

Preliminary Analysis of the Effectiveness of a Multi-Component Intervention at Reducing Sedentary Behaviours in the Home-Office

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Purpose: Home-office work has been shown to increase total, and prolonged, bouts of occupational sedentary time compared to the traditional office environment. High levels of sedentary time, particularly in prolonged bouts, is associated with many deleterious health outcomes, hence home-office work is a public health concern. To date, there has been no research into the effectiveness of interventions targeting a reduction in sedentary time in the home-office, which may have unique influencing factors. This study is the preliminary analysis at the 3-month time point of a 12-month multi-component intervention targeting a reduction in sedentary behaviours in the home-office.

Methods: A two-arm cluster randomised controlled trial. At baseline, 160 participants were recruited, with 128 participants at the 3-month time point. The intervention was conducted across four countries: Ireland, Spain, the Netherlands, and Slovenia. The multi-component intervention included a wearable device, phone application, educational material, and organisational support and formed part of the Click2Move consortium. The primary outcome was occupational sedentary time, measured using the *activPAL3*TM. Secondary outcomes included physical activity and sedentary behaviours (measured using *activPAL3*TM and self-reported). The effects of the intervention were assessed using an analysis of covariance (ANCOVA), whilst within group effects were analysed using either a paired samples *t*-test or Wilcoxon Signed Rank, depending on normality.

Results: Total occupational sedentary time ($z = 903.0$, $p = 0.010$, $n = 50$) and the total time of sedentary bouts greater than 60 minutes ($z = 827.0$, $p = 0.033$, $n = 50$) reduced significantly in the intervention group at 3-months. Although not significant, the total number of sedentary bouts greater than 60 minutes also trended towards significance ($z = 773.5$, $p = 0.057$, $n = 50$). However, no significant difference was observed between groups for any physical activity or sedentary behaviour variable at the 3-month time point.

Conclusion: Multi-component interventions are most effective at reducing sedentary time in the workplace in the long-term. While these preliminary results show promising signs of the effectiveness of this intervention on total and prolonged occupational sedentary behaviours, more time may be required to observe meaningful and significant change.

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