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Leslie Spencer
Rowan University

Kristen August
Rutgers University - Camden

Dara LoBuono
Rowan University

Joan Perks
Stockton University

Megan Mason
Rutgers University - Camden

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Snack, Chat and Chill

A virtual nutrition, socialization and stress reduction intervention for adults with disabilities

Leslie Spencer, PhD, NBC-HWC, Kristen August, PhD, Dara LoBuono, PhD, RD, Joan Perks, PhD, APN-C CNE CEN CRNI, Megan Mason, MS

Objective: Create and evaluate a virtual intervention to improve dietary habits, social interaction, and stress management among persons with disabilities (PwD). Assess validity and reliability of survey instruments to measure intervention constructs.

Design: Pre- and post-intervention surveys; post-intervention focus groups.

Setting: Virtual sessions from home kitchens.

Participants: Adults ages 18 and older with intellectual and developmental disabilities (n=27) and their caregivers (n=15).

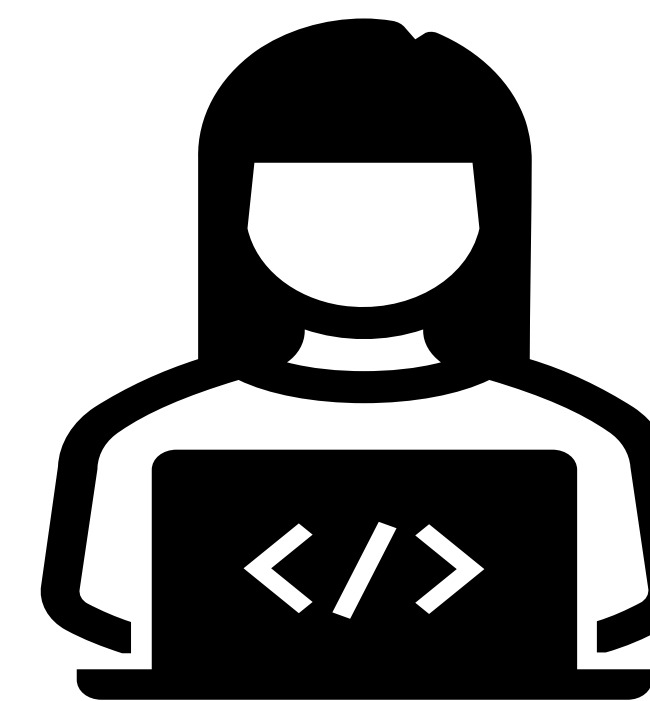
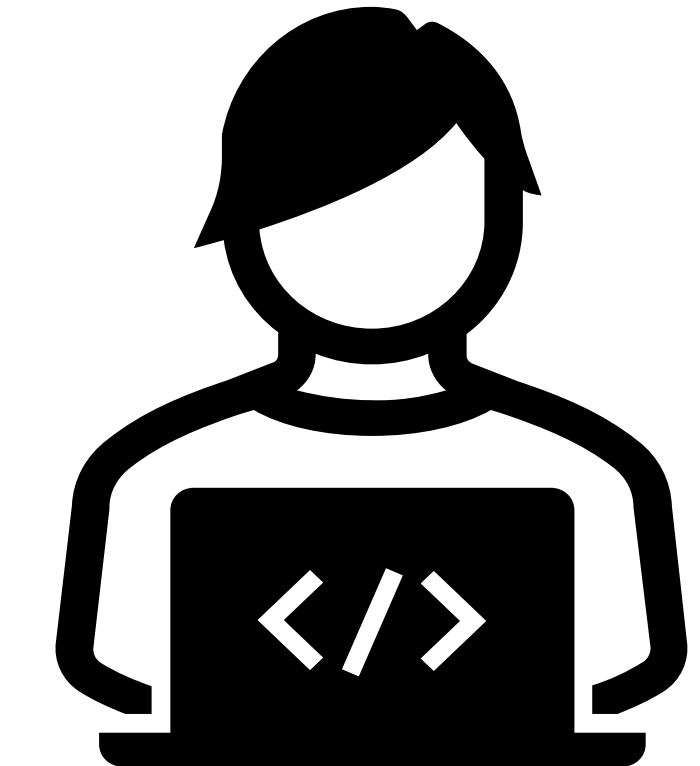
Intervention: Eight 75-minute sessions included preparing and eating a healthy snack, a nutrition game and discussion, and a guided relaxation activity.

