Effects of Nutritional Care Coordination on Children with Medical Complexity

Jodi Wolff, MS, RDN, LD, CNSC; Jenna Wiltzer Karim, MS, RDN, LD;
Sarah Ronis, MD, MPH; Richard Grossberg, MD

Center for Comprehensive Care, Rainbow Babies and Children’s Hospital, Cleveland, Ohio

Background/Objectives

Children with neurologic disabilities are at high risk of feeding and nutrition problems. Appropriate nutrition may improve health outcomes.

Study Objectives:
- Identify the five most prevalent nutrition problems in children with medical complexity (CMC)
- Evaluate the effect of nutritional care coordination (NCC) on the improvement or resolution of these diagnoses 6 months after program enrollment

Study Design
Retrospective cohort

Study Participants & Setting
125 patients, 26 years of age and younger with severe cognitive or neuro-motor related disabilities seen in a tertiary care referral center

Materials/Methods
- Retrospective chart review of nutrition assessments for CMC enrolled November 2012 - June 2014.
- Nutrition diagnoses identified in the initial assessment were quantified using a frequency distribution.
- At 6 months, the diagnoses were reassessed as ongoing, improved, or resolved to evaluate if NCC interventions had an effect on nutrition problems.
- Nutrition interventions included: optimization of enteral and/oral nutrition regimen, micronutrient supplementation, nutrition education, care coordination with schools, home nursing, medical specialists, medical supply companies, and community agencies.

Results - Baseline

Top 5 Nutrition Diagnoses at Initial Assessment

- Swallowing Dysfunction n=88 (70%)
- Malnutrition n=47 (38%)
- Inadequate Vitamin and Mineral Intake n=45 (36%)
- Abnormal Nutrition Labs n=43 (34.4%)
- Altered GI Function n=39 (31.2%)

Results – 6 month follow-up

Malnutrition Status After 6 Months in Program

- Ongoing
- Improved
- Resolved

Inadequate Vitamin/Mineral Intake

- Vitamin D n = 36 (80%)
- Calcium n = 29 (64%)
- Iron n = 14 (31%)
- Other (phos, sodium, potassium ) n = 4 (9%)

Abnormal Nutrition Labs

- Iron Studies n = 33 (77%)
- Vitamin D n = 29 (67%)
- Calcium n = 13 (30%)
- Other (phos, sodium, potassium) n =7 (16%)

Standard lab draw at initial assessment includes: CMP, CBC, Iron Studies, Reticulocyte Count, CRP, 25-OH Hydroxy Vitamin D, TSH, and Free T4

Discussion

- NCC by an RDN can improve or resolve common nutrition problems in children with CMC within a limited time frame.
- Understanding factors or diagnoses that are amenable to nutrition intervention may allow clinicians to develop standardized approaches, leading to evidence-based guidelines and better outcomes for neurologically impaired children.

Next Steps

- Develop algorithms detailing specific interventions, monitoring and evaluation criteria
- More research is needed to further define NCC and how RDNs may most effectively partner with multidisciplinary teams to improve the health of CMC.

Acknowledgements

- This material was supported by Funding Opportunity Number CMS-1C1-12-0001 from Centers for Medicare and Medicaid Services, Center for Medicare and Medicaid Innovation. Contents of this presentation are solely the responsibility of the authors and do not necessarily represent the official views of the Department of Health and Human Services or any of its agencies.