



Telemedicine has been associated with improved outcomes and reduced healthcare utilization in other high-risk populations, but no studies to date have supported effectiveness of telemedicine in pediatric HPN” Raphael et al (2018).

Abstract:

BACKGROUND: Despite being less costly than prolonged hospitalization, home parenteral nutrition (HPN) is associated with high rates of post-discharge complications, including frequent readmissions and central line-associated bloodstream infections (CLABSIs). Telemedicine has been associated with improved outcomes and reduced healthcare utilization in other high-risk populations, but no studies to date have supported effectiveness of telemedicine in pediatric HPN.

METHODS: We prospectively collected data on pediatric patients managed at a single HPN program who participated in postdischarge telemedicine visits from March 1, 2014 to March 30, 2016. We excluded patients with a history of HPN and strictly palliative care goals. Univariate analysis was performed for primary outcomes: Community-acquired CLABSI and 30-day readmission rate.

RESULTS: Twenty-six families participated in the pilot initiative with median (interquartile range) patient age 1.5 (5.7) years old, diagnosis of short bowel syndrome in 16 (62%), and in-state residence in 17 (55%). Ishikawa (fishbone) diagram identified causes of post-discharge

HPN complications. Areas of focus during telemedicine visit included central venous catheter care methods, materials, clinical concerns, and equipment. Compared to historical comparison group, the telemedicine group experienced CLABSI rates of 1.0 versus 2.7 per 1,000 line days and readmission rates of 38% versus 17% ($p = 0.03, 0.02$, respectively).

CONCLUSIONS: Telemedicine visits identified opportunities for improvement for families newly discharged on HPN. In a small cohort of patients who experienced telemedicine visits, we found lower CLABSI rates alongside higher readmission rates compared with a historical comparison group. Further studies are needed to optimize telemedicine in delivering care to this high-risk population.

Reference:

Raphael, B.P., Schumann, C., Garrity-Gentile, S., McClelland, J., Rosa, C., Tascione, C., Gallotto, M., Takvorian-Bené, M., Carey, A.N., McCarthy, P., Duggan, C. and Ozonoff, A. (2018) Virtual Telemedicine Visits in Pediatric Home Parenteral Nutrition Patients: A Quality Improvement Initiative. *Telemedicine Journal and e-Health*. May 4th. .

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