Utah Academy of Nutrition & Dietetics

ANNUAL CONFERENCE PROCEEDINGS ABSTRACT AND POSTER SESSION

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March 4, 2023 | West Jordan, UT

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Category: Professional

Research Professional

Title: A Community-Designed Intersectional Food Access Rights for Marginalized communities (IFARM) Hub

Authors: Shannon Jones, MS University of Utah; Lynnette Burn, Wasatch Community Gardens; Sarah Canham, University of Utah, PhD; James Loomis, Wasatch Community Gardens; Jeff Rose, University of Utah, PhD; and Sarah Strang, LCSW, The Road Home

Abstract: Based upon our participatory research with people experiencing homelessness (PEH), this diverse community self-identified a need to improve their food-access and -related outcomes. To address these, we applied for and were awarded a Stage 1 CIVIC Innovation Planning Grant from the National Science Foundation (NSF). Working with Wasatch Community Gardens' Farm (WCGF), we learned from women experiencing homelessness (WEH) that participation in an urban farm-based job training program facilitated increased nutrition and housing security. This group supported our hypothesis that integration and co-location with additional social supports (a community hub), would amplify positive outcomes for WEH. During the six-month project, we brought together expertise from PEH, civic, and academic collaborators to develop plans for a community-designed Intersectional Food Access Rights for Marginalized communities (IFARM) Hub. The IFARM Hub would increase access to nutrient-rich foods, and thus nutrition security, for PEH while determining how an integrated-systems approach increases access to, and utilization of, resources and services for PEH. This would be facilitated for PEH as homeless, social, and judicial services and providers bring their personnel to the IFARM Hub, reducing service barriers for PEH. The community-designed project would demonstrate the viability of creating a justice-oriented network connecting social, economic, environmental, food, and housing initiatives to potentially increase positive outcomes for PEH in Utah. We are applying for Stage 2 funding from the NSF for a twelve-month pilot of the IFARM Hub at WCGF. If awarded, the pilot would start October 2023.

Performance Indicator(s): 6.2 Collects and interprets research data to advance knowledge and practice, and to enhance effectiveness of services. 6.4 Engages in scholarly activities through critical inquiry, continuous learning, application of evidence to practice, and support of research activities. 12.3 Designs and develops community and population health programs, interventions or initiatives to meet the needs of communities and/or populations.

Title: Examining Food Literacy among Registered Dietitian Nutritionists

Authors: Elise Withers, RDN, MPH; Stacy Bevan, MS, RDN, Professional Practice Associate Professor, Utah State University; Casey Coombs, MS, RDN, Professional Practice Assistant Professor, Utah State University; Mateja R. Savoie-Roskos, PhD, RDN, Associate Professor, Masters of Public Health Program Director, Associate Dean of the College of Agriculture and Applied Sciences, Utah State University

A**bstract:** Food Literacy (FL) consists of interconnected components: food and nutrition knowledge, skills, decisions, external factors, and self-efficacy. Registered dietitian nutritionists (RDN) are considered experts in nutrition knowledge and food literacy, however there is limited research examining FL knowledge and application among practicing RDNs. An IRB approved survey was sent out via Qualtrics to graduates from Utah State University's Dietetics Program since 2008. Survey questions included RDNs current careers, definitions of FL, and use and confidence using of FL in their RDN roles. The majority of participants (n=89) were between the ages of 26-35 years old (66.7%); were female (94.4%); and were white (95.8%). Most of the participants had been an RDN between 1-5 years (35.7%), worked in their current position between 1-5 years (50%), and worked in a clinical outpatient setting (24%). Twenty-four percent (n=89) of participants responded with 20% not working and/or never worked as an RDN and as a result, questions relating to FL for these participants were skipped. Participant definitions of FL included nutrition education, having a basic understanding of preparing healthy meals, and/or understanding the impact food choices have on health. Participants indicated they use FL by simply educating on FL when teaching individuals the impact of food choices and the food system. Most participants were very confident to confident in their ability to share and educate on the various components of FL, except ecological/external factors. Further research is needed to examine FL in larger sample sizes of RDNs who have graduated from various dietetics programs.

Performance Indicator(s): 6.2 Collects and interprets research data to advance knowledge and practice, and to enhance effectiveness of services. 6.5 Leads or supports activities related to the development or management of academic programs. 9.5 Evaluates the achieved learning and delivery methods when delivering education to individuals, groups and populations.

Title: Healthy School Meals for All in Utah

Authors: Spruance Lori PhD, CHES, Guenther Patricia PhD, RD, Metos Julie PhD, RD

Abstract: Objectives. The National School Lunch and School Breakfast programs provide an opportunity to reduce food insecurity and improve dietary intake. During the COVID-19 pandemic, school meals were offered to all children at no cost, regardless of income. This policy has become known as Healthy School Meals For All (HSMFA). The objectives of this study were to examine the perceptions of policymakers and school foodservice directors and to estimate the associated costs of implementing a statewide HSMFA policy in Utah.

