Evaluating the Effectiveness of Enteral Nutrition Delivery to Post-esophagectomy Patients at The Medical University of South Carolina

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ABSTRACT

Background: This study aimed to determine if the post-operative day (POD) that EN was started in esophagectomy patients affected their length of stay (LOS) and weight change (WC). Methods: An observational retrospective design of 18 patients who received an esophagectomy between June 2016 to December 2016 was conducted. Data was collected via electronic medical record. Results: EN was started between POD 1-6 and LOS ranged between 10-12 days with the exception of one patient. Mean weight changes showed patients with the most weight loss were those whose enteral nutrition started POD 1, 5, and 6 while groups with the most weight gain were those who started on POD 2 or 3. It took between 6 and 11 days for goal rate of enteral nutrition was reached or diet was advanced. Conclusion: This study was limited by a small sample size in determining definitive relationships between variables in patients who had esophagectomies.

BACKGROUND

Patients undergoing an esophagectomy are at high nutritional risk following surgery due to inability to immediately take in nutrition by mouth, and enteral nutrition (EN) is utilized. Early initiation of EN has been shown to have reduced mortality rates and shorter hospital length of stays following intestinal surgery. Compared to parenteral nutrition, EN has been shown to reduce postoperative weight loss.

METHODS

An observational retrospective study was conducted of patients who had undergone an esophagectomy at MUSC from June 2016 to December 2016 (n=18). Data was collected via electronic medical record for each patient, including the date of surgery, their length of stay, their weight change, malnutrition diagnoses, post-operative day enteral nutrition was started, days until goal rate of enteral nutrition was reached or diet was advanced, and length of time on enteral nutrition. Data was analyzed comparing POD enteral nutrition began, LOS, weight change and malnutrition.

RESULTS

Figure 1. Average Weight Change Compared to POD EN Initiated. EN was initiated between POD 1-6, and weight changes ranged from -10.3% to +22.4%.

CONCLUSIONS

• This study was limited by a small sample size and could be extended over a longer period of time to ensure more data in determining definitive relationships between variables.
• Variables observed showed a large range in practice following esophagectomies at MUSC, and revealed a need for standard protocol in initiating EN postoperatively.
• The varying results ensure that further research needs to be done on this topic to establish clear conclusions and help establish a more standard practice.

REFERENCES

Introduction: The childhood obesity rate in the United States has more than tripled since the 1970s, putting children at a higher risk of developing chronic health conditions and obesity in adulthood. The Heart Health (HH) program at MUSC is a family-centered lifestyle oriented pediatric weight management program and preventative cardiology service for children and adolescents with abnormal weight gain and/or cardiovascular risk factors, and includes structured nutrition, activity, and behavioral education. **Objective:** To determine if long term changes in health behaviors are sustained, and disease states related to weight management are improved among individuals who have participated in the HH program. **Methods:** A 17-question survey was developed and distributed to previous HH participants over the age of 21. **Results:** Participation in the survey was limited, with only four completed responses. All but one response reported having no chronic health conditions. Additionally, the responses suggest individuals currently participating in regular physical activity were more likely to maintain a lower BMI, and participating in a weight management program following completion of the HH program may be beneficial in maintaining weight loss.

**METHODS**

A 17 question survey tool was developed containing multiple choice and open ended questions related to demographics, level of participation in the HH program, current health status, current weight, and opinions related to the program. Individuals were sent a letter with a link to the survey and were instructed to complete the survey in its entirety. Participants were incentivized with a chance to win a 50 dollar Visa gift card. Four completed surveys were returned. The data was exported from RedCap to Excel for analysis.

