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## Diabetes: Computer Based Interventions Provide Limited Support



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Self-management interventions delivered by computer and mobile phone currently provide limited benefits for people with diabetes, according to a systematic review published in The Cochrane Library. Although computer and mobile phone-based self-management programmes had small positive effects on blood sugar levels, these effects seemed to be short-lived.

347 million adults worldwide live with diabetes and are at higher risk of heart disease and serious complications such as heart attacks and stroke because of their condition. There is some evidence to suggest that providing chronically ill patients with the skills to manage their own disease can help them to reduce their risk of further complications. Computers and smartphones offer the potential to improve self-care for diabetes through patient-tailored support and education, and to reduce the costs to healthcare systems. However, it is not clear whether these programmes actually work, what the important components are and if there are any important adverse effects.

The researchers reviewed data from 16 trials involving a total of 3,578 people with type 2 diabetes, who used computers or mobile phones as part of diabetes self-management interventions for between 1 and 12 months. Overall, these interventions appeared to be safe but had only limited positive effects. There were small benefits for controlling blood sugar levels, with slightly greater benefits for those whose self-care programmes were delivered by mobile phones. However, the benefits waned after six months and there was no evidence that these interventions helped to improve depression, quality of life or weight in people with type 2 diabetes.

"Our review shows that although popular, computer-based diabetes self-management interventions currently have limited evidence supporting their use," said lead researcher, Kingshuk Pal of the Research Department of Primary Care and Population Health at UCL in London, UK. "There are also few studies looking at cost-effectiveness or long-term impact on patient health."

The authors saw some evidence of computer-based interventions helping to improve knowledge and understanding of diabetes, but this did not seem to translate into behaviours that could improve health, such as changes in diet and exercise. "Effective self-management is a complex task that may require changes to many aspects of people's lives. Any intervention to help that process needs to support sustained behaviour change in different areas like eating habits, physical activity or taking medication regularly and provide emotional support," said Dr. Pal. "We did not see any convincing evidence for long-term change like this in the interventions we looked at."

Pal K, Eastwood SV, Michie S, Farmer AJ, Barnard ML, Peacock R, Wood B, Inniss JD, Murray E. Computer-based diabetes self-management interventions for adults with type 2 diabetes mellitus. Cochrane Database of Systematic Reviews 2013, Issue 3. Art. No.: CD008776. DOI: 10.1002/14651858.CD008776.pub2.

To read the paper in full, please visit: <http://doi.wiley.com/10.1002/14651858.CD008776.pub2>

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