

Impact of the COVID-19 Pandemic on Dietary Counseling Session Attendance and Self-Monitoring Adherence During a Behavioral Weight Loss Intervention

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Objectives: To assess the impact of the COVID-19 pandemic on participants' intervention counseling session attendance and dietary self-monitoring adherence during the Personal Diet Study, a remote behavioral weight loss intervention for individuals with overweight and obesity with pre-diabetes and moderately controlled type 2 diabetes.

Methods: Participants (n = 200) were instructed to complete four in-person measurement visits, enter their meals daily in a smartphone application, and attend 14 virtual group nutrition counseling sessions over a 6-month intervention period. Due to COVID-19, the assessments were modified to be conducted remotely. We stratified participants into 3 categories: a) all study measures and intervention occurred before the start of the COVID-19 pandemic (BEFORE, n = 106) b) a portion of the intervention or follow-up measures occurred after the start of the pandemic (MIXED, n = 54), and 3) all study measures and intervention

took place after the start of the pandemic (AFTER, n = 40). Attendance was defined as percentage of counseling intervention sessions attended. Dietary self-monitoring adherence was measured as percentage of days participants entered at least 50% of their daily caloric goal in a smart phone application. Between-group differences were assessed using linear regression models.

Results: Mean [SD] counseling session attendance for the MIXED (72.6%, [28.9%]) and AFTER (73.8% [28.1%]) groups did not differ from the BEFORE group (64.5% [31.8%]), p = 0.26 and 0.22 respectively. Adherence to dietary self-monitoring was lower for the MIXED group (25.5% [30.55]) compared to BEFORE group (36.0% [34.8%], p = 0.03), but did not differ between the AFTER (44.5% [35.8%]) and BEFORE groups (p = 0.288).

Conclusions: Intervention counseling attendance did not change substantially due to the COVID-19 pandemic. The MIXED group had lower self-monitoring adherence rates than the BEFORE group, which may be due to disruptions in daily life and habits that occurred in the early months of the COVID-19 pandemic. Virtual weight loss counseling methods are a practical way of circumventing program disruptions without compromising protocol adherence.

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