

Occupational Therapy for Individuals with COVID-19 Requiring Ventilator Support: A Case Study



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SETTINGS AND BACKGROUND

In hospitals across the country, there are individuals in the intensive care unit (ICU) who are diagnosed with the novel coronavirus (COVID-19) and require ventilator support. This population may experience deficits secondary to their hospitalization and the prolonged use of the ventilator. One of the deficits that individuals are at risk for is ICU acquired delirium (Tobar et al., 2017). Occupational therapists are a member of the rehabilitation team who are trained to manage the deficits associated with the ICU, such as delirium; however, there are ICUs that do not utilize occupational therapists for this population (Schweickert et al., 2009). The objective of this case study is to report on the effect that occupational therapy sessions focused on early engagement in activities of daily living (ADLs) have on individuals diagnosed with COVID-19 requiring ventilator support. B

PICO QUESTION

Is the early engagement in activities of daily living an effective intervention to improve delirium for individuals in the intensive care unit who are diagnosed with COVID-19 requiring ventilator support?

SIGNIFICANCE

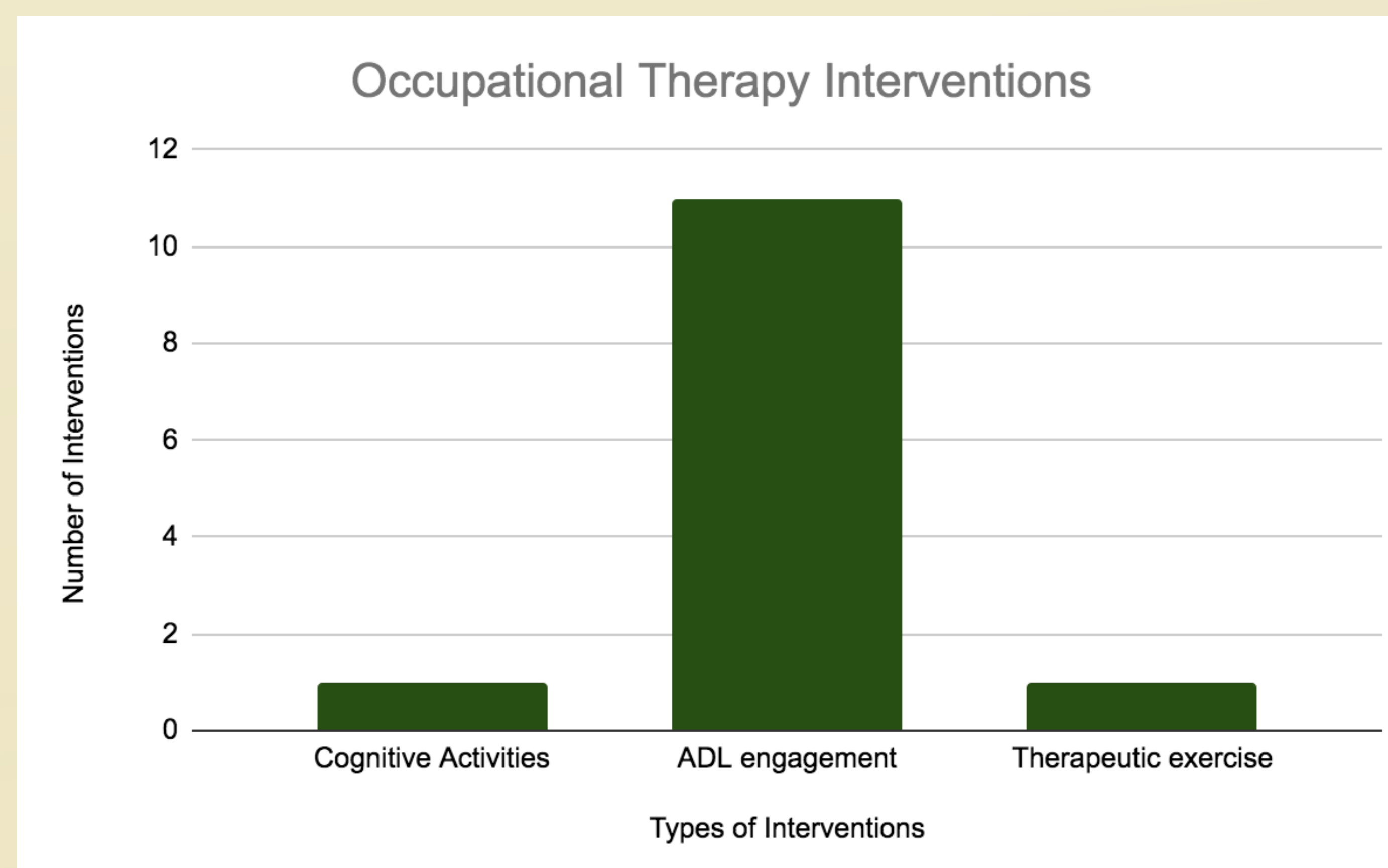
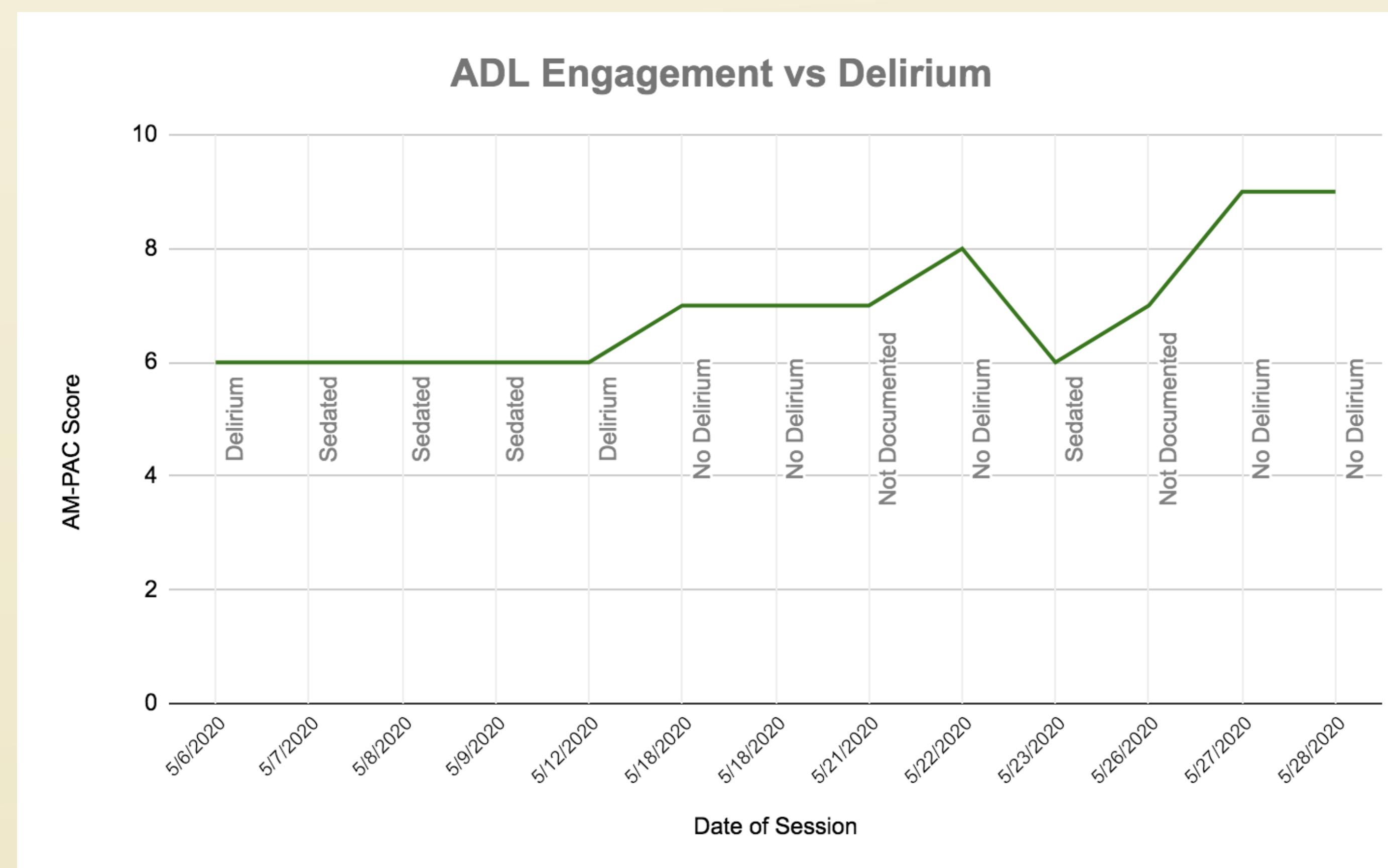
Occupational therapists are a member of the rehabilitation team who are trained to work with individuals, such as those diagnosed with COVID-19, who require ventilator support in order to manage and prevent deficits, such as delirium; however, it is not clear how the effects of occupational therapy may affect this relatively new population in the ICU (Schweickert et al., 2009; Tobar et al., 2017). By better understanding the effects of occupational therapy interventions on this population, hospitals will be able to better allocate rehabilitation resources and occupational therapists will be able to better prioritize their patients.