Methods. Qualitative interviews were conducted for State legislators (N=23) and State Board of Education members (N=2), self-administered surveys were completed by school foodservice directors (N=69), and publicly available data on number of meals served and meals costs were obtained from the State Board of Education. A phenomenological analytic approach was used to analyze the qualitative data, survey responses were summarized as percentages, and cost estimation models were built in Excel.

Results. Four major themes emerged from the qualitative interviews; 1) awareness and experiences; 2) responsibility; 3) perspectives on school meals; and 4) new opportunities. The responses were quite divergent. Most (81%) foodservice directors believed HSMFA should continue. HSMFA would cost the state an additional $67,642,746 to $95,310,586 per year, depending on how much school meal participation would increase.

Conclusions. Given the support of foodservice directors but the lack of political consensus, discussing the benefits of school meals with elected officials, providing them with cost estimates, and considering options for stepwise implementation, may increase feasibility of a state-wide HSMFA policy in Utah.

Performance Indicator(s): 3.3 Advocates for nutrition and dietetics services and resources for clients and populations. 6.1 Participates in and leads research initiatives following ethical and scientifically sound research methodology. 12.1 Advocates for health promotion and disease prevention in communities, in populations and globally.

Project or Program

Title: Nutrition Security Amongst People Experiencing Homelessness

Authors: Shannon Jones, MS University of Utah; James Loomis, Wasatch Community Gardens; and Lynnette Burn, Wasatch Community Gardens; Sarah Strang, LCSW, The Road Home

Abstract: In 2017, the University of Utah's Center for Community Nutrition (UCCN) developed nutrition education and diabetes prevention programming for people experiencing homelessness (PEH). During this time the program has worked with a variety of stakeholders, including Wasatch Community Gardens (WCG) and The Road Home (TRH), to understand and respond to needs of PEH. These relationships have led to a dynamic program that seeks to collaborate with community organizations and service providers to assist with bridging gaps in access to healthy foods. These partnerships are needed to support PEH who have disproportionately high rates of chronic diseases including diet-related, adverse health outcomes, food insecurity (FI), and malnutrition, yet have high rates of access to nutrient-deficient and calorically-dense foods. Rates of FI may persist for PEH even after increased housing stability; and nutrition insecurity amongst PEH is not known. In Utah emergency food assistance needs rose 300% at the beginning of the pandemic. In Salt Lake County in 2020, 35 families each month experienced homelessness for the very first time, including a 55% increase in emergency and domestic violence shelter placements due to Lethality Assessments. In 2022, Utah reported 3,556 PEH in the state. The UCCN-WCG partnership provided free Grade-A organic produce to 2,751 PEH in Salt Lake County residing at a facility run by TRH. There is an exigent need for nutrition and dietetic professionals to join multidisciplinary academic and community-based researchers to develop responsive community-specific programs to increase access to nutrient-rich foods for PEH.

Performance Indicator(s): 2.3 Collaborates with inter- and intra-professional team members to achieve common goals and to optimize delivery of services. 9.2 Establishes, develops and implements program outlines and learning plans to meet the needs of individuals, groups, communities and populations. 12.3 Designs and develops community and population health programs, interventions or initiatives to meet the needs of communities and/or populations.

Category: Graduate Dietetics and Nutrition Student

Research Graduate

Title: An investigation of nutrition related issues of missionaries of the Church of Jesus Christ of Latter-day Saints

Authors: Savannah Watt, Mitch Crane, Susan Fullmer, PhD, RDN, CD

Abstract: The Church of Jesus Christ of Latter-day Saints' missionary program is well known and has over 50,000 missionaries out at any given time worldwide. Missionaries encounter a variety of nutritional issues including medical nutrition therapy concerns, lack of food safety and preparation skills, restrictions on time for food preparation and purchase, as well as loss of control over when, what, and how much they eat, weight gain or loss, and development of disordered eating. The purpose of this study is to determine what nutrition-related issues missionaries experience during their mission and assess their perceived value of having access to a registered dietitian nutritionist (RDN) during a mission. A Qualtrics survey was developed through a literature review, assistance from experts in survey development, the treatment of eating disorders, and registered dietitians. The survey was pilot tested by the experts and returned missionaries. The Church of Jesus Christ sent the survey to 10,000 returned missionaries who currently resided in the USA, Canada, Mexico, and Europe and who began their service in 2015 or later. The survey asked about issues related to nutrition. Results from 2,659 respondents are being analyzed according to mission type (senior mission or young adult mission), gender, and mission demographic (developed or developing country). Over 5,000 open-ended responses are being analyzed through a content-analysis methodology to understand the breadth and depth of missionaries' nutrition experiences. At the completion of the study, a final report will be presented to the missionary department of The Church of Jesus Christ.

Performance Indicator(s): 3.3 Advocates for nutrition and dietetics services and resources for clients and populations. 12.2 Conducts a needs assessment to support the development and implementation of nutrition and dietetics or health promotion programs, initiatives or interventions.