**RESULTS**

<table>
<thead>
<tr>
<th>BMI vs Physical Activity</th>
<th>Current Participation in Weight Management</th>
<th>BMI vs Number of HH Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Mass Index (Kg/m²)</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>42.9</td>
<td>25</td>
<td>55</td>
</tr>
</tbody>
</table>

**SUMMARY AND CONCLUSIONS**

Conclusions: These results are inconclusive due to the small sample size. However, the responses received may suggest:

- Continuing to participate in an adult weight management program following completion of the HH program may promote weight loss and/or maintenance long term.
- Regular physical activity following the program likely promotes long term weight management.
- A greater level of participation in the program may promote greater weight loss results long term and improved health status.
- Responses from the open ended survey questions identify accountability during the program and comprehensive education on health eating and physical activity as factors that were valuable in promoting better health outcomes following the program.
- Additional research with a larger sample size is needed to further investigate and draw conclusions regarding the long term outcomes of the HH program on health behaviors.

**STRENGTHS AND LIMITATIONS**

Limitations of this study include a lack of participation in the survey tool and lack of statistical analysis due to the small sample size. However, the survey tool created was a comprehensive questionnaire addressing current health status and participation in the HH program, and could be applied to future research investigating the long term outcomes of the HH program.

**REFERENCES**

PROVIDING PROVIDERS WITH THE FRAMEWORK TO DISCUSS BARIATRIC SURGERY FOR MORBID OBESITY

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Although evidence-based practice guidelines recommend Bariatric Surgery (BS) as the most clinical and cost-effective treatment for severe obesity (BMI>40, or BMI >35 with at least one obesity-related comorbidity), only 1% of qualified patients undergo surgery. The stigma attached to surgery makes the decision to discuss this option subjective and inconsistent. This study’s aims were to determine barriers that exist between providers discussing and recommending BS to qualified patients, examine how these barriers impact discussing BS, and provide a framework for referring appropriate patients.

METHODS

A literature review revealed:

- Physician recommendation was the strongest predictor when considering surgery.
- While the majority of providers have a favorable perception of BS, they had limited knowledge about safety and efficacy of surgery.

Data Analysis:

- Cross-sectional sample of 237,933 adult patients at MUSC
- Inpatient or clinic visit during 2015-2016
- BMI recorded

CONCLUSIONS

- A significant number of patients qualify for BS, while very few undergo surgery.
- While we were unable to confirm data for the number of patients with a BS referral, there is room for improvement in the current referral process.
- Providers may be more likely to refer patients for BS if provided education and easy access to qualification status.

REFERENCES

Determining barriers to cardiac rehabilitation program participation and nutrition compliance

Claudia Hleap
Medical University of South Carolina

ABSTRACT
Cardiac rehabilitation program is a national program for people following a cardiac event, such as a heart attack, valve surgery, or heart transplant. This program includes nutrition counseling from a Registered Dietitian and monitored exercise programs. A survey was designed to address barriers to program participation and compliance with nutrition recommendations provided by the Dietitian. Analysis of survey responses showed that 93% of participants were planning to complete their sessions and all participants found the program to be helpful. 93% of participants were compliant with nutrition recommendations provided by the Registered Dietitian.

METHODS
A 22-question anonymous survey was designed to collect information. This survey was IRB approved and was provided in the Rehabilitation center for patients to take voluntarily. Questions asked assess how many sessions had been completed at that time, nutrition information covered with the Registered Dietitian, barriers to compliance with exercise and nutrition recommendations, and overall attendance. This survey prompted participants to answer whether they anticipated finishing the program and whether they found the sessions to be helpful. The survey was applicable to cardiac rehab patients having completed at least 3 sessions and have already met with RD for individual counseling. There were 14 participants, 7 male and 7 female.

RESULTS

Anticipated Program Completion
- Will complete
- Will not complete

Figure 1. Survey responses indicating whether patient was planning to complete the rehabilitation program.

Figure 2. Survey responses regarding whether participants have been following the advice of the RD based on their individual meetings.

Following Nutrition Advice from the Registered Dietitian
- Yes
- Unsure

Figure 3. Recommended topics for group classes

Group Class Topics

CONCLUSIONS
- Survey results indicated that 93% of participants reported no barriers to program participation and 93% plan on attending all their sessions. The only reported barrier to participation was a conflict in scheduling with work hours.
- 93% of participants reported following the nutrition advice of the Dietitian, but only 29% reported that they would attend classes.
- Across survey responses, the most recommended class was the carbohydrate counting class.
- Average weight loss of participants was 6lb/person, with an outlier reporting a 50lb weight loss.

