

Digital and group-based lifestyle counseling to prevent type 2 diabetes found to be effective

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People's diet quality improved and their abdominal obesity and insulin resistance decreased in a one-year lifestyle intervention, new findings

from the Finnish StopDia study show.

Looking at 2,907 Finnish adults with an elevated risk for type 2 [diabetes](#), the study is the first to examine the effects of a group-based [lifestyle intervention](#) implemented in [primary health care](#) on [risk factors](#) for type 2 diabetes. The [lifestyle](#) intervention made use of a digital app and multiple behavior change theories.

The findings were published in *The Lancet Regional Health—Europe*.

The StopDia approach was developed in collaboration with multiple stakeholders

In the StopDia study, roughly one hundred [health care professionals](#), including nurses, dietitians and exercise instructors, were trained to use the empowering StopDia group counseling approach.

"The approach is a result of many years of co-creation with health care professionals involved in group counseling, so we knew the approach was well suited to practice, but it was important to have strong evidence on its effectiveness," says Professor Pilvikki Absetz, who was responsible for the behavioral side of the interventions.

Lifestyle changes were supported by the BitHabit app where participants could choose small health-promoting habits, mark them as completed, and get feedback on their progress. The app's lifestyle library contains more than 400 habits that are suitable for inclusion in the everyday life. The BitHabit app was developed by VTT Technical Research Center of Finland in collaboration with the University of Eastern Finland and the Finnish Institute for Health and Welfare as part of the StopDia study.

The StopDia approach to prevent type 2 diabetes was designed and built for primary health care with a view to supporting strategic health

promotion objectives. Patient and non-governmental organizations, [trade unions](#), employers and other stakeholders were closely involved in the planning as well as in the recruitment of participants by encouraging people to take a digital type 2 diabetes risk test and to participate in the study. In one year's time, more than 26,000 people had taken the risk test, and the study recruited adults with an elevated risk for type 2 diabetes.

"It became evident in the course of the study that comprehensive identification of those at risk of type 2 diabetes requires effort from multiple actors, as well as broad collaboration," says Professor Jussi Pihlajamäki, Director of the StopDia study.

A total of 2,907 study participants in three Finnish hospital districts were randomly divided into three groups: one used the BitHabit app, one used the BitHabit app and received group counseling, and one was a [control group](#). The aim was not to lose weight, but to improve diet quality, increase physical activity, reduce sedentary time, improve sleep, reduce alcohol consumption and stop smoking, thereby reducing the risk for type 2 diabetes.

Diet quality improved, abdominal obesity decreased

In the group using the BitHabit app and receiving group counseling, people's diet quality improved, they particularly ate more vegetables and better-quality fats, and their [waist circumference](#) reduced slightly, whereas similar effects were not observed in the group using the app alone.

"Diet quality in relation to the official nutrition recommendations was assessed using the Healthy Diet Index, which has been developed as part of the StopDia study. The Healthy Diet Index is well suited for promoting lifestyle counseling, and it can also be used as an indicator of

effectiveness," says Research Manager Jaana Lindström from the Finnish Institute for Health and Welfare.

"Better diet quality reduces the risk for type 2 diabetes regardless of changes in the person's weight. Commitment to group counseling and using the BitHabit app enhanced the improvement in [diet quality](#)," Doctoral Researcher Kirsikka Aittola says.

Commitment to using the BitHabit app also increased [physical activity](#) and reduced sedentary time.

Using the BitHabit app in combination with group counseling, and even without it, slightly slowed down the development of [insulin resistance](#), which is a precursor of type 2 diabetes.

"Even minor changes may have an impact on the prevention of type 2 diabetes," says Professor Timo Lakka, Deputy Director of the StopDia study.

It is important to implement lifestyle interventions as part of health care—individual hopes and needs should be acknowledged

"Our findings are important, since this is the first large, randomized, controlled study implemented within primary health care and studying interactions between combined digital and group-based lifestyle counseling," Jussi Pihlajamäki says.

The findings suggest that commitment to lifestyle counseling, be it digital or group counseling, supports [lifestyle changes](#). Further analyses to be carried out in the study will examine opportunities for delivering increasingly personalized lifestyle counseling.

The risk for type 2 diabetes in the Finnish adult population is high, with

up to half a million Finns currently affected. The cost of care per individual diagnosed with type 2 diabetes is estimated at 3,900–8,300 euros per year, depending on comorbidities. The objective of the StopDia lifestyle intervention study was to develop a research-based, cost-effective and permanent model for primary health care to prevent type 2 diabetes. Another objective was for people to recognize their own risk for type 2 diabetes, to be better aware of the possibilities to prevent it, and to get support and services needed to promote healthy lifestyles.

More information: Timo A. Lakka et al, Real-world effectiveness of digital and group-based lifestyle interventions as compared with usual care to reduce type 2 diabetes risk—A stop diabetes pragmatic randomised trial, *The Lancet Regional Health—Europe* (2022). [DOI: 10.1016/j.lanepe.2022.100527](https://doi.org/10.1016/j.lanepe.2022.100527)

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