

Is pulmonary rehabilitation an effective programme to manage post-COVID breathlessness?

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Background

Long COVID syndrome is an emerging chronic condition which presents after acute infection with SARS-CoV-2. Patients report a broad constellation of symptoms including breathlessness and reduced exercise tolerance.^{1,2} The Office for National Statistics (ONS) estimates that up to 1.3 million people are living with self-reported long COVID symptoms,³ meaning effective strategies to manage symptoms are vital to improve quality of life. NICE recommends pulmonary rehabilitation (PR) as a management option for patients with dyspnoea.⁴

In February 2021 a regional long COVID service was set up for assessment of patients in Cheshire and Merseyside. After an initial telephone consultation, patients could be referred to pulmonary rehabilitation (PR) for assessment and management of respiratory symptoms.

Methods

We carried out a retrospective review of patients referred to PR from the Cheshire and Merseyside long COVID service from March to April 2021. Respiratory symptoms were assessed during a structured telephone consultation using self-reported Borg rating of perceived exertion scale⁵ score of perceived exertion and the Medical Research Council (MRC) dyspnoea scale. Scores following completion of PR were compared with initial scores.

Results

In total 131 patients were referred for PR; 88 patients were included in the analysis (43 were excluded due to incomplete records).

- > 60 (68.2%) were female.
- > Age range was 18–84 years (Fig 1).
- > 50 (56.8%) were aged between 44 and 59 years old.

Of the 88 patients:

- > 48 (54.5%) completed the PR programme
- > 37 (42.0%) of all patients reported improvement in their symptoms (Fig 2), either an increased exercise tolerance, reduction in their Borg or MRC scores or improved breathing management.

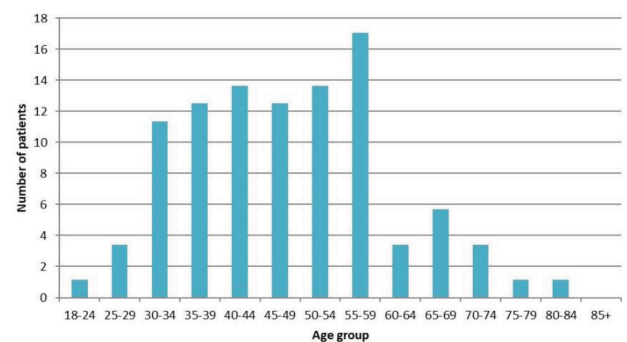


Fig 1. Patient demographics of those referred to pulmonary rehabilitation between 1 March and 30 April, 2021.

Despite some patients having no objective improvement in symptoms, feedback was positive, including that it was 'helpful and beneficial' to their recovery. Eight (9.1%) self-discharged prior to starting PR and 23 (25%) had poor adherence to the PR programme and were discharged without completing the programme. Of all patients who completed PR, three (6.3%) required further management of their symptoms.

Conclusion

Our results show that engaging with a PR programme is an effective management strategy for breathlessness. This is supported by previous studies in patients with Long COVID.^{2,5,6} We found that

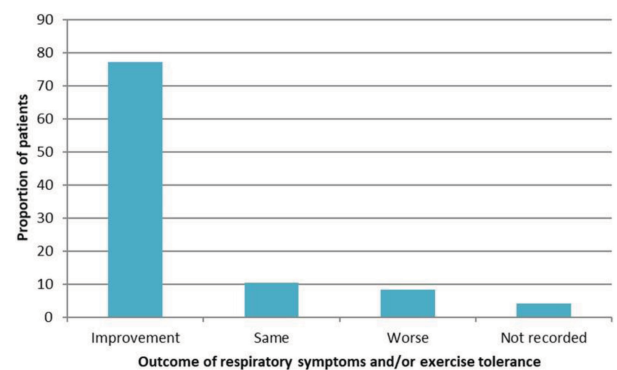


Fig 2. Patient reported outcomes following completion of pulmonary rehabilitation. Some outcomes were not recorded in the discharge reports.

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patients reported a positive experience even if there had been no improvement in Borg or MRC score. The educational material shared with patients improves confidence in self-managing symptoms. As studies in the COPD patient population have shown, this also improves psychological symptoms such as depression and anxiety.⁷ Further evaluation should assess reasons for poor adherence to the PR programme and strategies to improve this. Given a proportion of patient required further review for persistent symptoms, the feasibility of an extended PR programme should be considered. ■

References

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