

Appraisal

Critically appraised paper: In people hospitalised with an exacerbation of chronic obstructive pulmonary disease, delivery of an education video at discharge does not improve post-hospitalisation uptake of pulmonary rehabilitation

Synopsis

Summary of: Barker RE, Jones SE, Banya W, Fleming S, Kon SSC, Clarke SF, et al. The effects of a video intervention on posthospitalization pulmonary rehabilitation uptake. A randomized controlled trial. *Am J Respir Crit Care Med.* 2020;201:1517–1524.

Question: In people hospitalised with an exacerbation of chronic obstructive pulmonary disease, does education, delivered by video at hospital discharge, improve the uptake of pulmonary rehabilitation after hospitalisation? **Design:** Randomised controlled trial with concealed allocation and blinded outcome assessment. **Setting:** Tertiary hospital in London. **Participants:** Inclusion criteria were adults hospitalised with an exacerbation of chronic obstructive pulmonary disease, who lived locally and were able to walk 5 m independently, with a Medical Research Council score ≥ 2 . Exclusion criteria were comorbidities that would make exercise unsafe and receipt of palliative care with an expected survival of < 3 months. Randomisation of 196 participants allocated 98 to an experimental group and 98 to a control group. **Interventions:** Both groups received usual care, which included the delivery of a discharge bundle from a specialist respiratory allied health professional. In addition, the experimental group was asked to watch a patient co-designed education video on a handheld tablet device. They were also provided with a secure internet link and password so that they

or their relatives could access the education video after hospital discharge. **Outcome measures:** The primary outcome was the uptake of pulmonary rehabilitation within 28 days of hospital discharge. Secondary outcomes included referral to pulmonary rehabilitation within 28 days of hospital discharge and completion of the program. **Results:** Data from all participants were available for the primary outcome. There was no difference in uptake of pulmonary rehabilitation (experimental group: 34%; control group: 41%; RR of no uptake 1.12, 95% CI 0.09 to 1.39), referral rate within 28 days following hospital discharge (RR of no referral 0.93, 95% CI 0.61 to 1.44) or completion of pulmonary rehabilitation (RR of non-completion 1.28, 95% CI 0.80 to 2.07). **Conclusion:** In people hospitalised with an exacerbation of chronic obstructive pulmonary disease, a co-designed education video delivered at hospital discharge did not improve the uptake of pulmonary rehabilitation.

[Relative risk and 95% CIs calculated by the CAP Editor.]

Provenance: Invited. Not peer reviewed.

Vinicius Cavalheri

Curtin School of Allied Health, Curtin University, Australia

<https://doi.org/10.1016/j.jphys.2021.02.003>

Commentary

Pulmonary rehabilitation is a core component of chronic obstructive pulmonary disease management and underpinned by robust evidence.¹ However, program uptake is suboptimal and lack of patient knowledge² is a contributing factor. Post-hospitalisation pulmonary rehabilitation uptake is particularly challenging ($< 3\%$ uptake),³ despite evidence that pulmonary rehabilitation early after hospital discharge can reduce the likelihood of readmission by 56%.⁴

Barker and colleagues undertook a randomised controlled trial, with an extensive patient co-design phase, to determine if pulmonary rehabilitation uptake by people with chronic obstructive pulmonary disease following hospitalisation could be improved by watching an education video about the program. Narrative communication, using video and patient testimonials, can improve knowledge better than didactic education.⁵ All participants received usual care, which included an offer of referral to pulmonary rehabilitation. Participants in the experimental group also watched a 5-minute video describing pulmonary rehabilitation and the patient perspective prior to discharge. There were no between-group differences in referral rate to pulmonary rehabilitation, program uptake, attendance or completion. Of note, less than half of eligible participants agreed to participate in the trial, and 40% of those in the experimental group had no recollection of watching the video when followed up. It is unclear whether this reflected the video content, timing of delivery

relative to a busy hospital admission, or other patient-related factors such as cognitive decline.

Overall, pulmonary rehabilitation referral rates were good (70%); however, this might have reflected changed clinician behaviour in response to awareness of the trial. Overcoming barriers to patient uptake of pulmonary rehabilitation remains a critical challenge. Whether the education strategy itself, or rather uptake barriers associated with the model of pulmonary rehabilitation on offer, contributed to the negative outcome of this trial is worthy of future consideration.

Provenance: Invited. Not peer reviewed.

Narelle Cox

Department of Allergy, Clinical Immunology and Respiratory Medicine, Monash University, Melbourne, Australia

<https://doi.org/10.1016/j.jphys.2021.02.004>

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