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-.17, $P < 0.05$. Nineteen percent of RDNs were unaware of programs that address helping mothers access nutrition assistance. The 81% who were aware could name an average of 3 ± 1.7 programs.

Conclusion: Most RDNs perceive helping mothers gain sustainable access to healthy foods as important and within their scope of practice. Even though there are currently 8 federal nutrition assistance programs and several state and local programs, RDNs were only able to identify a few. To be ready to help mothers experiencing food insecurity, RDNs should gain more awareness of nutrition assistance programs through continuing education efforts

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Food Science

P50 Exploring the Experiences of Registered Dietitian Nutritionists (RDNs) who Educate Through Cooking and Food Preparation

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Background: Registered Dietitian Nutritionists (RDNs) often provide guidance on preparing healthy meals. Although food science and culinary skills are addressed in coursework to become a RDN, those involved in nutrition education do not universally incorporate hands-on cooking in their practice. Cooking skills, knowledge and confidence have declined among the public, while rates of obesity and chronic disease are on the rise. RDNs can play a central role in teaching essential cooking skills and food-related knowledge. This calls for exploration on the perspectives and characteristics of RDNs drawn to culinary education. Few studies have investigated the personal experiences and viewpoints of RDNs involved in teaching the public how to cook.

Objective: To explore the perspectives of RDNs who teach cooking and food preparation, to better understand their experiences learning to cook and teaching others. Cooking-related knowledge/skills perceived as lacking among the public and necessary to perform their role are compared with competencies outlined by the Academy of Nutrition and Dietetics' Food and Culinary Professionals (FCP) Dietetic Practice Group.

Study Design, Setting and Participants: The research design is cross-sectional and qualitative. Face-to-face semi-structured interviews are conducted remotely via Microsoft Teams. A convenience sample is recruited from community settings, including private practice, worksite wellness, supermarkets, Expanded Food and Nutrition Education Program, and SNAP-Ed.

Analysis: Interviews are recorded, transcripts are coded, and recurring themes are summarized.

Results: Analysis of pilot data ($n = 14$) on experiences learning to cook indicate cooking at home with parents while growing up, food science coursework, and personal interest in cooking. Emerging themes mirrored several FCP competencies, including communication skills, knife skills, ingredient substitution, time management, meal planning and food safety.

Conclusion: This pilot study examines the perspectives of RDNs who teach hands-on cooking, thereby providing insights on the competencies needed to teach others and best serve the public. Our findings merit research with a larger sample to further compare with FCP competencies, and potentially inform dietetics education programs preparing students for careers as RDNs.

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Nutrition Across the Life Cycle

P51 A Comparison of Breastfeeding Cessation Between Preterm and Term Infants During the First Year of Life

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Background: Breastfeeding positively influences maternal and infant health. Considerable research with preterm infants is available, however, differences between preterm and term infants' breastfeeding duration and factors influencing cessation has not been fully evaluated. This information is needed for developing focused interventions.

Objective: To compare factors affecting breastfeeding duration/cessation in preterm and term infants, including infant (latching, eating, food intolerance, weight gain), maternal (medications, weight loss concerns, stress/fatigue), and environmental (convenience, time, returning to work, family support) factors.

Study Design, Setting, Participants: A cross-sectional survey using SurveyMonkey distributed through social media and online breastfeeding support groups included mothers ≥ 18 years old, with a child 12-24 months old, US born, who received breastmilk at any point during the first year of life.

Measurable Outcome/Analysis: Breastfeeding rates at 0 through 12 months, reasons for cessation, breastfeeding education and demographics are reported. Chi-square was used for comparisons.

Results: The majority of respondents ($n = 531$) were non-Hispanic White (78.7%), college-educated (61.6%), and from southern states (63.3%). Fifty had preterm (< 37 weeks) and 481 term (> 37 weeks) infants. No significant difference

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was found for exclusive breastfeeding between preterm and term infants at any point, 0-5 months; a significant difference at 6 months (40.0% vs 22.7%), χ^2 (1, $n = 531$) = 7.4, $P < 0.01$) was found. No differences in providing any breast-milk at any point were found. A significant difference in maternal medications, χ^2 (1, $n = 531$) = 6.1, $P = 0.04$ and multiple births, χ^2 (1, $n = 531$) = 11.5, $P = 0.03$ influencing cessation was found for both groups. Preterm infants more often participated in WIC; receiving breastfeeding education before giving birth resulted in higher breastfeeding rates at 6 and 12 months.

