Practice Management/Quality of Care/Quality Assurance

P019

OPTIMIZING NUTRITION RISK SCREENING AND FOLLOW-UP NUTRITION COUNSELING IN AN OUTPATIENT INFLAMMATORY BOWEL DISEASE POPULATION

Therezia AlChoufete, Siobhan Proskell, Marc Schwartz, Cassie Myers, Emily Weaver, Anna Frantz, Julie Mittura, Kate Saucier, Meredith Strasserburg, Eva Sizemore

Background: As management of Inflammatory Bowel Disease (IBD) advances, the outpatient (OP) population is shifting its fears from risks of malnutrition to those associated with over-nutrition and under-nutrition, lack of diet education, access to resources, mental health implications, and socioeconomic status. Failure to identify a patient at risk of nutrition compromise could lead to delayed attention and management of nutrition related complications. This study explored a method to identify nutrition risk in OP IBD patients and to validate the intervention employed to address nutrition risk.

Methods: A pre-intervention nutrition risk screening tool was developed by reviewing literature and consensus statements. A nutrition screening tool was piloted with a sample of OP IBD patients. The intervention was based on a previously established IBD Biopsychosocial Complexity Grid. Nutrition risk was scored based on nutrition related factors reported by an RD. The integration of nutrition counseling into the inter-disciplinary care model for patients with IBD needs to be optimized to identify a broader range of nutrition risk factors.

Aims: This study 1) explores a novel approach to nutrition risk screening within the OP IBD setting using an interdisciplinary team approach; and 2) evaluates correlations between an objective scoring method for biological and psychological risk with nutrition risk scores reported by an RD.

Results: Two objective nutrition risk scoring methods were developed to capture biological (NUTR-OBJ) and lifestyle (NUTR-NELZ) nutrition factors on a 0–6 scale (low-severe risk). Scores were determined using review of the electronic health record and a screening tool provided to patients. These scores were compared to the previously established IBD Biopsychosocial Complexity Grid, a tool which organizes this health information into biological and psychological domains and serves as the basis for algorithm-driven treatment plans within an IBD Medical Home. Results: Data from 44 patients (mean age: 35.2 years; 47.7% female; 56.8% Crohn’s Disease) were included in this study. BMI ranged from 18.08 to 37.92 kg/m². BIO-C-PRO (mean= 1.95, SD 1.86) and BIO-C-OBJ (mean.1.59, SD 1.76) indicate mild overall disease risk within our sample. NUTR-OBJ scores (mean=2.39, SD 1.28) showed significant correlations with biological (BIO-C-PRO/OBJ) or psychosocial (PSY-C/PSY-SOC-SES-Mi/C) scores. NUTR-NELZ (mean=1.98, SD 1.36) showed strong positive correlations with PSY-C (r=.326, p<.05); PSY-H (r=.386, p<.01); SOC-SSES (r=.306, p<.05); and Mi-C (r=.473, p<.01).

Discussion: The study identified a significant correlation between NUTR-WELL scores and psychosocial scores, suggesting validity for this nutrition screening tool to determine behaviors that may increase nutrition risk. Poor correlations between NUTR-OBJ and biological scores suggests that the need for nutrition intervention may not always be indicated by disease severity. This scoring system can potentially serve as a guide to maximize efficiency of follow-up appointments with an RD and avoid complications of care related to poor nutrition status that may be unidentified by disease risk alone. Further research is needed to confirm findings and extend to a larger sample.

P020

PRACTICE PATTERNS OF PRIMARY CARE AND GASTROENTEROLOGY PHYSICIANS IN THE MANAGEMENT OF IRON DEFICIENCY ANEMIA IN INFLAMMATORY BOWEL DISEASE

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Introduction: Iron deficiency Anemia (IDA) is a common complication of inflammatory bowel disease (IBD). High prevalence of IBD suggests suboptimal surveillance and treatment. Oral iron is poorly tolerated, associated with worsened disease activity, and often insufficient to reverse anemia in IBD patients. Intravenous (IV) iron is favored for treatment of IDA in IBD in most clinical scenarios particularly in patients with higher disease activity. Guidelines recommend IV iron for IDA patients. Regardless, oral iron is prescribed commonly for IBD patients. The objective of this study is to determine practice patterns of primary care physicians (PCP) and gastroenterologists (GI) in the management of IDA in IBD.

