

Feasibility of using online video calling to engage patients in the management of cystic fibrosis

Owen William Tomlinson^{1, 2}, Jayne Trott¹, Ben Bowhay¹, James Shelley^{1, 3}, Beth Enderby¹, Rohan Chauhan¹, Chris Sheldon¹

1. Royal Devon and Exeter NHS Foundation Trust Hospital, Exeter, United Kingdom
2. Children's Health and Exercise Research Centre, Sport and Health Science, University of Exeter, Exeter, United Kingdom
3. Research Institute for Sport and Exercise Sciences, Liverpool John Moores University, Liverpool, United Kingdom.

Objectives: Exercise and physical activity (PA) are integral for management of CF. However, engaging patients in structured hospital-based exercise regimens is not always possible due to geographical restrictions and risk of cross-infection. Use of telehealth, including video calling, has been proposed to overcome such restrictions. This study assesses the feasibility of using video calling to engage patients in a personalised exercise training programme.

Methods: Nine patients (6 male, 3 female) with CF (31 ± 9 y, 67 ± 32 FEV_{1%}Predicted) were recruited to take part in an 8-week personalised exercise training programme, supervised by an exercise therapist and delivered remotely using Skype. Anthropometric data, lung function, quality of life (QoL) and PA were measured before and after the programme, with differences assessed by a one-way repeated measures ANOVA. Feasibility and acceptability were assessed using patients feedback on the use of video calling and technical issues experienced.

Results: Seven of nine patients completed the study, completing 59/88 scheduled sessions, with a mean duration of 20 minutes each. There were no reported adverse events during the study. Patients did not attend 29/88 sessions for reasons including illness ($n = 13$) and work commitments ($n = 8$). Patients found Skype useful for exercise, with ratings from 7/10 – 10/10 (mean 9/10) indicating acceptability. Technical problems were related to connection (8/59), visual (4/59) and sound (3/59) problems and delays/lagging (7/59). Provisional results indicate body mass, BMI, FEV₁, QoL and PA were unchanged, indicating maintenance of function.

Conclusion: This study has identified video calling as a feasible and acceptable method for engaging patients in exercise for management of CF. These findings suggest that future research and practice could implement the use of video calling for interventions and routine care to support patients, overcome geographical and barriers and maintain function.