

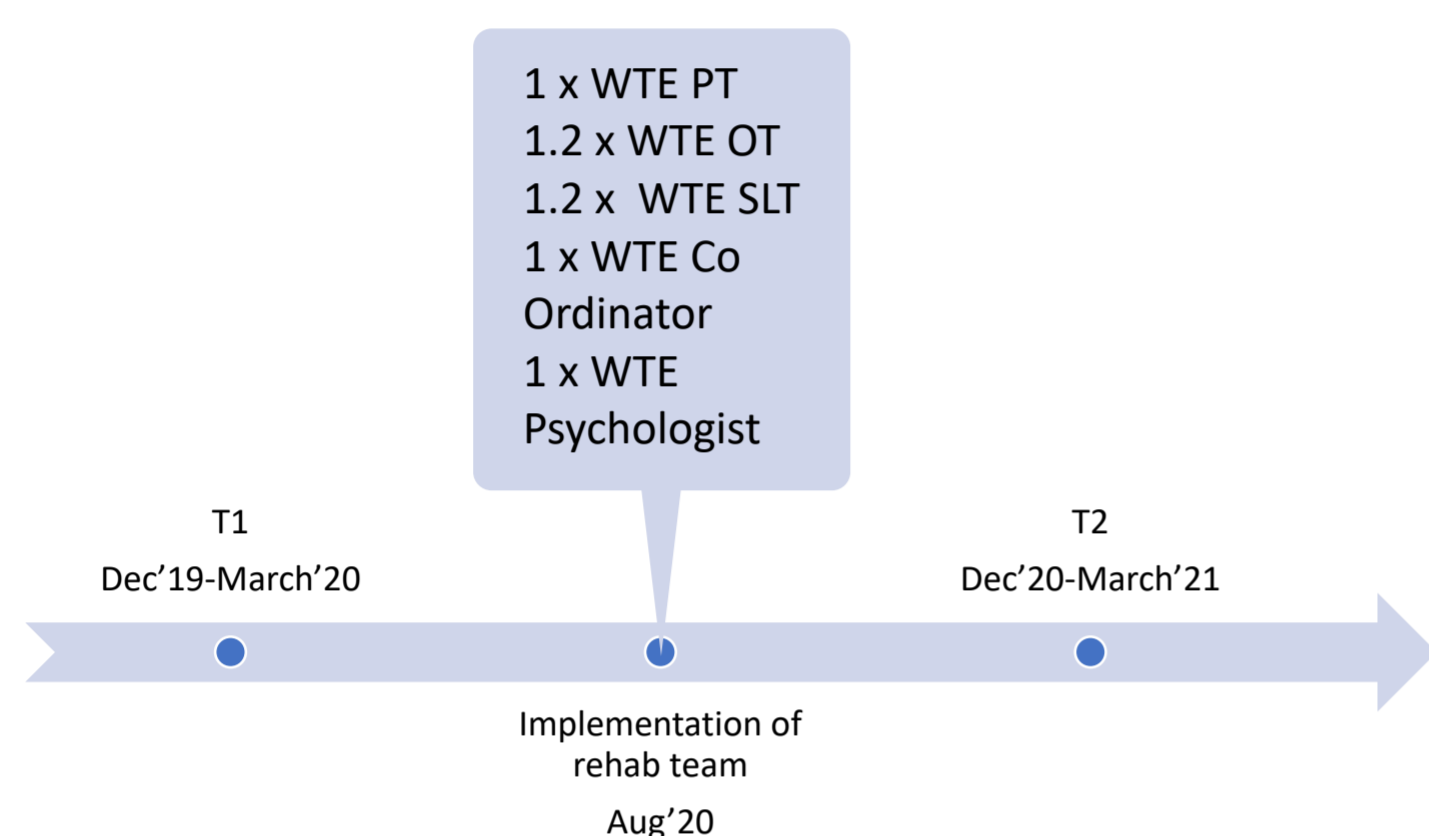
Introduction

Adverse consequences of intensive care admission are well reported, and include physical, psychological and social effects that can last for years post discharge (Needham et al. 2012). Access to physiotherapy and early rehabilitation have helped to address the physical deteriorations experienced by patients in intensive care. The role of other multidisciplinary team members is less well defined. Multi-disciplinary team members such as occupational therapy, speech and language therapy and psychology have the potential to support and enhance rehabilitation since they offer alternative, complementary perspectives (Rawal et al. 2017).

Objectives

This service evaluation sought to investigate the impact of a multi-disciplinary intensive care rehabilitation team on intensive care length of stay, ventilator days and functional ability at the point of discharge.