LIMITATIONS
- The survey was administered at the Cardiac Rehabilitation center. Therefore, participants in the survey are patients that are able to make the commute to the rehabilitation center.
- The sample size was small and surveys were taken voluntarily.
- People more likely to participate in the survey may be inclined towards higher levels of program satisfaction. Therefore, these patients may be more likely to attend every session. This is inferred from 100% of survey reports indicating that everyone found Cardiac Rehabilitation to be helpful.

SUMMARY
Amongst survey participants, 7% of participants reported barriers impairing participation in the Cardiac Rehab program. All participants found the program to be helpful and a 93% of participants reported following the advice of the Registered Dietitian.

REFERENCES
Does Veteran participation in interactive cooking classes improve health outcomes?

1Danielle Liszka; 2Rebekah Sawyer, MS, RD, LD; 1Kelley Martin, MPH, RD, LD
1MUSC Dietetic Internship; 2Ralph H. Johnson VA Medical Center, Charleston, SC

ABSTRACT

MOVE! is the VA’s national weight management program which focuses on health and wellness through healthy eating, physical activity, and behavior change. MOVE! participants were recruited to partake in six 1-hour Healthy Teaching Kitchens (HTK) led by a Dietetic Intern and Registered Dietitian. The VA Nutrition and Food Services (NFS) has implemented the HTK to provide culinary education for Veterans with the goals of 1) increasing use of fresh foods, 2) increasing healthy food choices, and 3) learning basic culinary skills. Our goal is to determine if participation in interactive cooking classes can significantly improve weight loss outcomes. Of the 22 Veterans enrolled, only 9 Veterans attended at least 2 HTK sessions of the 6 HTK offered thereby their data exclusively was analyzed to measure impact of intervention. As a result researchers infer the more HTK sessions attended is associated with more weight loss. This weight loss trend supports the existing evidence among similar HTK programs. Further development in education/training materials are underway.

METHODS

The majority of participants attending HTK were > 65 year old. These 1-hour sessions were midday 11:30 – 12:30 pm offered non-sequential weeks throughout Fall 2016. Each HTK coincided with the MOVE! lesson to promote a consistent health message and stimulate behavior change. The cooking segment of class demonstrated preparation of quick and affordable dishes. The structure of each class allowed participants to learn about various cooking techniques and food items while engaging in open discussion related to nutrition. Participants were provided recipe and health handouts at the end of each session.

RESULTS

A total of 22 veterans were involved in HTK. Participants (n=9) who attended at least 2 HTK on average lost 6 lbs. Participants (n=4) who attended 3 or more HTK on average lost 10 lbs. Participants (n=3) who attended 4 or more HTK on average lost 11 lbs over the 4-month period these sessions were conducted. As a result this trend suggests the greater number of HTK sessions attended equates to a larger decrease in weight.

Figure 1: The average number of pounds loss of enrolled participants who attended at least 2 HTK, at least 3 HTK or at least 4 HTK

CONCLUSIONS

Our study suggest attending HTK in addition to attending the MOVE! classes promotes healthy lifestyle changes and stimulates weight loss. Other research studies among different populations show strong evidence of positive behavior changes with implementation of interactive cooking classes. Limitations to this analysis include small sample size due to low attendance to voluntary class and lack of self-efficacy in elderly population to implement these health behaviors at home. Additionally, missed opportunity noted in methods of data collection.