Methods: We anonymously surveyed GI and PCP attendings and trainees at Saint Louis University School of Medicine in St. Louis, Missouri, using paper self-administered instruments. We asked about practice patterns in the management of IDA in IBD patients and knowledge of IV iron. The study questionnaire was developed based on United States expert opinion consensus statements and European guideline recommendations published in the Journal of Crohn’s and Colitis and Inflammatory Bowel Diseases.

Results: Of GI responders, 92.3% were fellows; 7.7% were attendings; of PCP responders, 81.8% were residents; 18.2% were attendings. 15.4% GI, 12.7% PCPs were very comfortable managing IDA patients with IDA; 76.0% GI, 58.2% PCPs were somewhat comfortable; 7.7% GI, 29.1% PCPs were not comfortable (p=0.275). 61.5% GI, 25.5% PCPs always check iron studies when evaluating anemic IBD patients; 30.1% GI, 21.8% PCPs check most of the time; 7.7% GI, 34.5% PCPs sometimes check; 0% GI, 12.7% PCPs rarely check; 0% GI, 5.4% PCPs never check (p=0.05). In mild Crohn’s disease with severe anemia, 15.4% GI, 41.8% PCPs would prescribe oral iron daily; 15.4% GI, 12.7% PCPs would prescribe oral iron every other day; 69.2% GI, 45.5% PCPs would prescribe IV iron (p=0.58). 0% GI reported good knowledge of IV iron, 53.8% reported acceptable knowledge, and 46.1% reported poor knowledge. 7.7% GI, 10.9% PCPs reported good knowledge of how to order IV iron; 53.8% GI, 7.3% PCPs reported acceptable knowledge; 38.5% GI, 81.8% PCPs reported poor knowledge (p=0.000215). 23.1% GI, 61.8% PCPs thought PCPs were responsible for screening for IDA in IBD patients; 76.9% GI, 36.4% PCPs thought GI were responsible (p=0.0131).

Discussion: Both PCPs and GIs perceived responsibility to manage IDA in IBD patients. PCPs were less likely than GIs to screen for IDA in anemic IBD patients or report knowledge of clinical processes to order IV iron. Further efforts to reinforce gastroenterologists’ role in the management of IDA in IBD and to bolster familiarity with IV iron and its indications might improve outcomes and quality of life for IBD patients.

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QUALITY OF CARE INITIATIVE IMPROVES OUTCOMES FOR PATIENTS WITH INFLAMMATORY BOWEL DISEASE (IBD)

Gil Melmed, Brant Oliver, Jason Hou, Donald Lum, Donna Gerner, Damara Cizate, Megan Holthoff, Quin Turner, Jessica Caron, Samir Shah, Mark Mattar, Siddharth Singh, Alice Kennedy, Josh Deitch, Raluca Vrabie, Francis Farryae, Helen Fasanya, Faiza Bhatti, Bincy Abraham, John Valentine, Christina Ha, Alina Choufete, David Hughes, Sharon Dudley-Brown, Swapna Reddy, Amy Wang, Emmanuelle Williams, John Betteridge, Arthur Ostrov, Mark Metwally, Humberto Aguilar, Lia Kaufman, Mark Gerich, Caroline Hwang, David Rubin, Betty Kim, Erica Heagy, Rebecca Fausel, Frank Scott, Ann Flynn, Blair Feminnore, Gaurav Syl, Ziad Younes, Nirmal Kaur, Linda Looby, Harry Bray, Eugene Nelson, Kelly McCutcheon Adams, Caren Heller, Ridhima Obeari, Alanda Weaver, Corey Siegel

Introduction: There is significant variation in processes and outcomes of care for patients with inflammatory bowel disease (IBD). Suggesting opportunities to improve quality of care. Recent efforts to define quality measures for IBD have identified emergency room (ER) visits, hospitalizations, corticosteroid use, and opioid

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use as indicators of care quality. We hypothesized that IBD care could be improved through a structured quality improvement (QI) program.

Methods: We utilized the Breakthrough Series Collaborative approach developed by the Institute for Healthcare Improvement to improve care for adults with IBD. We identified primary and secondary drivers of urgent care need for patients including those at high risk for ER use, and a multi-stakeholder panel developed 19 practice change ideas that could influence those drivers. Between January 2018 and May 2019, clinical sites participating in a QI collaborative across the United States tested and implemented various change ideas, shared ongoing results during coached monthly webinars, and participated in 3 in-person meetings to learn QI methods and share best practices. Patient-reported outcomes (PROs) were collected at clinical visits, including recent ER use and hospitalizations, use of steroids and narcotics, and measures of care utilization. Providers rated whether patients were at high risk for urgent care needs. Site performance on key measures were monitored using statistical control charts, with assessment for common cause (due to chance) variation and special cause (non-random) variation.