LITERATURE REVIEW

It has been established that it is feasible to initiate occupational therapy services for intubated patients as soon as mechanical ventilation is initiated without high risk of adverse events (Pholman et al., 2010). Individuals who are critically-ill and intubated who receive early initiation of occupational therapy services may have shorter durations of delirium (Schweickert et al., 2009). By decreasing time on the ventilator and decreasing the duration of delirium, occupational therapy services may increase functional independence at baseline, promote shorter hospital stays, and decrease the risk of post-intensive care syndrome (Schweickert et al., 2009).

METHODS

The participant of the study is a 21-year-old individual diagnosed with COVID-19 admitted to the Medical-Surgical Intensive Care Unit at a level I trauma hospital in Northeastern Pennsylvania. He required ventilator support, prone therapy, and was on a paralytic for approximately 48 hours. He demonstrated hyperactive delirium throughout his hospitalization. The individual received occupational therapy throughout his ICU stay. Examination of occupational therapy services will be measured using the Confusion Assessment Method for the ICU (CAM-ICU) to assess delirium and the Activity Measure of Post-Acute Care (AMPAC) to assess independence in ADL engagement.



RESULTS

- The patient engaged in 10 occupational therapy sessions while in the MSICU. One follow-up visit was completed on the floor.
- Activities of daily living (ADL) self-care interventions were the primary focus of services (>90% of sessions) while this patient was receiving occupational therapy in the MSICU.
- The patient demonstrated 5 consistent delirium-free days as occupational therapy services increased.
- As the patient received occupational therapy services, he demonstrated improved independence during occupational performance.
 - AMPAC on initial evaluation: 6/24
 - AMPAC on final session: 9/24

SUMMARY

In conclusion, initiating occupational therapy services with a focus on self-care interventions demonstrated to be an effective intervention in managing delirium and increasing independence during occupational performance for an individual diagnosed with COVID-19 requiring ventilator support. Future research is needed in order to better understand occupational therapy services on this population.

REFERENCES

LaHue, S. C., James, T. C., Newman, J. C., Esmaili, A. M., Ormseth, C. H., & Ely, E. W. (2020). Collaborative delirium prevention in the age of COVID-19. *Journal of the American Geriatrics Society*, 68(5), 947. doi: 10.1111/jgs.16480

Pohlman, M. C., Schweickert, W. D., Pohlman, A. S., Nigos, C., Pawlik, A. J., Esbrook, C. L., Spears, L., Miller, M., Franczyk, M., Deprizio, D., Schmidt, G. A., Bowman, A., Barr, R., McCallister, K., Hall, J., Kress, J. P. (2010). Feasibility of physical and occupational therapy beginning from initiation of mechanical ventilation. *Critical Care Medicine*, 38(11), 2089-2094. doi: 10.1097/CCM.0b013e3181f270c3

Schweickert, W. D., Pohlman, M. C., Pohlman, A. S., Nigos, C., Pawlik, A. J., Esbrook, C. L., Spears, L., Miller, M., Franczyk, M., Deprizio, D., Schmidt, G. A., Bowman, A., Barr, R., McCallister, K. E., Hall, J. B., & Kress, J. P. (2009). Early physical and occupational therapy in mechanically ventilated, critically ill patients: a randomised controlled trial. *The Lancet*, 373(9678), 1874-1882. doi: 10.1016/S0140-6736(09)60658-9

Tobar, E., Alvarez, E., & Garrido, M. (2017). Cognitive stimulation and occupational therapy for delirium prevention. *Revista Brasileira de Terapia Intensiva*, 29(2), 248. doi: 10.5935/0103-507X.20170034