SUMMARY

➢ Overall participants receptive to sessions
➢ Continuous feedback from participants allowed researchers to modify following sessions to adhere to participants requests
➢ Recipe and health handouts noted as strong educational tool

REFERENCES


Figure 1: The average number of pounds loss of enrolled participants who attended at least 2 HTK, at least 3 HTK or at least 4 HTK

Figure 2. HTK Class Topics and Recipes

<table>
<thead>
<tr>
<th>HTK</th>
<th>Topic</th>
<th>Recipes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Eat Wisely to tip the Balance</td>
<td>Broccoli-Cheddar Frittata, Barley Jambalaya</td>
</tr>
<tr>
<td>2</td>
<td>Go Good Fat</td>
<td>Guacamole Dip, Chips</td>
</tr>
<tr>
<td>3</td>
<td>Get Fit for Life</td>
<td>Turkey Chili, Chips</td>
</tr>
<tr>
<td>4</td>
<td>Dine Out Successfully</td>
<td>Turkey Tacos, Black Eyed Peas, Corn Salsa</td>
</tr>
<tr>
<td>5</td>
<td>Fine Your Year Food</td>
<td>Shaved Brussels Sprout Salad</td>
</tr>
<tr>
<td>6</td>
<td>Maintaining Your Momentum/Conquering Food Triggers</td>
<td>Sweet Potato and Apple Casserole</td>
</tr>
</tbody>
</table>
Effectiveness of a Wellness Program on College Student’s Nutrition Knowledge and Eating Behaviors

Erin Passaro 1, MS; Ashley Galloway 2, MS, RD, LDN

1 Medical University of South Carolina, 2 College of Charleston

ABSTRACT

Approximately 42% of 15-24 year olds are enrolled in college. Students are exposed to stressors including environmental and academic challenges. These stressors increase the risk of poor dietary habits (high fat, sugar, processed food, and alcohol intake). The average college students’ diet does not meet the dietary guidelines. Wellness programs that target students’ health are crucial, as lasting lifestyle habits are established at this time.

The current study collected data at the College of Charleston during fall 2016. Nutrition knowledge and healthy eating behaviors were to be measured before and after completion of the wellness program.

After insufficient participation in the program (n=4), a survey was completed (n=36) to identify barriers to participation, which included time, event confusion, loss of interest, and too many activities respectively.

The current study will inform development of a more time effective and focused program.

METHODS

Pre- and post-test scores were to be collected for the Nutrition Knowledge Survey and Primesscreen Questionnaire (eating behaviors).

The wellness program included: 1) session with Registered Dietitian (RD), 2) attendance of a healthy eating event, 3) attendance of a meatless meal, 4) completion of dining hall survey, and 5) posting on social media.

An online survey was designed to identify participation obstacles and demographics. Survey completion was incentivized with a free Starbucks drink.

RESULTS

Survey participation was primarily 19 year old freshman females eating on campus 1-2x per day.

Figure 1. Participant Demographics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Student Responses (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
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<tr>
<td>Male</td>
<td>15.6</td>
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<tr>
<td>Female</td>
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<tr>
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<td>&lt;18</td>
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<td>18</td>
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<td>19</td>
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<td>21</td>
<td>5.6</td>
</tr>
<tr>
<td>22</td>
<td>2.8</td>
</tr>
<tr>
<td>College Year</td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>65.6</td>
</tr>
<tr>
<td>Sophomore</td>
<td>15.6</td>
</tr>
<tr>
<td>Junior</td>
<td>9.4</td>
</tr>
<tr>
<td>Senior</td>
<td>9.4</td>
</tr>
</tbody>
</table>

Campus signage was more effective than social media for promotion but students preferred email.

Most students (69%) signed up to receive dining dollars.

Students reported increased intake of fruits and vegetables (22%) and decreased intake of processed foods (15.7%) and high-fat foods (9.4%).

Nutrition knowledge improved with 22% able to identify “everyday” and “sometimes” foods easier, 18.8 % more aware of health benefits of eating produce, whole grains, lean proteins, and low-fat dairy, and 9.4% able to identify food groups easier.

Changes resulted from healthy eating events (18.8%) and RD session (6.25%). However most (66%) did not attend any events.

The most preferred incentive was five free Starbucks drinks (63%), roughly equal to 25 dining dollars.

