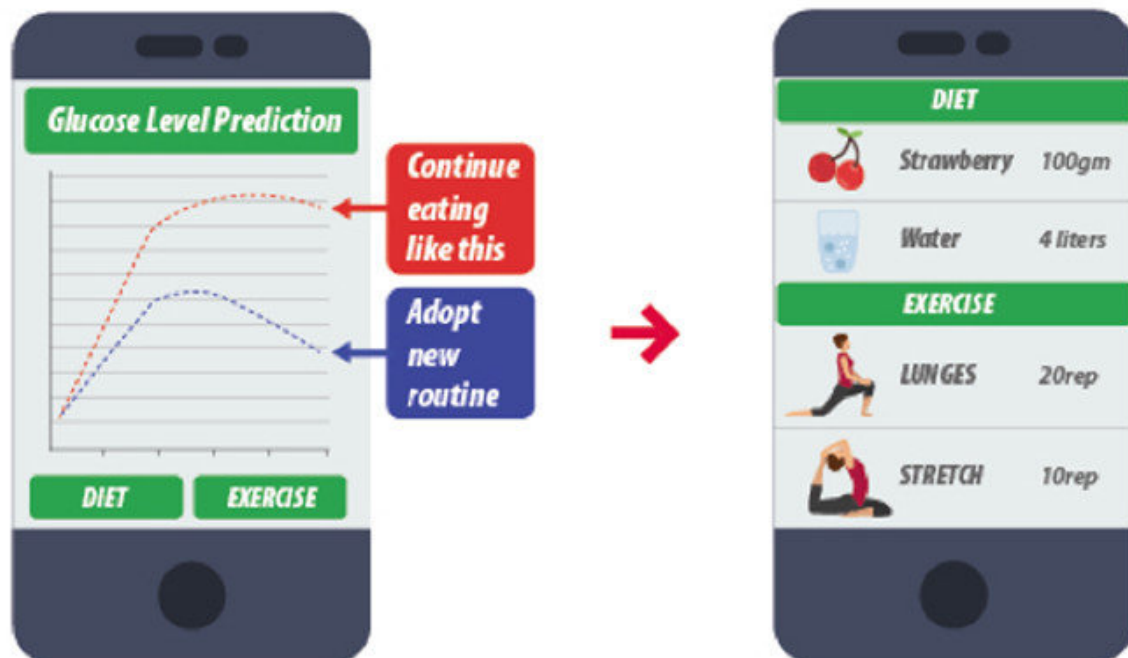


AI application for treatment of gestational diabetes

March 8 2018



Credit: Aalto University

AI allows individualized predictions for expectant mothers and newborn children. The aim of the individual recommendations is a positive experience for the user combined with activity that is beneficial for the glucose level.

About 52,000 women give birth in Finland every year, and 18 per cent of them – nearly 10,000 – are diagnosed with gestational [diabetes](#). Of these, roughly half develop type 2 diabetes later on.

CleverHealth Network, an ecosystem coordinated by the Hospital District of Helsinki and Uusimaa (HUS), is now launching its first development [project](#) with funding granted by Business Finland. The main partners in the gestational diabetes project are HUS, Aalto University, the University of Helsinki, Elisa and Fujitsu.

The project aims to improve the treatment and monitoring of [gestational diabetes](#) by developing a mobile application for measuring the mother's [blood glucose levels](#), physical activity, nutrition, pulse and daily weight and storing it in the cloud in real time.

"By improving lifestyle during pregnancy, we can probably reduce the number of mothers who will develop type 2 diabetes as well as the [health](#) risks to the child, thereby also improving the health of future generations. The application will help the patient to learn how her diet, activity and sleep affect blood [glucose](#) levels and weight gain and, consequently, the course of the pregnancy and the newborn's health," says Saira Koivusalo, research director of the project and specialist in obstetrics and gynaecology.

The application will forward the lifestyle and glucose data in [real time](#) to health care personnel, who can provide guidance and support as needed.

The project will make use of machine learning to provide guidance and treatment that are in line with the patient's risk profile and meet her individual needs. Artificial intelligence also makes it possible to draw up predictions of both the mother's and the child's future health.

"The aim is to keep the glucose level low, and we are modelling both

forecasts and recommendations with this in mind. The individual forecasts indicate what happens to the glucose level if an expectant mother goes for a walk, for instance. The recommendations also take individuality into consideration. The aim is a positive experience for the user combined with activity that is beneficial for the glucose level," says Academy Research Fellow Pekka Marttinen of Aalto University.

Provided by Aalto University

Citation: AI application for treatment of gestational diabetes (2018, March 8) retrieved 4 May 2024 from <https://medicalxpress.com/news/2018-03-ai-application-treatment-gestational-diabetes.html>

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