Title: Carbon footprint of diets among K-12 students in the US

Authors: Andrea Barney, BS, Brigham Young University; Lori Spruance, PhD, CHES, Brigham Young University; Amelia Willits-Smith, MS, PhD, Tulane University; Diego Rose, PhD, MPH, RD , Tulane University

Abstract: Background: Greenhouse gas emissions (GHGE) from food production contribute to climate change, but little is known about how the diets of schoolchildren might contribute to this problem. The study's purpose was to calculate dietary GHGE, or "dietary carbon footprints," of US K-12 students, and examine its relationship with nutritional quality.

Methods: Study sample dietary recalls (N=2,400 students) came from the 2014-2015 School Nutrition and Meal Cost Study (SNMCS). Food-related GHGE were calculated by linking items from the SNMCS 24-hour dietary recalls to dataFRIENDS (database of Food Recall Impacts on the Environment for Nutrition and Dietary Studies), which includes the GHGE per 100g of each USDA food code. Diets were ranked by GHGE and categorized into quintiles. Dietary quality, measured by USDA's Healthy Eating Index (HEI) was compared between the students in the lowest-(Q1)(n=549) and highest-GHGE (Q5)(n=549) groups.

Results: The average dietary GHGE of the sample was 5.13 kg CO2-equivalents per person per day. Students in Q1 consumed higher amounts of dietary fiber and plant protein, and significantly lower ($p < 0.05$) amounts of sodium and saturated fat. Students in Q1 had significantly higher HEI scores (mean = 62.40, SE = 0.91) compared to students in Q5 (mean = 29.19, SE = 0.64) (p=0.004).

Conclusion: Dietary carbon footprints were inversely correlated with overall diet quality, but not on all dimensions of nutrient intake. These results are similar to results in US adults, and can inform dietary guidance seeking to improve dietary intake and reduce food-related GHGE.

Performance Indicator(s): 1.8 Demonstrates sustainable practices that are socially responsible, efficient, effective, and environmentally friendly. 12.4 Identifies and prioritizes agricultural issues and takes action to ensure sustainable food systems, prevention and wellness programs and initiatives.

Title: Evaluating the Impact of a Culinary Medicine Course on Confidence and Competence in Dietary and Lifestyle Counseling, Interprofessional Communication and Wellness Advocacy and Behaviors.

Authors: Britta Retzlaff; Amy Locke, MD, FAAFP, ABOIM; Tricia Petzold, MD, IFMCP; Theresa Dvorak MS, RD, CSSD

Abstract: Lack of applied nutrition training in medical school is a primary factor that prevents physicians from engaging with patients about diet and health. Culinary Medicine courses have emerged as an innovative teaching method where medical students learn culinary skills, evidence-based nutrition, and counseling competencies in a teaching kitchen. This study assessed the impact of an 8-week Culinary Medicine course offered in virtual and in-person learning environments on students' perceived dietary and lifestyle counseling confidence, interprofessional communication, and wellness advocacy and behaviors. Data was collected from pre- and post-course surveys (N=53). A 2 x 3 mixed design analysis of variance (ANOVA) was used to test for significant differences between the pre-test and post-test and by educational delivery method. Self-reported confidence/competence in dietary and lifestyle counseling increased significantly ($p < 0.001$). Students felt more able to communicate with other disciplines in a professional manner ($p < 0.001$), identify their own areas of growth in nutrition and food preparation ($p < 0.001$), champion wellness in their community ($p < 0.001$), and prepare eight healthy meals ($p < 0.001$). The virtual cooking experiences conveyed the same benefits as the in-person environment. Qualitative feedback from students reported greater comfort and awareness of improving their eating habits and helping their patients make healthy changes. This study demonstrates the value of the interprofessional environment, as a setting where students improved perceived confidence and competence in nutrition and lifestyle counseling. Further research is needed to examine if and how positive outcomes persist, with translation into strengthening clinical practice.

Performance Indicator(s): 2.1 Adapts communication methods and skills to meet the needs of audiences. 2.3 Collaborates with inter- and intra-professional team members to achieve common goals and to optimize delivery of services. 3.3 Advocates for nutrition and dietetics services and resources for clients and populations.

Title: Uteroplacental Insufficiency Reduces Brain DHA Accretion in the Rat

Authors: Sophie Hochhauser, A. Cohen, H. Wang, A. Maschek, J. Cox, L. Joss-Moore, Kristine Jordan, PhD, MPH, RD, Amy Loverin, RD