Main Outcome Measures: PwD's knowledge, attitudes and behaviors; and caregivers' perceptions of PwD's attitudinal and behavioral measures were assessed.

Analysis: T-tests, correlational analysis and McNemar's tests were used with quantitative data. Thematic analysis was used with focus group data.

Results: Reliability and content validity were acceptable for perceived stress, loneliness and sleep quality assessments, but not for dietary factor assessments. Caregivers were reliable proxies for assessing PwD. Post-session knowledge was demonstrated most frequently for Mindful Eating and least frequently for Portion Sizes. No significant changes in dietary habits were measured post-intervention.

Conclusions and Implications: The online intervention was well-received and feasible. Valid and reliable survey instruments for dietary factors are needed for the disability population.



Topics, Recipes and Relaxation Activities by Session

My Plate	Tuna or Chicken Salad	Fill the virtual plate with healthy choices from each food group	Five Senses (sensory awareness)
Food Labels	Peanut Butter Energy Bites	Find information on a food label	Five Senses
Portion Size	Charcuterie Boards	Match foods portions sizes to common items	Body Scan (progressive relaxation)
Mindful Eating	Pizza Bites	Fact or Fiction: Identify nutrition statements as true or false	Body Scan
Macro-nutrients	Egg Mugs	Trivia-style game: Answer nutrition questions	Positive Self-Affirmation
Eat the Rainbow	Yogurt Parfait	Rainbow quiz: Match fruit and vegetables by color group with their health benefits	Positive Self-Affirmation
Healthy Beverages	Fruit and Veggie Smoothies	Match the beverage with its sugar content in teaspoons	My Relaxing Place (mental imagery)
Healthy Snacking	Chocolate Hummus	Snack vs Treat: Identify healthy snacks vs treats to eat in limited amounts	My Relaxing Place

Participant Survey Items	Caregiver Survey Items
Nutrition Knowledge, Attitudes and Behaviors Scale items Daily consumption of Fruit, Vegetables, Fast food, Water, Sweetened beverages Type of milk consumed (percentage fat, milk alternatives) Confidence in changing eating habits Knowledge of nutritional quality of foods	Nutrition Knowledge, Attitudes and Behaviors Scale items <i>Caregiver responded to the same questions for both themselves and to describe the PwD. Additionally, they responded to the following:</i> Adapted Cooking Matters Adult Survey Healthy food choices (6 items, $\alpha = .28$) Cooking confidence (6 items, $\alpha = .58$) Barriers to cooking (3 items, $\alpha = .32$) Meal planning (10 items, $\alpha = .34$)
Adapted Items from the Pittsburgh Sleep Quality Scale (2 items) Hours of sleep Perceptions of overall sleep quality	Adapted Items from the Pittsburgh Sleep Quality (2 items) <i>Caregiver responded to the same questions to describe the PwD</i>
UCLA Loneliness Scale (3 items, $\alpha = .89$) Lack of friends Lack of social activities Feel alone while with others	UCLA Loneliness Scale items (3 items, $\alpha = .66$) <i>Caregiver responded to the same questions to describe the PwD</i>
Kessler Psychological Distress Scale (10 items, $\alpha = .88$) Fatigue Nervousness (2 items) Hopelessness Restlessness (2 items) Depression (3 items) Worthlessness	Kessler Psychological Distress Scale items (10 items, $\alpha = .74$) <i>Caregiver responded to the same questions to describe the PwD</i>
Adapted Items from the Perceived Stress and Coping Scale (2 items) Perceived stress Coping confidence	Adapted Items from the Perceived Stress and Coping Scale (2 items) <i>Caregiver responded to the same questions to describe the PwD</i>

Key Take-Aways from this Study

Measuring changes in dietary knowledge, habits, and attitudes among PwD is crucial for developing effective interventions to address the documented needs of this population. There is a lack of valid and reliable measurement tools for this purpose. Assessing PwD poses unique challenges due to cognitive and/or intellectual disabilities, necessitating one-on-one support for survey access, comprehension, and response selection.

Obtaining a statistically significant sample size often requires substantial caregiver support, constrained by geographical, temporal, and logistical challenges. Survey fatigue is more pronounced among PwD. We recommend the use of multiple brief surveys, each addressing a subgroup of questions.

Established surveys assessing sleep quality, loneliness, and perceived stressors demonstrated content validity and/or reliability with PwD. Caregivers proved to be reliable proxies for assessing various factors, including dietary variables for PwD.

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