

Research findings

A novel mobile-health application to empower young people with type 1 diabetes to exercise safely: A pilot study

Age Range: 12 to 25 years



▶ WHAT WAS THE AIM?

Many young people with type 1 diabetes find it difficult to manage their blood glucose levels while exercising, and current guidelines available for managing diabetes around exercise vary and are challenging to follow.

Our research team have worked with young people with type 1 diabetes and app developers to create a smartphone exercise app, called acT1ve. The app was designed to assist young people with type 1 diabetes manage their diabetes while being physically active. The aim of this study was to test acT1ve to see if young people with type 1 diabetes found it acceptable, useful and easy to use.

▶ HOW DID WE DO IT?

Recreationally active young people with type 1 diabetes attended the research facility at Perth Children's Hospital for two visits, 6-weeks apart. At the first visit, participants were guided through the App download process with a member of the research staff and given a brief walkthrough of the App's functions. Participants were advised to use the App to obtain advice prior to exercising over the following six weeks. At the end of this period, participants completed a survey called the user Mobile Application Rating Scale (uMARS) and also an interview with a research team member to hear more about their thoughts and experiences of using the App and taking part in the study.

▶ WHAT DID WE FIND?

Participants in the study scored acT1ve 4.3 out of 5 overall, based on the uMARS survey. This score was further broken down into 4 categories, with participants scoring the App 3.9 out of 5 for engagement, 4.8 for functionality, 4.6 for information, and 4.3 for aesthetics. From the interviews, participants reported an increase in knowledge and confidence to exercise, trust in the advice, and felt it would be helpful for people who are less engaged in exercise. We have published the full findings here:

<https://diabetes.jmir.org/2021/4/e29739>

▶ WHAT DOES THIS MEAN IN PRACTICE?

While the feedback by participants has been positive, we have made modifications to acT1ve based on the feedback we received during the interviews. acT1ve will be tested by more young people with type 1 diabetes to assess the App's safety and efficacy. We hope that in the future, acT1ve will be a valuable addition or supplement to diabetes management around exercise for adolescents and young adults with type 1 diabetes, and encourage greater participation in physical activity.



acT1ve

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