Figure 2. Barriers to Program Participation

56% did not complete the program due to time restraints, followed by confusion of event times and locations (13%), loss of interest or passport (9.4% both), and too many activities (9.4%).

SUMMARY

Survey responses revealed students’ confusion and time-restraints were the biggest barriers to completion, emphasizing the need for a more streamlined program with less events and more consistent promotion.

Some students improved diet habits and nutrition knowledge. Healthy eating events and one-on-one RD sessions were the most effective strategies.

REFERENCES

IMPROVING NUTRITION IN CYSTIC FIBROSIS PATIENTS AGES 0 - 48 MONTHS THROUGH EDUCATION AND BEHAVIORAL MANAGEMENT TRAINING VIA TELEMEDICINE

Amy Shen, BS; Sara Hendrix, MS, RD, LD; Kelley Martin, MPH, RD, LD
Medical University of South Carolina, Charleston

ABSTRACT

The purpose of this study was to examine the effect of nutrition education and behavioral management strategies delivered via telemedicine on caloric intake and anthropometrics. A Registered Dietitian developed a 9-session curriculum, provided scales for weight monitoring, and required 3 food logs for nutrient analysis. Eleven caregivers of children with CF anonymously completed one to two surveys both before and after the intervention via RedCap Survey. The surveys included CF Nutrition Knowledge and Behavior Pediatrics Feeding Assessment Scale. Participants with children less than 12 months only received the nutrition knowledge surveys. Results were analyzed using Microsoft Excel. Pre-test data indicates a decent baseline understanding of CF-related nutrition with an average of 22 (± 2.6) out of 26 points. For feeding behaviors, Total Frequency Scores (TFS) greater than 84 and Total Problem Scores (TPS) greater than 9 are significantly higher than normative mean. Average scores were 87.6 ± 22 (TFS) and 11.9 ± 7.5 (TPS). In conclusion, baseline data indicates a good foundation of nutrition knowledge, but higher than normal frequency of feeding problems. However, given the impact of proper growth on survival, regular nutrition support should be encouraged. Further data analysis of food logs and post-test surveys is needed at study completion to determine the effects on caloric intake and anthropometric measures.

METHODS

Eleven caregivers of children with CF (>1 year old) completed two surveys both before and after the 9 sessions. The surveys included CF Nutrition Knowledge and Behavior Pediatrics Feeding Assessment Scale. Participants with children less than 12 months only received the nutrition knowledge surveys. Behavior assessments examined the frequency of behaviors and if the parents viewed the behavior as a problem. The most common feeding problem was children preferring to drink liquids rather than eat solid foods.

RESULTS

For children with cystic fibrosis (CF), obtaining both higher weight-for-age and height-for-age percentiles has been associated with improved survival through 18 years. Routine clinic visits do no always allow for adequate time for sufficient nutrition education to encourage proper growth. By providing education via telemedicine, families may eliminate the barriers of time and/or cost required to travel to the facility.

BACKGROUND

Further data analysis of food logs and post-test surveys is needed to determine the final effects on caloric intake and anthropometric measures.

This study was limited by its small sample size which may prevent the generalization of these results to the population as a whole.

High cancellation/no-show rates caused increased variability for length of time from initial session to completion.

