Can Alexa Influence Physical Activity in the Office Setting?

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Prolonged sedentary behavior is associated with increased risk for chronic conditions, and due to technological advances, the working population is in office settings with high occupational exposure to sedentary behavior. Recent technological innovations in conversational artificial intelligence have also made possible to likely influence activity patterns. These activity patterns can be objectively measured using an Actigraph. **PURPOSE**: The purpose of this study was to estimate the physical activities in response to conversational artificial intelligence stimuli-Alexa's voice activated commands using Amazon Echo. **METHODS**: Fifteen (24±12.58 years, body mass index: 25.07±5.05 kg/m^2) sedentary female office workers were recruited from Berks community office locations. Each participant wore an Actigraph Link GT9X wrist accelerometer for the entire workweek to measure physical activity patterns. After obtaining baseline activity levels every half hour over an 8-hour work day for the first 2 days, participants responded to Alexa's pre-set voice commands which progressed from generic "stand-up" to more specific "walk to the bathroom" for the next three workdays. Commands were programmed every half hour for an 8-hour workday for the last 3 days. **RESULTS**: Participant's average HR: 74.4 ±11.72 bpm, systolic BP: 120.51±12.71 mm/Hg, and diastolic BP:76.62±6.08 mm/Hg was assessed. A paired-samples t-test was conducted to compare the number of steps taken during baseline (without Alexa) and with Alexa settings. There was a significant increase in the steps for Alexa (234.58±78) steps compared to baseline (150.45±39.93) steps; $t(11)$=-4.29, $p = 0.001$. **CONCLUSION**: There was a 56% increase in the number of steps with Alexa prompts. This suggests that conversational AI, voice-enabled devices like Amazon Echo could potentially influence physical activity patterns.