



Research summary

Impact of eggs on blood sugar levels for people with type 2 diabetes

About the study

Approximately three million Canadians live with type 2 diabetes, a condition where blood sugar (glucose) levels are too high. Having uncontrolled glucose levels has been linked with higher risk of cardiovascular disease, neuropathy, blindness and other severe health conditions. To help control high glucose levels, patients are often advised to consume a snack before bed, yet little research has been done to clearly indicate which bedtime snack is ideal for those with type 2 diabetes.

Researchers hypothesized that eggs, which contain protein and fat but little carbohydrate, would be an effective bedtime snack for lowering morning sugar levels without spiking these levels throughout the night. For this study, researchers assessed if a bedtime egg snack could help improve morning glucose levels when compared to having a snack with the same amount of calories but containing carbohydrates (low-fat yogurt), or having no bedtime snack.

Methods

Participants with type 2 diabetes completed three separate trials of eating either two eggs, yogurt, or having no bedtime snack. Each dietary trial lasted three days and all food was provided to ensure that daily caloric intake was consistent among participants.



Participants wore a glucose monitor for the three days of each trial, which measured glucose levels every five minutes to provide a detailed blood glucose curve during the day and night. On the morning of the fourth day in each trial, fasting blood samples were obtained to measure glucose levels and the major hormones that regulate blood glucose levels, including insulin and glucagon. Using fasting glucose and insulin values, researchers were able to estimate insulin sensitivity to help understand the possible mechanism by which different bedtime snack conditions influenced glucose levels.



Findings

Consuming two eggs as a bedtime snack lowered fasting blood sugar and improved markers of insulin sensitivity when compared to eating low-fat yogurt as a bedtime snack. However, consuming either bedtime snack did not appear superior to having no bedtime snack.

Conclusions

If patients with type 2 diabetes are to consume a bedtime snack this study indicates that a low-carbohydrate higher-protein option such as eggs could help stabilize glucose levels. Longer-term studies are needed to confirm whether practitioners should be recommending bedtime snacks to patients with type 2 diabetes.

About the researchers

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