BTS Winter meeting abstract. (max 350 words, 1 table)

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Title

Inspiratory Muscle Training (IMT) for adults discharged from hospital with community acquired pneumonia (CAP) – a feasibility study

Introduction

Patients report significant morbidity following community-acquired pneumonia (CAP); 70% report persistent symptoms and up to 50% impaired daily activity at 4 weeks post-discharge.[1] Respiratory muscle weakness is one possible mechanism for delayed recovery. Inspiratory muscle training (IMT) increases strength and endurance of inspiratory muscles,[2,3] with improvements in patient-reported outcomes in other conditions.[4,5]

Aim

To assess the tolerability of IMT in adults discharged from hospital with community-acquired pneumonia.

Methods

Patients hospitalised with a diagnosis of CAP between February 2017 and March 2018 were eligible for inclusion and convenience sampling was used for participant selection. Participants received an IMT device (POWERbreath KHP2) following familiarisation. Training frequency (twice daily) and load (50% P_{Imax}) were fixed, however training volume was incremental during weeks 1-3 (10, 20, 30 breaths) and constant thereafter (30 breaths.) Participants were followed by combination of telephone and clinic visits for 9 weeks. Outcomes of interest were; utilisation of IMT device per protocol (defined as >94% training adherence), patient-reported IMT acceptability, and number of device-related side effects. Statistical analysis was conducted using Stata (version 15.1.)

Outcome / Results

Twenty-two participants were recruited; 16 were male (72.7%), mean age was 55.2years (range 27.9-77.3.) Participants completed IMT per protocol in 72.7% cases. One unrelated, unexpected serious adverse event (death) occurred during follow-up and 3 participants active at this time were stopped from further IMT by research sponsor pending investigation. Two participants were lost to follow-up. Side effects during IMT were reported on 15 occasions across 22 participants over a total 1183 training days. Reported side effects included chest pain (x2), cough (x1), dyspnoea (x4), and

dizziness (x8). All side-effects were rated grade 1 and did not prevent participants from continuing training. Participant-reported IMT acceptability, defined by participants rating training as both 'useful' and 'helpful' at each follow-up contact, was 99.4%.

Conclusions

Inspiratory muscle training appears to be safe, tolerable, and acceptable to patients following CAP. Distinguishing CAP related symptoms and device-related side effects is challenging in patients recovering following an acute infective illness. A clinical trial to determine efficacy is warranted.

References

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