Impact of a Multidisciplinary Nutritional Support Team on Quality Improvement for Patients Receiving Home Parenteral Nutrition

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Abstract

Introduction Home parenteral nutrition (HPN) is an essential therapy for patients requiring long term nutritional support. The Amerita Quality Improvement Project for HPN Patients (QIP-PN) explored opportunities for QI for patients under its service. As a component of QIP-PN, we studied the effect of a Physician Nutrition Expert (PNE)-led multidisciplinary nutritional support team (MNST) on HPN care.

Objective To test the effect of an MNST on adherence to protocols, outcomes and QOL in HPN.

Methods The study was divided into 3 phases: data review (phases 1a and 1b), observation (phase 2) and intervention (phase 3). 7 Amerita branch locations were selected as “study branches” based upon their volume of long-term HPN cases. All patients in the study were drawn from this population. Since the study was part of a QI project rather than a randomized controlled study, we employed a quasi-experimental design with a case-matched control group (control). Data were collected on demographics, treating physicians PNE status, HPN care variables, recommended interventions, quality-of-life assessment, adverse outcomes and hospitalizations. Paired t-test was used to compare continuous data between phases 2 and 3. Comparison between the study and control groups utilized a negative binomial regression model. Statistical analysis utilized R (https://www.r-project.org/).

Results 34 patients were reviewed in phase 1a and 197 in phase 1b. 40 study patients completed phase 2 and progressed into phase 3, of whom 30 completed ≥60 therapy days. Improvements in weight, BMI and QOL were seen in the study patients during intervention. Recommendations made and accepted by treating physicians differed based on PNE status. Study patients had fewer adverse outcomes and related hospitalizations than controls.

Conclusion MNST recommendations improved clinical, biochemical parameters and patients’ self-reported overall health. MNST input reduced adverse outcomes, hospitalization and hospital length of stay. This study highlights the potential for MNST to have a significant impact on the quality and overall cost of HPN management.

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