Biotechnology Information. In the original study, subcutaneous adipose tissue biopsies were collected from 11 volunteers 2 hours and 26 hours after consumption of a standardized meal. The timing of sampling adipose tissue was done to roughly correspond with the near depletion of liver glycogen.

Measurable Outcome/Analysis: Differentially expressed genes and pathway analysis were performed to identify the key genes and significant pathways using libraries and packages such as Multitest, among others, in the R statistical framework. Pairwise gene expression analyses were performed in our study by comparing the pre (Fed state) and the post (Fasting state) of the subjects by employing methods that differed from the previous study. A comparison of the results from both studies was undertaken for better validation of the results.

Results: Many genes were differentially regulated, exhibiting upregulation and downregulation, including genes involved in insulin signaling and fatty acid metabolism (DEPP1, PDK4, SLC27A2, IRS2 and PFKFB3), Lipid metabolism (ANGPTL8, SREBF1, FADS1) and Tri-glyceride synthesis (DGAT2).

Conclusion: Our results support the findings that fasting downregulated numerous metabolic pathways such as triglyceride and fatty acid synthesis, glycolysis and glycogen synthesis, and insulin signaling and play an important role in metabolic adaptation with beneficial effects on human health.

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SNEB Nutrition Educator Competencies:
Nutrition Across the Life Cycle

Acceptability and Feasibility of Using Videochat During Meals (VideoDining) in Community-Dwelling Older Adults Eating Alone

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Background: Eating alone, social isolation, and loneliness are independent risk factors for lower caloric intake, less variety in the diet, and malnutrition. Virtually dining with another person is a potential method to improve nutritional intake.

Objective: To determine the feasibility and acceptability of using videochat during mealtimes (VideoDining) in older adults eating meals alone.

Study Design, Settings, Participants: Single-arm mixed-methods intervention trial of VideoDining once to twice weekly for six sessions. Participants were at least 60 years old, living at home, and eating alone. Each participant received an Amazon EchoShow device, was trained, and paired with one or more dining partners. We collected survey data at baseline and after each VideoDine session and conducted individual semi-structured interviews after the final session.

Measurable Outcome/Analysis: Overall experience, enjoyment, comfort, and nervousness were self-rated after each session on a scale of 1-10, with higher scores more favorable, except for nervousness (low score favorable). We compared first to last session data using paired t-tests. Interviews were transcribed and then coded using thematic analysis.

Results: Thirty-three participants enrolled, six dropped out during baseline data collection, and 27 completed all six VideoDine sessions. Participants (n=27) were a mean age of 71.9 years, 77.8% female, and 81.5% White. VideoDining was easy/very easy 95% of the time, and 74.3% of sessions occurred without technical issues. The overall experience, enjoyment, and comfort level were rated highly and increased over the sessions (8.6 to 9.3, p=0.04; 8.8 to 9.6, p=0.07; 9.1 to 9.6, p=0.007), while nervousness decreased (2.4 to 1.3, p=0.04). Participants liked learning videochat, the human connection, and positive anticipation of VideoDining. However, some felt VideoDining was not for them because they were not “shut-in” or preferred to eat in-person. Videodiners identified dining partner mismatch and a scheduled mealtime as the main challenges.

Conclusion: VideoDining for one to two meals a week was feasible and acceptable for older adults. VideoDining has promise as a novel intervention for improving dietary intake in adults eating alone.

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