

Activity Intervention

JENS S. NIELSEN, REIMAR W. THOMSEN, BENTE K. PEDERSEN, KLÁRA BERENC-SI, ALLAN A. VAAG, MATHIAS RIED-LARSEN, KRISTIAN KARSTOFT, HENNING BECK-NIELSEN, CHARLOTTE BRØNS, *Odense, Denmark, Aarhus, Denmark, Copenhagen, Denmark*

Individualised Interval-walking training (IWT), alternated 3-min repetitions of walking at low and high intensity, is effective in type 2 diabetes (T2D) patients for improving fitness level, blood glucose and lipid regulation (Karstoft et al. *Diabetes Care* 2013).

We aimed to test if launching a mobile application (app) is effective in implementing IWT in persons with and without T2D and compare incident T2D patients who chose and did not choose to use the app with respect to their baseline activity and anthropometric measures.

We developed an app, InterWalk[®], which can both guide and monitor intensity and distance of IWT, and subsequently uploads data at a server. InterWalk[®] was released in App Store (Apple Inc.) and promoted via newspaper articles and www.InterWalk.dk. Registration with a unique personal identification number is mandatory, allowing us to monitor the use in incident T2D patients by linkage to the DD2 diabetes database.

InterWalk[®] was downloaded 6545 times during the first 46 days in App Store, with 1616 unique users registered. A total of 4315 IWT sessions were uploaded, of which 1819 were sessions with ≥ 480 steps or ≥ 0.1 KM walking. Of all InterWalk[®] users, 92 (5.7%) had incident T2D, of which 25% uploaded ≥ 5 IWT sessions vs. 16% among users without T2D (RR=1.55, 95% CI 1.07-2.25). Comparing 46 app using with 4377 non-App using T2D patients, 27% vs. 21% reported regular sports activities (RR=1.26, 95% CI 0.77-2.06), and

For author disclosure information, see page A743.

A587

7% vs. 18% reported only sedentary activity (RR=0.36, 95% CI 0.12-1.09). The waist to hip ratio was lower in T2D patients who used the app, 0.94 vs. 0.97 ($p=0.04$).

In conclusion, InterWalk[®] can implement IWT in the Danish population, but few T2D patients use the app spontaneously. App-users with T2D trained more frequent than other app-users, thus InterWalk[®] may be a motivating tool in T2D. T2D patients who used the app had more physical activity and less central obesity at baseline, suggesting a more active promotion of InterWalk[®] to the most inactive patients.

Supported By: Danish Agency for Science, Technology and Innovation