Abstract: Human neonates require adequate docosahexaenoic acid(DHA) accretion for appropriate neurodevelopment. In pregnancies complicated by uteroplacental insufficiency(UPI),placental retention of DHA occurs, reducing fetal-DHA acquisition. Brain-DHA uptake from circulation facilitated by MFSD2A transporter. We previously demonstrated UPI in the term rat results in retention of DHA in the placenta, and subsequent reduction of circulating DHA,in the fetus. Whether UPI affects brain DHA acquisition and MFSD2A levels is unknown. We hypothesize UPI, in the rat, reduces brain-DHA levels with a concomitant reduction in brain MFSD2A, with worse effects in males. UPI was induced via bilateral uterine artery ligation in pregnant Sprague Dawley rats. Control dams received anesthesia only. Rat pups were euthanized at term c-section delivery, and brain tissue collected. DHA-containing lipid moieties were measured using GC/MS. MFSD2A was measured using western-blot. Male and female brains were treated as separate groups; one-way ANOVA with Fisher's Post-hoc test was used to assess group differences. Results are UPI as %of control±SD,*P<.05. IUGR pups weighed less than control pups(male 74±3%*;female 79±2%*).Brain DHA was predominantly found in the phospholipid fraction. UPI decreased DHA containing Plasmenyl-PE(male 90±2*;female 93±2*),PC(male 90±6*;female 92±4*),and CE(male 70±9*;female 72±11*).UPI did not significantly alter MFSD2A protein in male brain(77±13%;P=.06); UPI increased MFSD2A protein in the female brain(147±28%*). UPI reduces brain-DHA at term gestation similarly in male and female rats. Sex-divergent expression of brain-MFSD2A may be a response to divergent fetal circulating DHA (lower in male fetuses). We speculate that lower levels of PL and CE containing DHA moieties may contribute to impaired brain development in UPI.

Performance Indicator(s): 1.2 Demonstrates integrity in personal and organizational behaviors and practices. 1.3 Recognizes and manages situations with ethical implications. 6.2 Collects and interprets research data to advance knowledge and practice, and to enhance effectiveness of services.

Title: Developing A Reliable Survey To Assess Personal, Behavioral, And Environmental Factors Associated With Food Insecurity In A College Student Population.

Authors: Jennette Kilgrow, RD, Brigham Young University; Kanae Lee, Brigham Young University; Carol Mathusek, Brigham Young University; Kelly Ang, Brigham Young University; Jinan Banna, PhD, RDN, University of Hawaii at Manoa; Stephanie Grutzmacher, PhD, Oregon State University; Jenny Jackson, PhD, MS, RDN, CHWC, Oregon State University; Kendra OoNorasak, MS, RD, University of Kentucky; Nathan Stokes, PhD, Brigham Young University; Rickelle Richards, PhD, MPH, RDN, Brigham Young University.

Abstract: Study Objective: The prevalence of food insecurity among college students has ranged from 10-75%. Limited research has been conducted to understand college students' perspectives on food insecurity. Thus, we developed and tested the reliability of a survey aiming to evaluate internal and external factors associated with food insecurity among college students.

Methods: Students from four U.S. universities completed the College Student Perspectives around Food Insecurity survey, a 95-item survey framed around the social cognitive theory, at two time points, 7-10 days apart. Students also completed the U.S. Department of Agriculture's 10-item Food Security Survey Module and demographic questions. Test-retest statistics and Cronbach's alpha scores were used to evaluate survey reliability. Descriptive statistics were used for demographics.

Results: At time 1, 154 students completed the survey, with 105 completing it again at time 2. Among those who completed both surveys, 67 (64%) students were classified as food secure, 36 (34%) as food insecure, and two (2%) were unclassified due to incomplete responses. Most self-identified as female (68%) and White/Caucasian (75%). The test-retest statistic was 0.99, indicating excellent reliability. The Cronbach's alpha scores were 0.47, 0.47, and 0.64 for personal, behavioral, and environmental factors in the social cognitive theory, respectively, indicating fair to good reliability.

Conclusions: We developed a reliable survey that can be used to better evaluate the lived experiences and perspectives of college students experiencing food insecurity. Further, this survey could be used to gain insights about potential intervention strategies to address student food insecurity.

Performance Indicator(s): 6.2 Collects and interprets research data to advance knowledge and practice, and to enhance effectiveness of services. 6.4 Engages in scholarly activities through critical inquiry, continuous learning, application of evidence to practice, and support of research activities. 8.1 Interprets and applies current food and nutrition science in nutrition and dietetics practice.

Project or Program Graduate

Title: The Impact of Culinary Medicine Intervention on Patients with Chronic Health Conditions

Authors: Madeleine Hutchison, Nikole Pruess, Brooke Walters, Theresa Dvorak, MS, RD, Richmond Doxey, MD, CCMS, Amy Loverin, MS, RD, CD

Abstract: In the United States, six out of ten adults have at least one chronic health condition, yet many lack the nutrition knowledge and culinary skills needed to manage their conditions. Culinary shared medical appointments are gaining popularity as a tool to meet patient needs. These appointments pair hands-on culinary and nutrition education with medical monitoring. University of Utah Health recently launched a series of culinary shared medical appointments focused on healthy eating. The purpose of this project was to develop disease-specific curricula to expand the program. First, we conducted a needs assessment. We then used the results to develop curriculum for diabetes, hypertension, and irritable bowel syndrome. Each session included facilitator guides, recipes, supply and shopping lists, and handouts. Next, we recruited participants (n=7) from the Sugarhouse Health Center for a single pilot session. Post-session surveys suggest that 86% of participants experienced improvements in cooking confidence and likelihood of preparing vegetable-rich meals at home. All participants reported satisfaction with the session, and 86% stated they would be "very likely" to enroll in a culinary shared medical appointment in the future. The curriculum for disease specific culinary shared medical appointments may be effective in empowering patients to manage chronic health conditions. Future directions include development of sessions for different skill levels and collaboration with programs that improve food access.