REFERENCES


ABSTRACT

Since a standardized criterion for diagnosis of malnutrition was established in 2012 by The Academy of Nutrition and Dietetics/American Society of Parenteral and Enteral Nutrition, hospitals can better identify and code inpatient cases for improved clinical care and reimbursement. This study compared MUSC against 9 university hospital systems to determine how each system’s documentation trends align with outcomes related to cases coded for malnutrition based on ICD-9/ICD-10 codes in 2016 among all inpatients age 18 and over. Outcomes compared included total percentage of cases reported, length of stay index (actual LOS divided by expected LOS), percent of cases resulting in death, and percent of cases resulting in 30-day readmissions. Data was obtained from a university health-outcomes database where all selected hospitals voluntarily provided this data. MUSC reported 10% of its total cases coded for malnutrition compared to the average of 8% (range: 3%-12%). MUSC’s ratio of expected LOS index was 2.72, compared to the average of 2.18 (range: 0.47-6.07). Interestingly, the hospital ranking lowest in LOS index had the highest percentage of cases resulting in death (11.25% compared to MUSC of 7.79% and the average of 8.17%; range: 5.29 –11.25). Lastly, MUSC’s percentage of 30-day readmission rates compared to the average was 10.35% and 8.93%, respectively (range: 8.21-11.27%). MUSC appears to fair better than other reputable university hospital systems in coding for malnutrition cases and in cases resulting in death, but has room for improvement in LOS index and 30-day readmissions.

METHODS

This unfunded project gathered information from University HealthSystem Consortium database (VizientTM) where hospitals voluntarily submit data. Nine larger university hospitals were selected from this database to use as a comparison tool for MUSC in regards to the percentage of cases coded for malnutrition and related outcomes available.

RESULTS

After analysis of the data, MUSC appears to be above average in regards to the number of cases coded for malnutrition, resulting in better reimbursement for the hospital and patient. MUSC also has a lower than average percentage of malnutrition cases that resulted in death compared to the average. Areas where MUSC could continue to improve upon in regards to malnutrition cases is their length of stay index as well as cases resulting in 30-day readmission.

REFERENCES


ABSTRACT

Nine meals were created in adherence with nutrient criteria developed by MUSC for use in older adult populations. Satisfaction surveys evaluating flavor, texture, portion, ease of eating and appearance were administered the day following meal delivery, using a photograph of the meal to overcome reliance on memory in this population (See Figure 1). A sample of 240 individuals was surveyed nine times, for a total of 2,160 surveys. Eight hundred and ninety-nine (899) surveys were returned for a response rate of 42%. Qualitative evaluations were recorded by drivers and returned with surveys. Data were exported to Microsoft Excel and average.

RESULTS

Subjective assessments of meal quality offered insights into meal acceptance scores. Meals were often criticized for “hard” or “undercooked” vegetables, dry meats, lack of seasoning, small portion size and limited variety. Ease of eating and reheating foods are also important to the current sample per qualitative remarks.

SUMMARY AND CONCLUSIONS

As the American population ages, nutrition programs must accommodate demand for nutritious home-delivered meals. Meal acceptance is a priority for these programs. The results of the current survey suggest future endeavors should focus on variety, seasoning and ease of eating to improve meal acceptance among free-living older adults. Portion size, another often-cited concern among ECMOW participants, is unfortunately limited by reimbursement standards. Future investigations might examine acceptance of meals that meet nutrition criteria versus liberalized meals or survey individual components for more detailed analysis.

REFERENCES

EFFECTIVENESS OF PEPuP COLLABORATIVE IN MEDICAL/SURGICAL ICU

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ABSTRACT

The Enhanced Protein-Energy Provision via the Enteral Route (PEPuP) Feeding Protocol is a feeding protocol designed to promote enteral nutrition (EN) tolerance, thus increasing protein and calorie delivery to critically ill patients and improving clinical outcomes. The PEPuP protocol was implemented in the medical/surgical intensive care unit (MSICU) at MUSC in September 2016. This study aimed to determine the effectiveness of the protocol in improving nutritional adequacy of MSICU patients. Pre-data was collected during August 2016, prior to PEPuP protocol implementation, and was compared to post-data retrospectively collected from November 2016 after implementation. Comparison of EN administration pre- and post-PEPuP was performed via T-tests. No statistical significance was found when comparing %VR (p=0.31), %TCR (p=0.20), %TPR (p=0.18), ICU length of stay (LOS) (p=0.69), or time on mechanical ventilation (TMV) (p=0.70) pre- and post-PEPuP implementation. However, %VR, %TCR, and %TPR averages increased from pre- to post-implementation. Average administration of EN improved and ICU LOS and days on mechanical ventilation decreased after PEPuP protocol implementation.

