**Enriquez (continued)**

enlarge or detract from a pattern of healthy eating. Yet, few reviews have focused on snacking specifically among U.S. adults.

**Objective:** To characterize snacks and snacking occasions of U.S. adults, to further inform healthy eating practices.

**Study Design, Settings, Participants:** The protocol was prepared following the PRISMA-Extension for Scoping Reviews. Three web databases were used to identify articles using snacking or eating occasions as primary or secondary outcomes among U.S. adults. A search strategy was developed using subject headings, truncation, and phrase-searching in the title and abstract of articles published between 2010 and 2022.

**Measurable Outcome/Analysis:** A two-stage screening process was used, during which 31 of 4795 publications were identified as meeting inclusion criteria. Data was extracted into Excel and key findings were thematically analyzed.

**Results:** Snacking tends to be an individual eating event but has not universally applied definition. Three basic themes related to snacking were identified: consumer cues and motivations, snack and meal frequency, and diet composition and weight management. The primary characteristics of snacking emerged as: quality (healthy vs. unhealthy), timing (throughout the day, outside typical meal times), and convenience (grab-and-go). The influence of snack timing on food selection and quality was highlighted.

**Conclusion:** Among adults, snacking influences consumption of energy and critical nutrients. Snacking can be driven by internal or external cues but ultimately, reflects individual decisions that could be influenced through nutrition education. A standard definition of a snack could strengthen snack-based information and could further progress development of policies and nutrition programming, ultimately contributing to diet quality, health, and wellbeing.

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**Social, Economic, and Cultural Influences on Young Women’s Food Choices: A Scoping Review**

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**Background:** Understanding influences on food habits is crucial to developing effective strategies to improve dietary quality. Past research shows predictors of food habits may be dependent on individuals’ age and sex; that is, different social groups may experience different influences on their eating patterns. Young women in particular are a population of concern, as they are the group with the greatest disparities between actual and recommended diet quality.

**Objective:** The purpose of this analysis is to better understand what factors may underlie young women’s eating patterns.

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**Study Design, Settings, Participants:** We conducted a systematic search of PubMed to identify studies on the social, economic, and cultural influences on food choices of females 13-24 years in the United States. To be included, articles had to be published in a peer-reviewed journal between 2017 and 2022, focus on adolescents or emerging adults, available in English, focus on female participants or disaggregate findings by sex, and include formal analysis of factors (social, cultural, economic, environmental, demographic) related to food, eating, and/or diet.

**Measurable Outcome/Analysis:** A content analysis of articles’ findings was performed separately by two independent reviewers. The two reviewers then jointly identified overarching themes in the literature.

**Results:** We find that although many predictors of food habits for young women mirror predictors found throughout the entire adult population, there are several predictors with unique patterns for young women, including social pressure, parental influence, body dissatisfaction, and “social jetlag” (that is, different sleep patterns on weekends and weekdays). Moreover, our analysis indicates how little research has been conducted on diet quality influences among young women, specifically, as <10% out of n=2944 articles contained findings that met inclusion criteria.

**Conclusion:** This analysis indicates additional research is needed to ascertain predictors of adolescent and young adult women’s food patterns and dietary choices.

**Funding:** USDA

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**The Environmental Footprint Associated With the Mediterranean Diet (MED) and Its Implication on Dietary Intervention Programs**

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**Background:** Providing a growing global population with healthy and sustainable diets constitutes an immediate challenge.

**Objective:** To determine the environmental footprint of adherence to the MED in Israel and/or replacing foods with a high environmental burden using a remove-reduce-replace strategy.

**Study Design, Settings, Participants:** We recruited participants via social media, email, and phone. Demographic characteristics were obtained. The participants (n=525) were 49% women, 82% had academic education, 96% were physically active, and 13% were smokers.

**Measurable Outcome/Analysis:** A dietary assessment was performed using the 116-item Food Frequency Questionnaire (FFQ). Adherence to the MED was calculated using a 9-point score. The environmental pressure of the MED was determined based on the footprint family indicators, including land, water, and carbon footprint per unit of agricultural and food products. We assigned values for each type of food comprising the FFQ and calculated the environmental load for the MED and changes associated with adherence.

**Funding:** None

Continued on page 14
Shahar (continued)

with replacing foods with a high environmental burden. Statistical analyses using the R package included ANOVA and Pearson’s Chi-squared test for comparing dietary intake and environmental footprint values by tertiles of MED adherence.