Performance Indicator(s): 6.6 Designs and analyzes program curricula that align with program goals, objectives and competencies. 8.5 Demonstrates and applies knowledge of culinary practices, taking into consideration the needs and goals of clients/patients/population. 3.2 Advocates for and participates in activities that support advancement of the profession.

Title: The Development of Sports Nutrition Education Modules for the Exercise Specialists at the Orthopedic Specialty Hospital

Authors: Kaci Cheavtharn, Claire Reinking, Lolly Steuart, Kary Woodruff, PhD, RD, CSSD, CEDRD, Katherine Beals, PhD, RD, FACSM, CSSD, Kristine Spence, MS, RD, Ashley Hagensick, M.Ed, RD.

Abstract: Research indicates that improvements in nutrition knowledge and practices support optimal athletic performance regardless of age. Unfortunately, sports nutrition education provided by qualified practitioners is often lacking for high school-aged athletes, which results in athletes seeking nutrition advice from athletic support staff and other resources. Thus, it is important that support staff have accurate nutrition knowledge to address nutrition-related questions. The Orthopedic Specialty Hospital (TOSH) employs exercise specialists who train and rehabilitate athletes. Nutrition knowledge varies among exercise specialists and many report that their education has not adequately prepared them to offer nutrition counseling. Thus, the purpose of this focused area of study (FAS) project was to create a series of educational modules covering a variety of sport nutrition topics for TOSH's exercise specialists. To determine gaps in sports nutrition knowledge and guide educational module development, seven of TOSH's exercise specialists completed our online survey. Using the survey data along with existing research, we developed eight online nutrition educational modules with supporting handouts and recipes. Topics included hydration, supplements, sport-specific fueling, etc. We piloted a self-paced educational module on sports nutrition fundamentals. We then administered an online survey to the exercise specialists who completed the module to gain feedback on the module content and guide necessary revisions. The nutrition education modules created as part of this FAS project can serve as a tool for exercise specialists to support the health and performance of their athletes.

Performance Indicator(s): 8.3 Applies the required knowledge and skill for safe and effective sports nutrition and dietetics practice and exercise training. 9.2 Designed, selects, and implements education strategies to meet the learning needs of individuals, groups, communities, and population.

Title: A SURVEY TO ASSESS THE NEEDS AND PREFERENCES OF UTAH FOOD PANTRY CLIENTS

Authors: Paige Martinez, Heather Oldach, Sarah Puig-Holzman, Laura Holtrop Kohl, MS, RDN, CD, Madeleine French, MS, RDN, Jean Zancanella, MS, RD, Theresa Dvorak, MS, RD, CSSD.

Abstract: In Utah, 1 in 5 households are food insecure, and lack consistent access to sufficient food to support a healthy lifestyle. Food pantries help food insecure households meet nutritional needs, which has downstream effects on health and wellbeing. In collaboration with the Utah Department of Health and Human Services and the Food Choice Committee, this project developed a survey to identify the major needs, barriers, and experiences of food pantry clients. Using convenience sampling, English and Spanish surveys were administered to clients in 28 urban and rural pantries across Utah (n= 559). Ninety one percent of respondents met criteria for food insecurity, yet only 25% of clients indicated participation in a food assistance program (SNAP, 25.8%; WIC, 12.3%). Respondents indicated a desire for non-food resources that included information on food assistance programs (27%), financial aid (28.97%) and employment information (21.11%). The most desired foods included fresh fruits, vegetables, and meats, an important need considering 85.3% of respondents reported being at risk for at least one chronic disease. When asked about pantry environment, food choice (64.9%), a welcoming atmosphere (62.4%), and a comfortable place to wait and receive food (54.4%) were listed as the most important elements. Results from this survey identify action items for food pantry managers and food assistance partners in the community to better meet client needs. Future work includes gaining support from the Utah Food Bank to assist pantry managers in addressing the needs and preferences of pantry clients identified in the survey.

Performance Indicator(s): 1.7 Applies cultural competence and consideration for social determinants of health to show respect for individuals, groups, and populations. 6.2 Collects and interprets research data to advance knowledge and practice, and to enhance effectiveness of services. 12.1 Advocates for health promotion and disease prevention in communities, in populations and globally.

