

**TITLE: DEVELOPMENT OF STANDARDIZED NUTRITION EDUCATION FOR PATIENTS WITH MALIGNANT GASTROINTESTINAL CANCER**

**AUTHORS:** Michael Gjenvick; Aryane Oar; Andrea Walsh; Sharee Thompson; Kristine Jordan, PhD, MPH, RD; Kary Woodruff, MS, RD, CSSD; Jean Zancanella, MS, RD; Barbara Sherwood MS, RDN, CD; Kari Evans MA, RDN, CD; Elisa Soulier; Jacqui Sanchez RD, CD, CNSC; Laycee Mozingo RDN, CD, University of Utah

**LEARNING OUTCOME:** The RDN will be able to assist patients with prevention of malnutrition and cachexia by thoroughly educating all malignant gastrointestinal cancer patients on identified nutrition topics.

**ABSTRACT:** Adequate nutrition for patients with gastrointestinal cancer is critical for the maintenance of weight, prevention of malnutrition, and improvement of clinical outcomes. Nutrition education is an essential intervention for mitigating these side effects, improving nutritional status, and enhancing quality of life. Evidence supports the use of malnutrition screening, dietary counseling, nutrition intervention through diet alteration, and complementary and alternative medicines; however, current cancer treatment protocol in the healthcare system still lacks a nutrition-focused approach. A local healthcare system offers an array of cancer treatments, yet nutrition counseling and dietary intervention are not among the standard protocol for every patient. The purpose of this project was to develop a standardized nutrition education for patients with malignant gastrointestinal cancer for use in an outpatient setting. The Malnutrition Screening Tool was identified as a standard screening method and nutrition counseling sessions were developed focusing on weight loss and malnutrition, meal planning and grocery shopping, functional foods, and exercise tips. For each session, a counseling script and supporting materials were created. Given that research supports the use of nutrition screening, dietary counseling, nutrition intervention, and complementary medicine techniques, it is imperative to have a standardized protocol and appropriate interventions in place. The tools and resources developed for this project have the potential to be implemented in healthcare facilities that serve and support gastrointestinal oncology populations in a standardized manner.

**TITLE: DETERMINING NEED FOR MEAL PREPARATION EDUCATION IN FIRST-YEAR UNIVERSITY STUDENTS**

**AUTHORS:** Sheryl Aguilar RD, MS; Alicia Kunzler, Utah State University

**LEARNING OUTCOME:** Increase understanding of adolescents' meal preparation skills/confidence and identify avenues for intervention.

**ABSTRACT:**

**Background:** In previous research, college students reported low confidence and varying skill in meal preparation ability. This study evaluates first-year university students to determine the acceptability of meal preparation programming for this population.

**Objective:** To assess university freshmen's skill level, confidence, and interest in food budgeting, meal planning, and cooking techniques to determine potential interventions.

**Methods:** First-year university students (n=265; 58 men, 205 women) were recruited through Facebook and email invitations to complete a 50-item survey. Survey categories included skills/confidence in food budgeting (8), meal planning (12), and meal preparation (12); class interest (4), student background information (9), and general comment sections (5). Student responses were compiled into food budgeting, meal planning, and cooking technique composite scores. One-way ANOVA and descriptive statistics were used to report mean data and compare groups within

**Results:** The mean composite scores for food budgeting, meal planning, and meal preparation were 27.8/40 (SD:5.46), 37/53 (SD:6.95), 37.9/48 (SD: 6.87) respectively. Females scored higher than males in food budgeting (p=0.006) and meal planning (p=0.001). Students in health-related majors scored higher in all three categories (p=0.010), (p=0.002), and (p=0.001) respectively. Individuals reporting food insecurity scored lower in all three categories (p=0.001), (p=0.001), and (p=0.001) respectively. 86% of students reported interest in class attendance. Comments indicated desire for recipe/application ideas.

**Conclusion:** Students were more confident in cooking techniques than food budgeting or meal planning. The evidence shows opportunity to propose future interventions for university freshmen.