Results: We collected data prospectively from 20,382 discrete visits at twenty-six participating clinical practices (14 academic/university, 12 private/community). Disease type included Crohn’s disease (58%), ulcerative colitis (39%), and other (3%); 54% were female. During the 15-month project period, improvement with special cause variation was noted across multiple measures. Collaborative-wide decreases were seen in ER utilization (18% to 14%, relative reduction of 22%); Figure, hospitalization (14% to 11%, relative reduction of 21%), steroid use (14% to 10%, relative reduction of 29%), and narcotic utilization (8% to 4%, relative reduction of 50%). Successful change ideas tested by sites included proactive maintenance of a “high risk” patient list, reserved outpatient visits for urgent needs, “morning-after” contact with patients who went to the ER, patient education about how and when to get help, and proactively scheduling earlier follow-up for high risk patients.

Conclusions: Outcomes of IBD care were improved using a structured QI program that facilitates small changes in practice structure, sharing of best practices across sites, and ongoing feedback. Spread of successful change ideas may facilitate broad improvement in IBD care and significant cost savings when applied to a large population.

Changes in Key Measures Over Time

Statistical Process Control Chart Showing Monthly Proportion of Patients Reporting Recent ER Utilization

<table>
<thead>
<tr>
<th>Outcome Measure</th>
<th>Baseline Proportion (February, 2018)</th>
<th>Final Proportion (April, 2019)</th>
<th>Relative Change</th>
<th>Type of Variation Seen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Remission</td>
<td>0.62</td>
<td>0.45</td>
<td>-0.17</td>
<td>Common Cause Variation</td>
</tr>
<tr>
<td>Perceived Need for Urgent Care within prior 30 days</td>
<td>0.26</td>
<td>0.21</td>
<td>-0.05</td>
<td>Special Cause Variation</td>
</tr>
<tr>
<td>ER Utilization (%)</td>
<td>0.10</td>
<td>0.08</td>
<td>-0.12</td>
<td>Special Cause Variation</td>
</tr>
<tr>
<td>Hospitalization</td>
<td>0.14</td>
<td>0.11</td>
<td>-0.21</td>
<td>Special Cause Variation</td>
</tr>
<tr>
<td>Chronic Illness</td>
<td>0.10</td>
<td>0.08</td>
<td>-0.12</td>
<td>Special Cause Variation</td>
</tr>
<tr>
<td>Corticosteroid Use</td>
<td>0.14</td>
<td>0.10</td>
<td>-0.24</td>
<td>Special Cause Variation</td>
</tr>
<tr>
<td>Nsaid Use</td>
<td>0.08</td>
<td>0.04</td>
<td>-0.30</td>
<td>Special Cause Variation</td>
</tr>
<tr>
<td>11+ phone calls to clin. within prior 1 month</td>
<td>0.11</td>
<td>0.10</td>
<td>-0.01</td>
<td>Common Cause Variation</td>
</tr>
<tr>
<td>Proportion of patients with “High Risk” status</td>
<td>0.14</td>
<td>0.06</td>
<td>-0.08</td>
<td>Special Cause Variation</td>
</tr>
</tbody>
</table>

* p < 0.05.

P022

SHIFTING COST-DRIVERS OF HEALTH CARE EXPENDITURES IN INFLAMMATORY BOWEL DISEASE

Benjamin Click, Rocio Lopez, Susana Arrigain, Jesse Schold, Miguel Regueiro, Maged Rizk

Background: Inflammatory bowel diseases (IBD) are costly, chronic illnesses. Key cost-drivers of IBD healthcare expenditures include pharmaceuticals and unplanned care, but evolving treatment approaches have shifted these factors. We aimed to assess changes in cost of care, determine shifts in IBD cost-drivers, and examine differences by socioeconomic and insurance status over time.

Methods: The Medical Expenditure Panel Survey (MEPS), a nationally representative database that collects data on healthcare utilization and expenditures from a nationally representative sample since 1996 was utilized. Adult subjects with IBD were identified by ICD-9 codes. In order to identify changes in proportions of 31st or cost-drivers unique to IBD, a control population of rheumatoid arthritis (RA) subjects was generated and matched in 1:1 case to control. Total annual healthcare expenditures were obtained and categorized as outpatient, inpatient, emergency, or pharmaceutical costs. Temporal costs from 1998 to 2015 were created to assess change over time. Per-patient expenditures were compared by disease state and temporal cohort using weighted generalized linear models.