

Can We Reduce Prolonged Sitting? Feasibility of a Tactile Vibration Prompt To Initiate Movement

Julian, JE., Trignano, S., Duer-Hefele J., Sundquist, K., Schwartz, JE., Davidson, KW., Shimbo, .D, Diaz, KM. Columbia University Medical Center, New York, NY, Stony Brook University, Stony Brook, NY.

Prolonged sitting behaviors are associated with an increased risk for cardiovascular disease, regardless of overall physical activity level. As such, there is a need for novel strategies to reduce prolonged sitting behavior. New activity monitoring devices are now capable of accurately monitoring sitting and can provide a tactile vibration prompt (TVP) to encourage users to stand/walk during bouts of prolonged sitting. In order to better inform future interventions there is a need to understand how individuals adhere to a TVP program. **PURPOSE:** The purpose of this study was to measure adherence rates to a TVP-based intervention in an exceedingly sedentary population. **METHODS:** Fourteen healthy adults who screened via online survey for self-reported sitting behaviors ≥ 7 hrs/day typically in bouts ≥ 30 min were eligible. Participants wore a thigh-based accelerometer with a TVP feature for seven days. The TVP vibrated when 30 min of consecutive sitting occurred. Following the TVP, participants were instructed to walk or stand for ≥ 1 min. **RESULTS:** Of the fourteen participants who enrolled in the study, two (14.2%) dropped out due to intolerability of the TVP intervention. Among the twelve participants who completed the study, the average number of TVPs per day was 5.6 (SE=0.6). Overall, adherence rates to the TVP intervention were moderate (M = 42.6%, SE = 7.4%, range=7.3-85.4%). The mean adherence in the morning, afternoon, and evening were 46.0% (SE=8.6%), 40.3% (SE=8.1%), and 49.7% (SE=8.2%), respectively. The mean adherence at work, outside of work, on weekdays, and on the weekend was 40.8% (SE=9.2%), 42.9% (SE=7.5%), 43.3% (SE=8.2%), and 43.9% (SE=9.2%), respectively. No significant difference was found for adherence rates by time of day (morning vs. afternoon: $p=0.44$, morning vs. evening: $p=0.63$, afternoon vs. evening: $p=0.19$), type of day (weekend vs. weekday: $p=0.95$), or work vs. non-work ($p=0.74$). **CONCLUSION:** Our findings indicate that participants showed only moderate adherence to a TVP regardless of context (work/non-work, time of day, weekend/weekday). These findings suggest a TVP as a stand-alone intervention tool may not be sufficient to dramatically reduce prolonged sitting and that further research is needed to elucidate factors for increasing adherence to a sedentary intervention. Statement of Disclosure: No disclosures.