Development of An Exergame for Caregivers of Individuals With Alzheimer's Disease or Related Dementias

NCT03124550

Study Protocol and Statistical Analysis Plan

Upload Date: 09/07/2020

Document Date: 09/20/2019

Study Protocol and Statistical Analysis Plan

We conducted a 6-week mixed-methods study to evaluate caregivers' user experiences with Go&Grow and its impact on their well-being. Prior to recruitment, this study was approved by our institutional review board.

Procedure & Data Collection

Session 1

In the first meeting, participants completed the consent form, demographic survey, and a pretest survey. Participants then received the Fitbit Alta HR, a Fitbit training, and a paper guide on how to use the Fitbit. Participants were asked to wear the Fitbit for the following week to assess their baseline physical activity level.

Session 2 & Deployment Period

After one week of using the Fitbit, participants were trained on how to use Go&Grow. Caregivers were then asked to wear the Fitbit and use Go&Grow at least once every other day for 6 weeks. Automated system logs collected data regarding participants' use of Go&Grow, such as when users logged into Go&Grow, when a story was posted, viewed, liked, or replied. Participants were compensated with a $5 Amazon gift card for completing the weekly survey each week.

Session 3

After six weeks of using Go&Grow, we conducted semi-structured interviews using the Data-Driven Retrospective Interviewing method. Before the Session 3 interview, we reviewed each caregiver's log data (e.g., number of days logging onto Go&Grow, and number of stories posted) to begin assessing their Go&Grow engagement; we probed identified data patterns in the interview to examine how and why participants used Go&Grow, game enjoyment, physical activity, motivation, and social connectedness. Finally, participants completed a posttest survey that was the same as the pretest given at baseline.

Analysis

Paired T-tests were conducted to examine whether caregivers' exercise self-efficacy and their management of distress scores changed significantly at posttest compared to the pretest.

Within-person (WP) relationships between time (week), steps, and social contact were tested. Multilevel modeling with the LMER package in R was used to determine whether participants increased in weekly average steps and weekly social contact over the 6-week intervention. We used the following model:

Level 1: Outcome ij = ß0j + ß 1(week) ij + e ij
Level 2: ß0j = γ00 + u0j

Weekly steps at level 1 were expressed as a wp intercept, week & wp error term. For level 2, wp intercept was expressed as a function of fixed intercept.