Conclusion: Differences exist in exclusive breastfeeding rates between preterm and term infants at 6 months. Maternal medications and multiple births may influence early breastfeeding cessation. Participation in WIC may positively influence breastfeeding duration. Research is needed to confirm findings in a more diverse sample.

Funding: None.

P52 Analysis of Energy Intake at Breakfast and Physical Activity in College Students Yields the Ideal Breakfast Size

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Background: Skipping breakfast in young adults is a growing nutritional problem in Japan that results in lower energy expenditure in the morning.

Objective: We examined the relationship between energy intake at breakfast and physical activity to determine the ideal breakfast size (in kcal).

Study Design, Settings, Participants: A cross-sectional study of twenty healthy undergraduate student volunteers (5 males and 15 females) recruited from Shukutoku University, Japan.

Measurable Outcome/Analysis: We assessed dietary intake over the course of 7 consecutive days using the dietary recall method. We calculated energy/nutrition intake using standard tables of food composition in Japan. After excluding days of self-reported unusual dietary consumption, the remaining 133 days were analyzed. Intensity of physical activity and step counts were measured with a Polar V800 accelerometer. When recorded activity was 2.0 METs (standing intensity) or higher, it was regarded as "active time." A breakfast-skipping day was defined as no-energy intake before 10:00 am. Data were analyzed with unpaired *t* tests and regression analyses.

Results: Active time and step count were significantly lower on days when breakfast was skipped ($n = 38/133$) than when

it was not (active time: 187.6 vs 267.1 min/day, $P < 0.005$; step count: 6,283 vs 9,458 steps/day, $P < 0.005$). Linear regression showed a significant positive correlation between energy intake at breakfast and active time. An inverted U-shaped quadratic curve was a better fit than a straight line. The resulting regression formula indicated that an energy intake of 526 kcal would yield the longest active time.

Conclusion: Our study suggests that too little breakfast, as well as too much breakfast, can lead college students to be less physically active. Knowing the ideal morning energy intake and the effects of skipping breakfast can help design more effective nutrition education and maybe reduce breakfast-skipping habits in young adults.

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P53 Contribution of Plant-Based and Animal-Based Sources to Protein Foods Intakes Among US Adults by Sex and Age

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Background: Recent focus of dietary recommendations has greater emphasis of reliance on plant-based proteins. Before applying broad recommendations, it is important to assess current consumption patterns of plant-based and animal-based protein sources among the US population.

Objective: To identify the proportion of US adults who consumed protein types, and their contributions to overall protein source intakes among US adults by sex and age.

Study Design, Setting, Participants: This cross-sectional study examined 24-hour dietary recall data for 35,309 participants from 2005-2018 NHANES. Participants were stratified by sex and age category (20-35, 36-50, 51-70, 71+ years).

Measurable Outcome/Analysis: Dietary data from the day of intake were used to estimate intakes from protein sources using the Food Patterns Equivalents Database (FPED). Mean intakes of ounce equivalents were generated for FPED protein food categories, aggregated to identify the proportions of protein food sources. Data were weighted to produce nationally representative means and 95% confidence intervals.

Results: On the day of intake, 93% of all participants consumed meat, poultry, or seafood. More adults in the older age groups consumed eggs, nuts/seeds, and seafood high in n-3 fatty acids; whereas, fewer adults in the older age groups consumed meat, poultry, legumes, and soy. On the day of intake, males consumed greater quantities of all protein food categories than all strata. At least 70% of the day's protein food intakes were consumed from meat, poultry, or seafood for all groups. While the proportion of eggs were consistent across all groups, meat, poultry, and seafood ratios decreased across age categories whereas plant protein ratios increased.

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