METHODS

- Pre-data collected for 1 month during Aug. 2016:
  - # of days in MSICU
  - # of days on mechanical ventilation
  - Volume, calories, protein, and supplements ordered
  - Volume, calories, protein, and supplements received
- PEPuP initiated in MSICU during Sept. 2016
- Post-data collected for 1 month during Nov. 2016
  - Same metrics as pre-data
- Patient days excluded if: patient expiration, termination of PEPuP protocol, alteration of nutrition order, tropic feeds only
- Final data analysis via T-tests

RESULTS

Prior to PEPuP protocol implementation (n=24 patient days), averages for percent volume received (%VR), percent calories received (%TCR), and percent protein received (%TPR) were 72.79% (SD=34.4), 73.54% (SD=34.12), and 73.92% (SD=33.92) respectively. After implementation (n=59 patient days), averages for %VR, %TCR, and %TPR were 81.63% (SD=36.10), 83.75% (SD=31.78), and 84.03% (SD=29.72), respectively. T-tests revealed the following statistical significance: %VR p=0.31, %TCR p=0.20, and %TPR p=0.18. Percent difference between average %VR, %TCR, and %TPR pre- and post-implementation revealed the following: +12.14%, +13.88%, and +13.69%, respectively. Although statistically insignificant, post-implementation ICU LOS and TMV averages decreased by 15.6% and 12%, respectively.

Figure 1. Average percent of EN received pre- and post-PEPuP protocol implementation.

Figure 2. Comparison of average days in ICU and on mechanical ventilation pre- and post-PEPuP protocol implementation.

CONCLUSIONS

While no statistical significance was found in this study, there are several important findings:
- Average percent of total volume, calories, and protein received increased from pre- to post-PEPuP protocol implementation.
- Average total days in ICU and on mechanical ventilation decreased after protocol implementation.
- Several factors limit the strength of this study:
  - Statistical significance was not found, likely due to the small pre-data sample size and the inequality of the sample sizes, thus contributing to a Type II Error. If the sample sizes were larger and equal, statistical significance may have been achieved.
  - Poor adherence by medical staff to the protocol could have occurred, skewing post-data results.
  - During PEPuP protocol initiation, the MSICU elected not to administer Reglan, a component of the PEPuP protocol aimed to improve EN tolerance. During this study, EN was often held secondary to patient intolerance; however, if Reglan was administered, tolerance would have likely improved.

SUMMARY

This study did not produce statistically significant results, however there are many implications for these findings. There was a marked increase in nutrition delivery from pre- to post-implementation and a decrease in average days spent in the ICU and on mechanical ventilation. Future directions demand better adherence to PEPuP protocol implementation in order to achieve clinically significant results and thus improve the quality of care provided to patients.

REFERENCES

ASSOCIATION BETWEEN MAGNESIUM INTAKE AND DEPRESSION IN A POPULATION AT HIGH RISK FOR SUICIDE

Marisa L. Urda1, BS; Kristen B. Johnson, PhD, RDN2; Bernadette P. Marriott, PhD2; and the BRAVO Group*

1Medical University of South Carolina Dietetic Internship, 2Medical University of South Carolina: Department of Medicine, Division of Gastroenterology & Hepatology

*Ron Acerno, Bashar W. Badran, Andrea Bova, Alice Bova, Jeffrey J. Bordbar, Christopher DeLeon, Mark DelBianco, Christopher Fink, James Fox, Ashley Gallaway, Mark P. George, Sarah Hamilton, Courtney Harrington, Mark Hamner, Kelly Holes-Lewis, Therese K. Killeen, Kathryn M. Magruder, Robert Malcolm, Alicia Marzolf, Kristen Morella, Donald Myrick, Ann Z. Poole, Marcie Pregulman, Matthew J. Roden, Ariane C. Shokrit, Bryan K. Tolliver, Travis Turner

