Unique Study Tools for Quality Improvement (QI) Research in Home Parenteral Nutrition (HPN)

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BACKGROUND

Our home infusion organization successfully completed a 3-phase, 28-month analysis of home parenteral nutrition (HPN) care. The study was powered to obtain results on quality of care and outcomes in long term patients on HPN. Quality of life (QOL), multimorbidity (MM) and qualitative assessment of benefit (QAB) were important measurements in our study. We utilized 3 unique study tools to obtain these parameters.

- We used the EQ-SD-3L for QOL assessment (Figure 1). The EQ-SD-3L system has five dimensions: mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. Each dimension has three levels: no problems, some problems, extreme problems. A sixth dimension records the patient’s overall self-rated health as a visual analogue scale.

- We used the Cumulative Illness Rating Scale (CIRS) for MM (Figure 2). CIRS analyzes MM by reviewing 14 body system categories, graded from 0 to 4.

- We used the Grounded Theory (GT) Qualitative research methodology (QRM) to measure QAB. QRM utilizes multidimensional aspects of HPN care formed the framework of the GT-QAB.

METHODS

- The QIP-PN study reviewed cases for demographic, PN parameters, outcomes, QOL, MM and QAB. Comparisons were made between observation and intervention periods, during which a multi-disciplinary nutritional support team (MNST) made HPN management recommendations to the treating physician.

- The EQ-SD-3L Visual Analogue Scale (VAS) recorded the patient’s self-rated health state (3). CIRS scores of MM were calculated based on the sum of morbidity for all 14 systems.

- A hypothesis on the benefit of MNST intervention was formulated for each patient and voted on by the MNST. Each professional discipline provided one vote, supporting or denying the hypothesis. If the majority voted affirmatively, a score of 1 was recorded and if majority voted against, a score of 0 was recorded.

PURPOSE

We needed a shortened QOL index that offered important measurements in our study. We utilized 3 u

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RESULTS

There were 30 completed study patients and 30 case-matched controls. The use of EQ-SD-3L-VAS, CIRS and GT-QAB was accomplished with minimal training of the MNST members.

DISCUSSION

- Each of the 3 unique study tools provided beneficial insight for QI HPN research. The EQ-SD-3L-VAS proved to be favorable to the HPN patient for its short assessment form. The EQ-SD-3L requires responses in only 5 categories versus 20 with other QOL instruments. Our research utilized the VAS score as a surrogate for QOL for comparison between phases of the study.

- CIRS scoring enabled us to categorize patients based on their individual conditions and MM in addition to their HPN care. HPN patients often have concomitant medical conditions that impact their care. MM scoring provides a way for outcomes comparison. Standard monitored HPN parameters can miss the overall impact of HPN therapy.

- GT-QAB permitted us to obtain quantifiable information on the judgement of experienced clinicians regarding patient benefit.

CONCLUSION

Measurement of QOL, MM and QAB have value in homecare therapeutics. Tools such as EQ-SD-3L-VAS, CIRS and GT-QAB score should be considered for future HPN QI research.