Title: Assessment of the Impact of the Food Pharmacy Pilot Program on Patient Health Metrics in Salt Lake County

Authors: Alexandra Rice[1], Katherine Rogomentich[1], Ellen Maxfield, MS[2], Carissa Christensen, MS, MPH, RD[3], Ann Lokuta, MPH, RDN4, Sarah Zou, MPH, RDN, CD, CDE[2], Manuela Herrera[1], Amy Locke, MD, FAAFP[2], Paul Estabrooks, PhD[5], Amy Reeder, MS, RD, CDCES[1], Kristine Jordan, PhD, MPH, RD[1,2]. 1Department of Nutrition and Integrative Physiology, University of Utah, Salt Lake City, UT, 2Osher Center for Integrative Health, University of Utah, Salt Lake City, UT, 3University of Utah Health, Salt Lake City, UT, 4Dairy West, Draper, UT, 5Department of Health and Kinesiology, Salt Lake City, UT.

Abstract: Individuals who experience food insecurity face challenges, such as limited access to food, the inability to meet nutritional needs, and a decline in health status. Having access to healthy food regularly is not attainable for all Americans, which can result in food insecurity. A potential solution to improving food insecurity and health outcomes is the emerging concept of food pharmacies, providing healthy foods and resources to improve food access, health outcomes, and quality of life. The purpose of this Focused Area of Study project is to evaluate patient health outcomes and feedback from participating in the University of Utah Health Food Pharmacy Pilot Program. The objective of the pilot program is to connect eligible U Health patients who are experiencing food insecurity, with a food prescription, nutrition education and food assistance resources, and health coaching visits. Eligibility criteria include food insecurity, according to the Hunger Vital Sign 2 Item Screener, and a documented nutrition-related diagnosis (chronic hypertension, heart failure, BMI >40 kg/m2, or diabetes with an HbA1c of > 7.0%). Upon enrollment, participants (n=82) redeemed the food prescription onsite at the Food Pharmacy trailer, selected items for the food bag, received resources in English or Spanish, completed a baseline basic needs assessment, and if interested, scheduled the health coaching visits. Further, patient feedback surveys were administered to evaluate program strengths and areas for improvements. Currently, data collection is ongoing for program evaluation, with subsequent analysis of program operations and sustainability, to better tailor the program to the community.

Performance Indicator(s): 1.7 Applies cultural competence and consideration for social determinants of health to show respect for individuals, groups, and populations.

Title: DEVELOPMENT OF A PERFORMANCE NUTRITION CURRICULUM FOR THE UNIVERSITY OF UTAH ROTC PROGRAM

Authors: Sam Lawson, Lisa Perrett, Allison Rosko.

Abstract: Individuals enrolled in the Reserve Officer Training Corps (ROTC) program are university students who engage in physical fitness and leadership training while taking military science courses in addition to traditional college courses. Although not “athletes” in the strict sense, ROTC cadets train rigorously, with similar physical and nutritional demands to those of athletes. Research suggests that nutrition knowledge is lacking in military personnel. Further, much of the nutrition information military personnel seek does not come from reputable sources, such as dietitians. The purpose of this focused area of study project was to create nutrition education content for the University of Utah ROTC cadets to bridge the nutrition knowledge gap, optimize field performance, and support overall well-being. We administered a 15-question needs assessment to the University of Utah ROTC cadets through an online platform (Google Forms), as the basis for the selection of nutrition module topics from which we received 40 responses. The topics included healthy eating on a budget, supplements, hydration, meal preparation, general nutrition, pre- and post-workout nutrition, recipes, and cooking skills. These topics formed the basis of the educational modules. The modules utilized a variety of delivery methods, including PowerPoint-style presentations, voiceovers, infographics, videos, links, activities, and handouts compiled on the educational delivery platform Canvas by Instructure. The project outcome was a comprehensive compilation of easily accessible nutrition information designed to meet the specific needs of the ROTC population, while also considering current nutrition literacy levels.

Performance Indicator(s): 2.1 Adapts communication methods and skills to meet the needs of audiences. 12.2 Conducts a needs assessment to support the development and implementation of nutrition and dietetics or health promotion programs, initiatives or interventions.

Title: Pre- and postoperative Nutrition Education Curriculum for Neuro and Orthopedic Surgery

Authors: Brittany Griffen, Jennifer Bowden, PhD, RDN, CD, Pauline Williams, PhD, RDN, CD

Abstract: Nutrition is a significant tool for improving surgical outcomes, yet malnutrition and poor nutritional status remain prevalent in hospitals, leading to poor postoperative events. Patient education is an essential means by which to improve patients' nutritional status. The purpose of this project is to create nutrition education materials for Summit Spine and Rehab to help patients be well nourished and improve post-surgical outcomes. A literature review identifying pre- and postoperative nutrition and educational elements for various disease states has been conducted to determine best practices. The project deliverables include patient handouts, menus, recipes, provider talking points, and education video scripts for various disease states and conditions commonly seen at the clinic. Formative evaluation of materials will be provided in real-time as materials are developed and updates will be made. A long-term evaluation of post-operative changes is beyond the scope of this project and will be conducted by the organization.

Performance Indicator(s): 1.1 Demonstrates and maintains competence in practice. 2.3 Collaborates with inter- and intra-professional team members to achieve common goals and to optimize delivery of services. 3.3 Advocates for nutrition and dietetics services and resources for clients and populations.