ABSTRACT

Mg EAR (mg) plays a role in several biochemical reactions associated with depression, and low Mg intake has been linked to depressive symptoms. This study examined the association of dietary Mg intake with depression at baseline in 110 adults at high risk for suicide. Dietary intake was assessed by an initial 24-hour dietary recall, and depression was measured with the Patient-Reported Outcomes Measurement Information System (PROMIS). Independent sample t-tests were used to determine differences among those meeting and not meeting the Estimated Average Requirement (EAR) for Mg, and Pearson correlations were used to determine the relationship of Mg with depression. PROMIS t-scores for both groups were considered to be 1 standard deviation (SD) above average. Depression scores were not significantly different among those not meeting the Mg EAR (n = 62, 56%) versus those meeting the Mg EAR (61.7 ± 8.1 vs. 60.6 ± 8.6, respectively). In this study, we did not find a significant relationship with dietary Mg intake and depression (r = -0.07; p = 0.47). Additional research is warranted to determine the relationship with dietary Mg and depression.

METHODS

Subjects: Data was collected at baseline from 110 adults who were considered at high-risk for suicide and who were enrolled in a randomized controlled trial to evaluate effectiveness of omega-3s on suicidal behavior. Outcomes Examined: Dietary Mg intake (in milligrams) was determined using 24-hour dietary recalls administered in-person using the Automated Multiple Pass Method. We present data from the initial 24-hour recall. Depression was measured using the the Patient-Reported Outcomes Measurement Information System (PROMIS). Statistical analysis: Independent sample t-tests were used to determine differences among those meeting and not meeting the Mg EAR, and Pearson correlations were used to determine the relationship of Mg with depression.

RESULTS

Figure 1. Mg recommendations (EAR) for age and gender and mean dietary Mg intake in the study sample of adults at high risk for suicide.

CONCLUSIONS

- The average PROMIS t-score of this sample (61.2) is considered 1 SD above average4.
- Over half (56%) of the sample did not meet the Mg EAR.
- Depression scores were not significantly different among those meeting versus those not meeting the Mg EAR (p = 0.47).
- There was no significant correlation between dietary Mg intake and depression scores (r = -0.07; p = 0.47)

SUMMARY

Limitations of this study include analyzing data from one day of a 24-hour dietary recall, which may potentially underestimate intake.

The possibility that increased dietary Mg intake may reduce depression is warranted for further study.

REFERENCES

Amanda Ayers:

Amanda’s capstone was unique. Instead of conducting a mini research project that resulted in a poster like other interns, she assisted Debbie Petitpain, MS, RD, Sodexo/MUSC Office of Health Promotion Dietitian in analyzing results from 2015/2016 summer feeding program. Amanda Ayers also worked with Amanda Sobahani, RD, MPH who lives/works in upstate NY – she gathered the data we have from the first summer (2015) and who has already done a poster for her graduate program on this.

More about this project:
Debbie Petitpain helped bring Kids Eat Free at MUSC to MUSC in summer 2015. This is a USDA Summer Food Service Program (SFSP, which serves meals to kids during summer break when the school lunch/breakfast programs are suspended. MUSC became the first hospital in the Southeast and the 6th in the country to participate, serving 2385 meals that summer. Over 3000 meals have been served in the first ¾ of year 2.

Many organizations including healthcare institutions and non-profits have heard about our successes. We have yet to share our best practices with the Academy of Nutrition and Dietetics or dietitians who, obviously, are keep champions in the fight against hunger! The aim of this project is to submit a publication that describes our program.

Amanda’s main objectives were to, using 5 weeks of data from summer 1 (2015) and 5 weeks of data from summer 2 (2016):
- How many meals were served at breakfast, lunch and total
- Describe the food choices:
  o Which protein was the most popular
  o Which recipes were the most popular
  o What percent of the time did the child select
    ▪ The Mindful option
    ▪ A vegetable
    ▪ A milk
  o Selections made for breakfast
- Food cost average for breakfast and lunch (compared to USSDA reimbursement)