**TITLE: DETERMINING THE PHYSICAL AND SOCIAL BARRIERS THAT PREVENT FOOD-INSECURE STUDENTS AT THE UNIVERSITY OF ARKANSAS FROM USING THE JANE B. GEARHART FULL CIRCLE CAMPUS FOOD PANTRY**

**AUTHOR:** Sarah Elizabeth Roberts, BS; University of Utah - Nutrition and Integrative Physiology

**LEARNING OUTCOME:** To decrease local food insecurity, research should be performed to determine why food-insecure individuals do not utilize local emergency food assistance services - such as food pantries. If research is conducted, pertinent changes can be made to programs and services in order to reach more food-insecure individuals and theoretically decrease food insecurity.

**ABSTRACT: Purpose:** Research that analyzes barriers to using emergency food assistance is sparse. The purpose of this study was to determine the reasons why 38% of the students at the University of Arkansas experienced food insecurity in 2016, yet only 1% used the Jane B. Gearhart Full Circle Campus Food Pantry. **Methods:** An online survey was created using Qualtrics software and distributed to undergraduate and graduate students at the University of Arkansas. The survey was composed of a combination of multiple choice, Likert scale-type, and open-ended questions that collected demographic data, assessed food insecurity, and asked the participants to identify barriers that would or do deter them from using the campus food pantry. All answers were recorded anonymously and frequency of responses were analyzed.

**Results:** Three hundred and forty nine students submitted survey responses; the majority (281) were female undergraduate students. Of the food-insecure participants who had not utilized the pantry, unawareness of the pantry's existence or location was the most frequently identified barrier. Of the food-insecure participants who had used the pantry but hesitated before doing so, negative stigma was the most frequently identified barrier.

**Conclusions:** To increase food pantry usage and decrease food insecurity, measures should be taken to increase awareness of the pantry's existence and location. Further, unique measures should be taken to decrease the negative stigma surrounding the use of emergency food resources.

**TITLE: USING THE SOCIAL COGNITIVE THEORY TO CREATE FARM TO FORK EDUCATION MATERIALS**

**AUTHORS:** Taggart C; Patten EV, Stokes N, Williams DP; Brigham Young University

**LEARNING OUTCOME:** Create educational materials and tools to inform and support schools, parents, and food producers in implementing Farm to Fork programs in their organization.

**ABSTRACT:**

**Objective:** Create educational materials and tools to inform and support schools, parents, and food producers in implementing Farm to Fork programs in their organization.

**Target Audience:** Farmers, ranchers, food producers, teachers, principals, parents, and students.

**Theory, Prior Research, Rationale:** Farm to Fork aims to improve the quality of school meals and increase students' agriculture literacy. A lack of knowledge, awareness, and resources are barriers to implementing a productive Farm to Fork program. The Social Cognitive Theory (SCT) provides an effective guide for areas to target when creating educational materials and stimulating a behavior change. This model proposes that cognitive, behavioral, and environmental factors determine human behavior.

**Description of Course and Curriculum:** Two online courses were developed, one focused on schools, the other on food producers. The courses were designed to increase participants' knowledge and abilities to implement and participate in a Farm to Fork program. The courses cover: steps in local food procurement, how to increase student's agriculture literacy, creating a school garden, and tips for funding and grant applications. Educational materials include frequently asked questions, outline for farmers to host field trips, outlines for farmer classroom visits, and promotional tools.

**Evaluation:** The number of educational materials produced, number of online courses created, number of people accessing courses, and monthly survey to determine number of new Farm to Fork activities implemented.

**Conclusions and Implications:** The SCT is an effective model to identify target areas for educational materials and motivate individuals to participate in the newly implemented Farm to Fork activities.

**TITLE: MACRONUTRIENT CALORIC DISTRIBUTION AFFECTS METABOLIC SYNDROME PARAMETERS AMONG COLLEGE STUDENTS**

**AUTHORS:** Sara Saltzgiver, Sheryl Chee, David Aguilar-Alvarez, Weber State University

**LEARNING OUTCOME:** The study related Metabolic Syndrome parameters among Weber State Students with their dietary consumption of carbohydrates, fats, proteins, and fiber.

**ABSTRACT: Purpose:** We analyzed macronutrient distribution and its effects on Metabolic Syndrome (MetS) among Weber State students. We hypothesize that MetS parameters will be affected by meeting the Fiber DRI and acceptable macronutrient distribution ranges (AMDRs) for carbohydrate, protein, and fat.