Category: Undergraduate Dietetics and Nutrition Student

Research Undergraduate

Title: Vitamin D Levels of Iron County Residents.

Authors: Ashlynn Jarvis, Macy Morgan, Karalee Wells, Nica Clark (Phd, RD)

Abstract: Residents of Iron County, Utah may be at risk for vitamin D deficiency. Iron county has long winter seasons with low sun exposure, limited access to fresh fish, and resides above the 37th parallel, the vitamin D border. Locations at or above the 37th parallel receive a low UVB index level from the sun during winter months, resulting in low vitamin D synthesis. Prolonged vitamin D deficiency may result in chronic fatigue, diabetes, depression, hypertension, obesity, fibromyalgia, and osteoporosis (Nadeem, 2010). This study evaluated vitamin D related variables. An IRB approved Qualtrics survey (Qualtrics, Provo, UT) analyzed intake of foods that are high in vitamin D. Estimations of daily sun exposure, supplement intake, and other telling signs of vitamin D deficiency were also assessed. The voluntary survey was distributed throughout Iron County physically and electronically which resulted in a convenience sample. Data analysis included frequency assessments and independent t-tests (SPSS version 29). The sample of 63 responses was 75% female with a mean age of 34.1 years and a mean BMI of 28.3 kg/m2. On average, the RDA for vitamin D was met, with 830 IU consumed daily. Participants that reported a high school or college nutrition class had higher vitamin D intake (mean 659 IU compared to 313 IU, p=0.032) than those who reported no nutrition education. Limitations to the study include non-randomized sampling, small sample size, and potential for misinterpretation of survey questions. Further research evaluating vitamin D consumption should be conducted.

Performance Indicator(s): 6.3 Disseminates research findings to support knowledge translation.

Title: Dietetic Interns vs Physician Assistant Interns: Comparison of Dietary intake, Food Security, Barriers to Healthy Eating, and Empowerment for Making Healthy Dietary Choices During Rotations.

Authors: Malan, Cloie; Wilcox, Aubree; Stirling, Maren; Keele, Natalie; Adair, Meghan; Bennett, Alexis; Campbell, Alison; Crandall, Rachel; Flygare, Hadyn; Jensen, Heather; Larkin, Alisse; Thomson, Jaidyn; Charlton, Rebecca; Givler, Maria; Hopkins, Holly; Kendrick, Nikki; Peterson, Lacie; Kraus, Katie.

Abstract: Previous research suggests that time, finances, food accessibility, and physical, mental, and social health influence dietetic interns' diets during their internship. These factors have not been previously studied among interns in other allied health professional fields. This study aimed to compare dietetic interns' and Physician Assistant (PA) interns' dietary intake, food security, as well as barriers to healthy eating and empowerment for making healthy dietary choices during an internship. These factors were assessed via a brief online survey.
Group comparisons were made using Independent T-tests and Chi Squared distributions.

79 PA interns and 87 dietetic interns completed the survey. Dietetic interns had higher vegetable intake and higher awareness of aspects of their diet they were dissatisfied with than did PA students ($p<0.05$). Low and very low food security was more prevalent among PA interns than dietetic interns ($p<0.05$). There was no difference in overall empowerment for healthy eating during the internship.

Physical and mental fatigue were the highest rated factors influencing dietary intake during the internship. However, mental fatigue was rated higher among dietetic interns than PA interns ($p<0.05$). Dietetic interns also rated the impact of additional responsibilities higher than did PA interns ($p<0.05$). PA interns reported that the following had a greater impact on dietary intake during their internship than did dietetic interns: rotation culture, peer influence, interactions with patients, and interactions with preceptors ($p<0.05$).

These findings suggest that the combination of barriers to healthy eating during their internship differs between groups.

Performance Indicator(s): 6.2 Collects and interprets research data to advance knowledge and practice, and to enhance effectiveness of services.

Title: Body Composition and Athletic Performance Changes in Adolescent Athletes in Response to Whey Protein Supplementation.

Authors: Isaac Z. Ou, Grace A. Zimmerman, Michelle Kubicki, Jason V. Thomas, Selene Y. Tobin, Victoria R. Miranda, Chris M. Depner, Micah J. Drummond, Tanya M. Halliday

Abstract: Research Outcome: To assess the effects of whey protein on body composition and performance in adolescent soccer players across the competitive soccer season.

Methods: Adolescent soccer players (n=22, 59% female, age: 15.6 +/- 0.2) underwent body composition (fat mass and fat-free mass), cardiorespiratory fitness (sprint time via 30-yard dash and VO2max via 1.5-mile run), and muscular fitness assessments (peak torque via isometric muscle contraction, and endurance via repetitions to fatigue) at pre- and post intervention. Participants were blinded and randomly assigned to consume whey protein (WP) or an isocaloric placebo (PLA) twice per day, once after practice and once before bedtime, for 10-weeks.Analysis: Descriptive statistics, paired t-tests and a group*time repeated measures analysis of variances were used to analyze all outcomes.

