

Background: In many countries in the Middle East, non-communicable diseases are becoming the primary health concern. Research has shown an increased number of healthy lifestyle behaviours to reduce the risk of developing non-communicable diseases. Still, the efficacy of lifestyle interventions for Middle Eastern populations is not yet fully established. Thus, the aim of this pilot study was twofold: (1) to evaluate the effectiveness of a blended employee-health lifestyle intervention in improving behavioural and health outcomes in a Middle Eastern cohort, and (2) to assess the extent to which engagement with the intervention's content and coaching mediate the effectiveness of the intervention.

Method: Participants followed a 12-week blended lifestyle intervention that combined virtual coaching with a mobile application. Secondary data from 81 participants on behavioural and health outcomes, as well as content- and coaching engagement, were analysed using linear mixed model analyses. Additionally, pre- and post-intervention data on health outcomes were analysed for a subset of participants ($n = 48$) for which complete data were available.

Results: With regard to behavioural outcomes, the intervention had no effect on participants' step count, while mixed results were observed regarding the effect of the intervention on active calories. Both content- and coaching engagement were found to significantly mediate the effect of the intervention, with content engagement increasing and coaching engagement decreasing active calories. Given these contrasting effects, an exploratory moderation analysis was performed showing both content- and coaching engagement to moderate the effect of the intervention on active calories, and that the effect of content engagement on active calories depended on the level of coaching engagement. Concerning the evaluated health outcomes, the results show that participants of the intervention, on average, succeeded in decreasing their weight over 12 weeks. It was further found that content- and coaching engagement significantly mediated this relationship, both supporting weight loss. The effectiveness of the intervention in improving health outcomes after 12 weeks was additionally tested on a subset of participants. No significant effects of the intervention on weight, body fat mass, body fat percentage and visceral fat level could be found.

Conclusion: Due to several limitations, the findings of this study should be approached with some caution. Despite these limitations, this is the first study to evaluate the effectiveness of a blended employee-health lifestyle intervention by Ancora Health in a Middle Eastern cohort and yields important insights for the future development of interventions in such cohorts.