**Results:** The highest tertile of adherence to the MED [average score=5.4 ±0.07, range 5-7] was associated with the lowest greenhouse gas emissions (GHGe) and land use, and higher water use. Meat consumption was associated with the greatest contribution [27%] to land use, dairy contributed the most [25%] to GHGe, and fruits and vegetables contributed the most to water use [30%]. Higher adherence to the MED was associated with 30% lower GHGe. Changes in the diet indicate GHGe reductions [-50—98%] following replacement of high environmental burden food items (eg, replacing beef with chickpeas).

**Conclusion:** Animal protein constitutes the largest component of land use and GHGe, while fruits and vegetables are associated with the largest amount of water use. High adherence to MED was related to a reduction of land use and GHGe. Replacing animal protein with plant-based protein may constitute a flexible strategy in reducing GHGe and land use.

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**Virtual Vegan Culinary Medicine Randomized Crossover Trial Improves Diet Quality in Patients at Risk for Heart Disease**

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**Background:** Dietary risk factors contribute to over half of all deaths resulting from cardiovascular disease (CVD), the leading cause of mortality and morbidity worldwide. Relationships between diet intake and CVD can be assessed by diet quality indices (DQIs). While higher diet quality is typically observed in vegetarian diets compared to standard omnivorous patterns, improving diet quality among communities remains challenging. We hypothesized a plant-based culinary medicine (CM) intervention may enhance adoption of a healthful dietary pattern.

**Objective:** To determine changes in diet quality in clinical patients after participating in a vegan CM intervention.

**Study Design, Settings, Participants:** In a randomized crossover clinical trial, adults at risk for CVD recruited from medical clinics were assigned to follow two vegan diet patterns either high (4 tablespoons/day) or low (<1 teaspoon/day) in extra virgin olive oil (EVOO) for 4 weeks each, separated by a 1-week washout period. Participants were asked to complete 5-7 consecutive days of dietary recalls assessed by the Automated Self-Administered 24-hour Dietary Assessment Tool (ASA24®) at baseline and during each diet period. Weekly virtual CM group cooking classes coincided with both diet phases.

**Measurable Outcome/Analysis:** Diet recalls were analyzed to confirm diet compliance and calculate Whole Plant Food Density (WPFD) DQI and subcomponents. Paired t-tests compared differences from baseline and between diets.

**Results:** Of 40 participants (75% female, BMI 32 ±7 kg/m2, 64±8 years mean±sd), WPFD increased from 2.93±1.48 cup/oz-equivalents per 1000 kcal pre-intervention to 4.96±1.37 and 6.41±2.05 cup/oz-equivalents per 1000 kcal during the high and low EVOO phases, respectively (p<0.0001). All subcomponents (whole grains, legumes, whole fruit, vegetables, and nuts/seeds) significantly increased compared to baseline (p<0.001).

**Conclusion:** Participation in a virtual vegan CM intervention increased diet quality through greater intake of whole plant foods. Enhanced diet quality may reduce CVD risk factors (reported elsewhere), which correlate to measures of WPFD. Beneficial findings warrant further research on the use of WPFD as a DQI and CM for supporting nutritional adherence in diverse populations.

**Funding:** University of Florida Food Science and Human Nutrition Department; Purjes Foundation; Dr. Monica Aggarwal Preventive Foundation

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**What's Your Weekly Special? Impact of the COVID-19 Pandemic on Grocery Store Promotions**

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**Background:** Grocery store sales circulars are used to advertise products and promote seasonal sales. Further, food marketing has been shown to influence eating behavior. Time of year and current events influence which items stores include in their sales circulars, particularly on the front page. Dietary habits were impacted by the COVID-19 pandemic and shutdown. What is unclear is how the COVID-19 pandemic affected item promotion at the grocery store.

**Objective:** The goal of this study was to identify changes in food promotions seen during the COVID-19 pandemic by analyzing sales circulars from a prominent midwestern grocery store chain.

**Study, Design, Participants:** Two researchers analyzed the front page of sales circulars over a two-year period, including one year prior to the start of the COVID-19 pandemic through the first year of the pandemic to assess potential changes in food being promoted. All items on page one of each circular were coded. Throughout the coding process, the researchers met regularly to clarify and find consensus on codes.

**Measurable Outcomes/Analysis:** Items were classified in several ways including timing in relation to the COVID-19 shut-down, MyPlate group, and consumption category (eg, entrée, beverage). Simple descriptive statistics and the chi-square statistical test were used to analyze the data.

Continued on page 15