Results: Fat mass decreased (pre=12.3 +/- 1.4kg, post=11.4 +/- 1.2kg; p<0.001), fat-free mass increased (pre=46.435 +/- 6.38kg, post=47.18 +/0 6.70kg; p<0.001), sprint time decreased (pre=4.95+/- 0.37s, post=4.78 +/- 0.37s; p=0.003), and VO2max increased (pre=42.79 +/- 6.30mL/kg/min, post=46.07 +/- 6.87mL/kg/min; p<0.001) in both groups. However, there were no changes in both groups for muscle peak torque and endurance (p>0.05). Between groups, there were no changes in body composition, sprint time, VO2max, and muscle peak torque (p>0.05); however, PLA increased their muscular endurance compared to WP (0.6 +/- 0.4 reps vs. -1.7 +/- 1 reps; p=0.028).

Conclusions: There were no beneficial changes in body composition and athletic performance from whey protein supplementation during the 10-week intervention indicating whey protein may not have additional benefits when consumed across an athletic season.

Performance Indicator(s): 6.2 Collects and interprets research data to advance knowledge and practice, and to enhance effectiveness of services. 8.3 Applies the required knowledge and skill for safe and effective sports nutrition and dietetics practice and exercise training.

Title: Basic Needs Are Basic: Addressing College Student Poverty to Promote Success

Authors: Torres, Jose; Campos-Alejandre, Jamilieth; Robinson, Mariah; Knysheva, Marina; Rodela, Jennifer; Hubain, Bryan; Garza-Levitt, Sarah Elizabeth

Abstract: College student's basic needs are defined as the financial, food, and housing experience among both undergraduate and graduate students, and the research on college student basic needs suggests that students who struggle with basic needs insecurities have worse academic outcomes. It's not always the case, some students are doing well in the face of their basic needs insecurities, but there is clear evidence that suggests students who struggle with it are at higher risk for poor academic performance. The University of Utah, Basic Needs Collective, is an interdisciplinary team committed to fostering belonging and justice through a robust model of prevention, intervention, and relief efforts. Defined in the broader context of equity, diversity, and inclusion (EDI), marginalized and minoritized students disproportionately suffer from basic needs insecurity, and lack of access often falls along racial lines. The efforts to advance equity among college students are beginning to take shape through an actively trauma-informed and anti-racist framework in basic needs programming that provides support measures to improve student safety, security, and academic success through an EDI lens.

Performance Indicator(s): 1.7 Applies cultural competence and consideration for social determinants of health to show respect for individuals, groups, and populations. 2.3 Collaborates with inter- and intra-professional team members to achieve common goals and to optimize delivery of services. 12.3 Designs and develops community and population health programs, interventions or initiatives to meet the needs of communities and/or populations.

Project or Program Undergraduate

Title: A social media-style educational intervention aimed at increasing dietetic interns' empowerment for healthy eating during their internships

Authors: Malan, Cloie; Wilcox, Aubree; Jensen, Heather; Thomson, Jaidyn; Stirling, Maren; Adair, Meghan; Bennett, Alexis; Campbell, Alison; Crandall, Rachel; Flygare, Hadyn; Keele, Natalie; Larkin, Alisse; Charlton, Rebecca; Givler, Maria; Hopkins, Holly; Kendrick, Nikki; Peterson, Lacie; Kraus, Katie.

Abstract

Dietetic internships provide students with necessary hands-on experience prior to becoming a registered dietitian. Previous research shows a perceived strain among dietetic interns' time, finances, food accessibility, and physical, mental, and social health, impacting dietary habits. Empowerment (a person's confidence in their ability to change) is hypothesized to create positive changes in dietary choices among dietetic interns, as has been documented in research of other populations. This 3-week intervention geared toward current dietetic interns aimed to address this. Themes selected for weekly interventions were 1) empowerment, 2) dietary recommendations/goal setting, and 3) overcoming barriers of time, finances, and energy. The social media style intervention was presented via a Qualtrics survey with groupings of posts, including photos and videos, being sent weekly.

Within the intervention, participants were asked to indicate how much they "liked" posts by rating them from 1-10, and providing comments. This feedback was used to evaluate the intervention. A pre-survey was sent to participants, and at a later date a post-survey will also be sent to determine the effectiveness of the intervention in improving dietary intake, food security, barriers to healthy eating, and empowerment for making healthy dietary choices during an internship.

Currently, week 1 of the intervention has been dispersed and responses analyzed. All posts were rated as ≥6/10, though responses to each post varied greatly. Current conclusions suggest that posts resonate differently for each person. Results from remaining weeks and the post-survey will allow for additional conclusions of the effectiveness of this tool.

Performance Indicator(s): 6.2 Collects and interprets research data to advance knowledge and practice, and to enhance effectiveness of services. 9.3 Designs, selects and implements education strategies to meet the learning needs of individuals, groups, communities and populations.

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