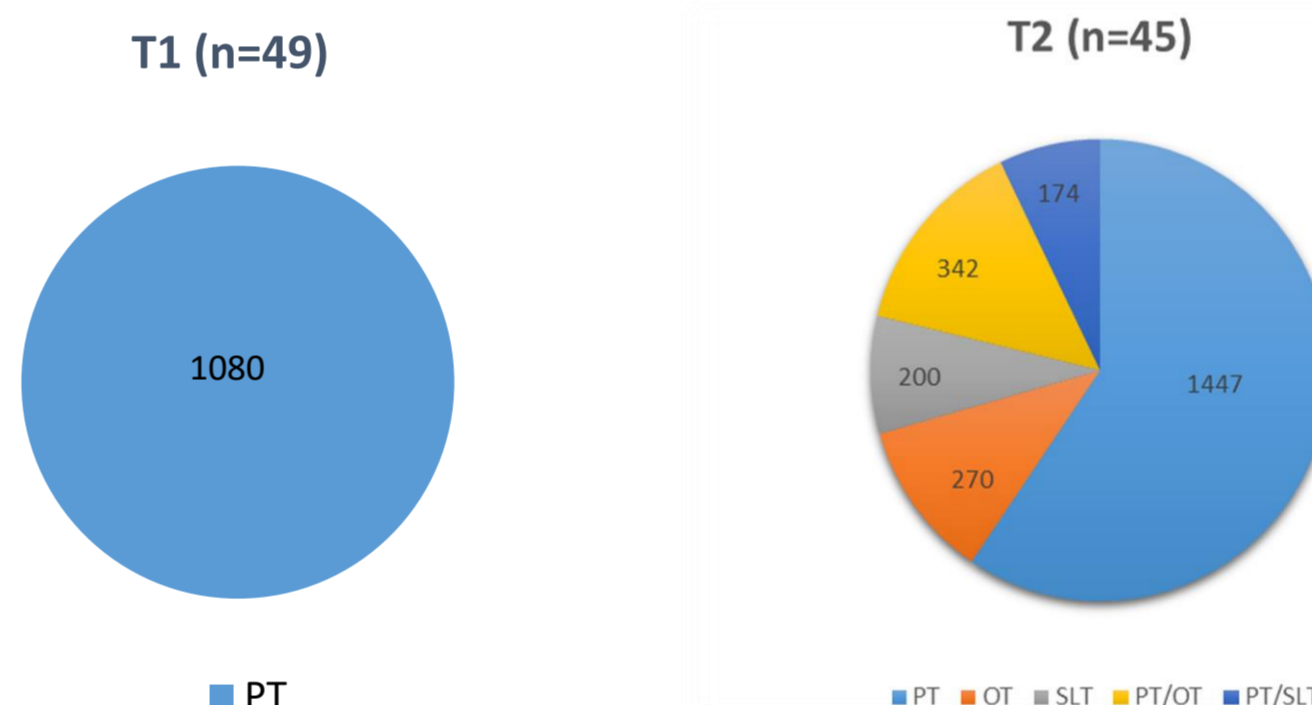
Methods



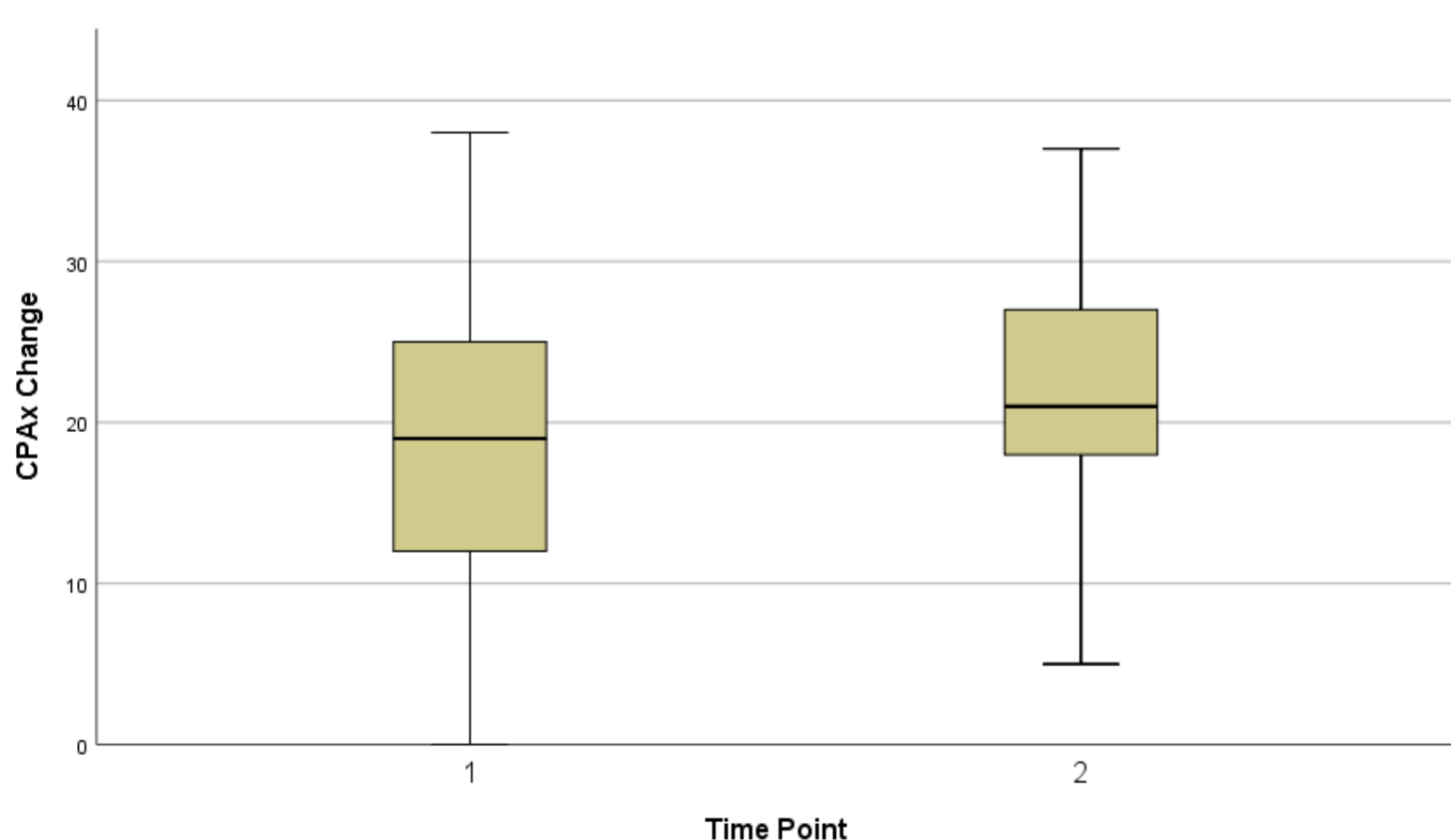
The project was registered with the local NHS Trust clinical governance team. Retrospective data were collected at two points, prior to and post implementation of the multidisciplinary rehabilitation team. Inclusion criteria were adult patients intubated and ventilated for more than four days requiring active treatment. Those on a palliative pathway, with a long-term tracheostomy or laryngectomy or needing an inter hospital transfer were excluded. Electronic notes were retrospectively extracted to gather demographic details, rehabilitation needs, intensive care length of stay, ventilator days and Chelsea Critical Care Physical Assessment (CPAx) scores at admission and discharge.

Results

In total, 589 patients were admitted to intensive care across the two time points. Of these, 49 patients were eligible for inclusion in the pre-implementation group (time point 1), and 45 were eligible in the post-implementation group (time point 2). There were no statistically significant differences in patient characteristics between the two patient groups. Patients presented with a range of medical, neurological and respiratory pathologies, with a minority admitted for elective or emergency surgery. Patients received 34% more physiotherapy interventions post implementation of multi-disciplinary rehabilitation (1080 vs.1447).



Patients in T2 received OT and SLT whilst an inpatient on ICU. The SLT routinely screened all patients post extubation and assessed, treated and provided recommendation for swallowing with all tracheostomised patients. All patients were delirium screened by the OT, with 87% requiring further cognitive intervention from the delirium