a ‘menu of options.
- Research needed to develop engaging digital interventions to support symptom reduction and behavior change.