**Methods:** MetS data and two-day diet records were analyzed from 385 Weber State students (ages 18-65). Participants were separated by gender (Male: 128; Female: 257), and by those who met all AMDRs versus those who didn't. We categorized participants as deficient (< 67% DRI) or sufficient in fiber intake ( $\geq$  100% DRI). Independent-sample-t-tests evaluated mean differences on MetS parameters.

**Results:** Females who met AMDR's had lower body weight (BW) ( $\mu$ 1=64.8 vs  $\mu$ 2=69.9 Kg;  $p=0.042$ ), waist circumference (WC) ( $\mu$ 1= 77 vs  $\mu$ 2=81.2 cm;  $p=0.028$ ), HDL-C ( $\mu$ 1=51.2 vs  $\mu$ 2=56.3 mg/dL;  $p=0.032$ ), and blood glucose levels ( $\mu$ 1=87.4 vs  $\mu$ 2=90.2 mg/dL;  $p=0.029$ ) than those who didn't. Participants consuming adequate fiber had lower BW ( $\mu$ 1=75.3 vs  $\mu$ 2=67.3 Kg;  $p=0.005$ ), lower WC ( $\mu$ 1=83.3 vs  $\mu$ 2=77.8 cm;  $p=0.009$ ), and higher HDL-C ( $\mu$ 1=48.5 vs  $\mu$ 2=55.4 mg/dL;  $p=0.021$ ) ( $p<0.05$ ) than those who were deficient.

**Conclusion**

In females, meeting AMDRs had positive effects on MetS parameters, except HDL-C. Although HDL-C decreased, total cholesterol also reduced, indicating an unaffected HDL/Total-cholesterol-ratio. Adequate fiber beneficially affected central adiposity and HDL-C levels.

**TITLE: EFFECTIVENESS OF A DIETETICS PANEL AMONG COLLEGE STUDENTS INTERESTED IN THE FIELD OF DIETETICS**

**AUTHORS:** Megan Jensen, Mateja R. Savoie-Roskos, PhD, MPH, RD; Stacy Bevan MS, RD

**LEARNING OUTCOME:** Participants will be able to evaluate the effectiveness of dietetics panels among college students studying dietetics.

**ABSTRACT: Objective:** The objective of this study was to determine the impact a dietetics career panel had on interested undergraduate students.

**Methods:** Four Registered Dietitians (RD) of diverse practice backgrounds participated in the RD panel. Over 75 minutes, each RD briefly discussed their individual specialty area and answered questions from student attendees. A pre- and post-survey was given to each attendee to assess their perceived value of the dietetics panel. The survey included questions about demographic characteristics, areas of interest in the field and in graduate school, and open-ended questions about panel effectiveness.

**Results:** Participants ( $n=26$ ) were primarily non-Hispanic white females and 65% were pre-program dietetics majors. Eighty-percent of students who attended the panel did so for career exploration and networking opportunities. Twenty-three percent indicated they had attended past panels and found them beneficial. Almost half of students noted that although they enjoyed the variety of careers in dietetics that were represented, they would like a greater variety in future panels, with multiple students indicating sports nutrition as a specific area of interest. Some also had questions about internships, which this panel did not cover.

**Implications:** Dietetics career panels may be an effective method for teaching students more about career options in dietetics. However, panels may provide a greater benefit if they include more than four dietitians. Dietetics programs should also consider hosting an additional panel to discuss internship requirements and opportunities.

**TITLE: VALIDATING THE DÜSSELDORF ORTHOREXIE SCALE FOR USE IN ADOLESCENTS AGED 14-16**

**AUTHORS:** Caitlyn Bailey, Chante' Beck, Peipei Crapse, Melissa Edwards, Richelle Hudson, Hanna Matthias, Christina Peters, Whitney Petterborg, Alexis Smith, Hope Tinsley, McKenna Voorhees

**LEARNING OUTCOME:** Determine face validity of the survey instrument, Düsseldorf Orthorexia Scale (DOS), in adolescents ages 14-17.

**ABSTRACT: Objective:** To determine face validity of the survey instrument, Düsseldorf Orthorexia Scale (DOS), in adolescents ages 14-17. The DOS has been validated for use in adults to identify individuals at-risk for symptoms and behaviors consistent with the condition of Orthorexia Nervosa (ON).