screen. Specialist seating for 53% (n=23) of patients was provided, and bespoke lower limb splints for 32% (n=14). Where appropriate, rehabilitation sessions took place jointly with OT and physiotherapist (342/1447); fewer joint sessions took place with SLT (174/1447).



There was no statistically significant difference in intensive care length of stay or ventilator days between the two groups. Median (inter-quartile range) for length of stay and ventilator days were 13 (8-22.5) versus 14 (10-30) and 9 (5.5-1.5) versus 10 (6-28.5) days for pre-implementation and post-implementation groups respectively (p=0.163 and p=0.202). There was a statistically significant difference in functional ability (as measured by the CPaX) at discharge (p=0.037). Patients in the post-implementation group had a median change in score from baseline of 16, compared with 13 in the pre-implementation group (p=0.037). Multiple regression suggested that patient age, frailty, pathology and rehabilitation group made a significant contribution to the variance in CPaX score, explaining 18% of the variance (p=0.033).

Conclusion

The multi-disciplinary rehabilitation team did not significantly impact on intensive care length of stay or ventilator days. However, patients receiving multi-disciplinary rehabilitation benefited from improved physical function at discharge. This suggests that the effects of rehabilitation can be amplified when a wider team is involved. This work was undertaken during the Covid-19 pandemic, where discharge and timely patient flow was severely disrupted. Further research is required to explore further the impact of this innovative approach to rehabilitation in intensive care.

References

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