

App can up adherence to exercise in diabetes

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(HealthDay)—A mobile phone application that provides personalized feedback to patients with type 2 diabetes can increase adherence to physical activity and improve glycemic control, according to a study

published online Jan. 28 in *Diabetes Care*.

Irit Hochberg, M.D., Ph.D., from the Rambam Health Care Campus in Haifa, Israel, and colleagues recruited 27 [patients](#) with type 2 diabetes who did not perform [regular physical activity](#). All participants received text messages one to seven times a week to encourage physical activity, with the messages in the treatment group (20 patients) comprising positive feedback and negative feedback. These messages were personalized through an automatic reinforcement learning algorithm. Patients in the control group (seven patients) received reminders to exercise.

The researchers found that participants who received tailored messages increased the amount of activity and pace of walking over time, while control participants did not. Factors associated with superior reduction in hemoglobin A1c levels included allocation to the personalized policy, higher initial hemoglobin A1c level, and lower activity targets. Patients in the treatment group reported that the messages helped them to increase and maintain [physical activity](#) ($P = 0.01$ and 0.07 , respectively). The control messages were reported to be ineffective.

"These results suggest that a mobile phone application with a learning algorithm can improve adherence to exercise in patients with diabetes," the authors write.

One author was employed by Microsoft Research.

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