**Methods:** Researchers conducted seven focus groups with male and female students currently enrolled in a high school health class ( $n=40$ ; 11 males, 29 females). Participants first completed the DOS scale and then were asked to participate in a group discussion regarding their understanding of the meaning of the questions in the DOS survey. Focus groups were audio recorded, transcribed, and coded to identify recurring themes in the focus group discussion. Codes for each of the 10 questions in the DOS scale were analyzed to determine group understanding of key words identified for each question.

**Results:** Key words in the original DOS survey questions were in agreement with the codes identified from the transcript of the focus groups for 8 of the 10 DOS survey questions. The key words in the other 2 questions were either not understood by focus group population or would need to be altered due to incorrect understanding by focus group participants.

**Conclusions and Implications:** The DOS scale demonstrated good face validity in an adolescent population; however two questions need to be revised to improve face validity of the tool when used in populations of adolescents.

**TITLE: DEVELOPMENT AND IMPLEMENTATION OF A SPORTS NUTRITION CURRICULUM FOR YOUNG ADULT ATHLETES SERVICED BY PEAK HEALTH AND FITNESS AT THE UNIVERSITY OF UTAH**

**AUTHORS:** Samantha Barela, Martín Caniza, Corinna Coffin, Lucy Mower; University of Utah Nutrition and Integrative Physiology

**LEARNING OUTCOME:** To understand that there is a lack of sports nutrition knowledge and a growing need for nutrition education resources for young adult athletes ages 17-22.

**ABSTRACT:** With the growing body of evidence suggesting that specific dietary practices increase the potential of an athlete's peak performance, there is a great need for reliable and accessible nutrition education. Given the lack of nutrition education resources available and increased sports participation in university settings, young-adults ages 17-22 are a particularly vulnerable to misinformation. Therefore, the purpose of this project was to identify the nutrition needs of the club sport athletes at the University of Utah and to create specific education resources for implementation at PEAK Health and Fitness. First, an extensive literature review identified nutrition concerns in the young adult population. Next, a community needs assessment determined the specific sports nutrition needs from various club sports on campus. The survey gathered information such as type of education preferred, structure and number of sessions desired, topics of interest, preferred location, and payment options. Finally, we developed presentation, handouts, and lessons plans to match the needs assessment. The curricula created for this project will serve as a future template for sports nutrition resources that may then be used by PEAK Health and Fitness to assist the athletes at the university and within the greater Salt Lake City community with their nutrition needs. In summary, this project will serve as tool for PEAK to expand on their nutrition services.

**TITLE: EVALUATING THE EFFICACY OF PEDIATRIC MALNUTRITION INDICATORS**

**AUTHORS:** Holly, Van Poots, RDN, CSP, FAND, Be Balanced Nutrition, LLC, Kelly, Green Corkins, MS, RD-AP, CSP, LDN, FAND, LeBonheur Children's Hospital, Sarah, Gunnell Bellini, PHD, RDN, CD, Brigham Young University, Tatiana Bartholomew

**LEARNING OUTCOME:** Identify the use of pediatric malnutrition indicators in current practice.

**ABSTRACT:** Early identification and diagnosis of pediatric malnutrition is key to prevent malnutrition-related complications and facilitate early nutrition intervention. The 2014 Pediatric Malnutrition Consensus Statement from the Academy of Nutrition and Dietetics and the American Society for Parenteral and Enteral Nutrition recommended a standardized set of indicators to identify malnutrition in children ages 1 month to 18 years. The purpose of this study was to evaluate current practices and the effectiveness of the consensus statement recommended pediatric malnutrition indicators. An online survey was sent to approximately 3,000 Registered Dietitian Nutritionists (RDNs) working with the pediatric population, and 281 RDNs (9.1% response rate) completed the survey. Two hundred forty-nine (88.6%) of the RDNs reported they knew the indicators existed and considered themselves knowledgeable about the indicators. Most participants (201, 71.5%) reported that their facility used ICD-10 codes to document malnutrition. Weight loss was the most frequently used indicator to identify pediatric malnutrition with 224 RDNs (80% of respondents) reporting use as often or always. Mid-upper arm circumference (MUAC) was the least used indicator with only 68 RDNs (25%) using it often or always to diagnose malnutrition. Only 121 RDNs (44.2%) used length/height as a primary malnutrition indicator. RDNs working with pediatric populations consistently use the recommended malnutrition indicators; however further research is needed on the appropriate z-score cut offs for diagnosing malnutrition and further education on the appropriate use of MUAC and length/height per age as malnutrition indicators.