Behavioral Barriers to the Use of a Smartphone App for Improving Diet Quality: Findings From a Qualitative Needs Assessment

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Background: People trying to improve their diet quality and lose weight must navigate a complex, confusing food environment. While smartphone applications to support healthy eating and weight loss exist, they only track calories and macronutrients and don’t accurately identify healthy foods.

Objective: We sought to learn about barriers people face when trying to lose weight and improve their eating habits to inform development of a novel digital nutrition tracking and behavior change tool.

Study Design, Setting, Participants: This qualitative needs assessment consisted of thirty 45-minute, semi-structured virtual interviews with subjects aged 35-54 who had used a food tracking app or tried a diet trend in the past year. Participants were representative of the US population. Questions covered nutrition knowledge and information sources, and needs, preferences, and experiences surrounding weight loss and mobile applications. Participants’ compensation was $50.

Measurable Outcome/Analysis: Each interview included a leader, note taker, and observer from the research team. Notes were taken transcription style and manually coded using thematic analysis coding.

Results: While most interviewees correctly identified the components of a healthy diet, they shared barriers to consistently eating in a healthful way that resulted in lasting weight loss. Many adopted rigid rules and restrictions around what they could eat, which led to frustration and attrition. While many had used food tracking apps in the past, and found them informative, interviewees expressed that they were too cumbersome to use long-term and lacked actionable guidance. Interviewees want a credible tracking tool that is simple, personalized, and employs a balanced approach to healthy eating.

Conclusion: People trying to eat healthier and lose weight are frustrated by current approaches that dominate the marketplace. Interviewees want a food tracking app that provides actionable, evidence-based guidance to help overcome barriers to improving diet quality without requiring excessive effort. This could promote healthier eating and help consumers navigate a complex, confusing food environment.

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Comparison of Two Nutrition Curricula in Promoting Nutrition Behavior Change in Teens Participating in UGA EFNEP

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Background: The Expanded Food and Nutrition Education Program (EFNEP) delivers nutrition and health education to youth in low-income communities. In 2018, the University of Georgia (UGA EFNEP) began programming with high school-aged youth using an 8-week adult evidence-based nutrition education curriculum adapted for teens: Food Talk Teen (FTT). Teen Cuisine (TC), a 6-week adolescent evidence-based nutrition education curriculum developed by Virginia Cooperative Extension, was adapted and launched for use with UGA EFNEP youth in March 2022. While previous research (2019, unpublished) indicates effectiveness of FTT in promoting adolescent nutrition behavior change, there are no data comparing these outcomes from TC with FTT.

Objective: The objective of this study was to compare health and nutrition behavior changes, including overall improvements in diet quality, of UGA EFNEP youth (9th-12th grades) participating in FTT and TC.

Study Design, Settings, Participants: Peer nutrition educators delivered FTT and TC in Georgia high schools, in urban and rural communities. Youth completed the EFNEP Youth 9th-12th Nutrition Education Survey at the first and last sessions of the programs (pre-post). This data was collected October 2021-September 2022.

Measurable Outcome/Analysis: The EFNEP Youth 9th-12th Nutrition Education Survey includes six questions on diet quality-related behaviors. Paired t-tests and independent t-tests were used to explore differences in behavior changes over time and between FTT and TC participants, respectively.

Results: Pre-post data were collected for youth participating in UGA EFNEP (n= 1421 60% female, youth in 9th (36%), 10th (27%), 11th (17%), and 12th (20%) grades), of which 890 (63%) participated in FTT and 531 (37%) in TC. There were significant improvements in overall diet quality behaviors such as increased consumption of fruits, vegetables and decreased consumption of sugar sweetened beverages within both groups (p <0.001 FTT, p <0.001 TC). Mean changes in eating whole grains significantly differed between FTT (-0.01±1.18) and TC (0.15±1.24) (p=0.013).

Conclusion: FTT and TC are both effective nutrition education curricula for promoting improvements in overall diet quality for teenage youth.

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Development of an Objective Food Literacy Assessment Tool for Young Adults

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Background: Young adulthood is a time for development of food skills, and most young adults are not meeting dietary recommendations. The emerging field of food literacy builds upon the concepts of nutrition and health literacy. Currently there is a need for a tool that objectively measures food literacy.

Objective: To develop a valid tool that can be used to quantify food literacy in young adults.

Study Design, Settings, Participants: Nine experts with experience developing food skills in adolescents or young adults completed semi-structured interviews about the important knowledge and skills young adults need to achieve food literacy according to the 4 domains defined by Vidgen (Plan & Manage, Select, Prepare, and Eat). Expert insight and published literature were used to develop a 62-item draft of the tool (50 multiple choice objective and 12 scaled subjective questions). Pilot testing of the draft tool was completed with 21 young adults (ages 18-27), including 3 culinary student controls.

Measurable Outcome/Analysis: Experts reviewed the draft tool and provided feedback for each question including clarity, relevance, and if the question should remain or be deleted. Relevance rankings were used to calculate Scale Content Validity Index (S-CVI). The percentage of non-culinary and culinary students who answered correctly was compared for each question. Expert ratings and comments as well as percentages of item difficulty of culinary and non-culinary student answers were used to inform revisions.

Results: Culinary students scored an average of 98% and non-culinary students scored an average of 84% on the objective questions. Fifteen questions were revised, 13 questions were deleted, and 1 question was added creating a 50-item version of the tool. SCV-I of remaining questions was 0.96.

Conclusion: A content valid food literacy assessment tool for young adults was produced that can proceed to construct validation and reliability testing.

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