

Keeping abreast of the latest diabetes research: Glycaemic control

Too busy to keep up to date with the latest research? In this new series, Lori Berard, a Nurse Manager from Canada, selects the latest papers of interest to diabetes nurses.

Intensive diabetes treatment and cardiovascular outcomes in T1D

The DCCT/EDIC Study Group (2016)
Diabetes Care (epub ahead of print)

We continue to follow the participants of the DCCT, the most important study in type 1 diabetes, and while the 1440 participants carry on with their lives and with their diabetes without any study intervention, they continue to give us rich learnings through long-term follow up.

With regards to cardiovascular disease (CVD), after 30 years of follow-up, 149 CVD events had occurred in 82 former participants from the intensive treatment group versus 217 CVD events in 102 of those from the conventional treatment group. For those in the intensive therapy group, the incidence of CVD was reduced by 30% and major cardiovascular events (non-fatal myocardial infarction, stroke, or cardiovascular death) was reduced by 32%. Intensive diabetes therapy during the DCCT (6.5 years) has long-term beneficial effects on the incidence of CVD in type 1 diabetes that persist for up to 30 years.

Intensive glycaemic control on cardiovascular outcomes

The ACCORD Study Group (2016)
Diabetes Care (epub ahead of print)

The ACCORD trial was undertaken to understand the effect of intensive glucose lowering versus standard glucose lowering on the progression of CVD in individuals at high risk. The trial also managed blood pressure or lipids. It was to be a trial to answer a long-standing question regarding

the relevance and importance of tight glycaemic control in this population. The data safety monitoring board stopped the trial early for an imbalance of deaths in the intensive-treated arm. The scientific explanation for which is still unclear. It was important to continue to understand this effect on the participants in this trial, so a long-term follow up of 9 years was undertaken. The overall result in this passive follow up of high-risk subjects who managed their diabetes as per standard of care demonstrated that the imbalance in mortality did not continue over time and, in fact, the effect of intensive glycaemic management had a neutral effect on death and non-fatal cardiovascular events. The risk of cardiovascular mortality noted in the active phase decreased over time.

Nurse-led telecoaching can improve glycaemic control in type 2 diabetes

Odnoletkova I et al (2016) *Diabet Med* (epub ahead of print)

There is a continuous increase in the number of individuals with diabetes that require access to diabetes education and support, and yet in many situations the resources to deal with the increased workload do not exist. As we move forward in diabetes self-management education and support, we are needing to embrace technology to help us create the support systems that individuals need to manage their diabetes.

In this paper, a nurse-led telecoaching intervention for 6 months saw improvements in HbA_{1c}, LDL cholesterol and blood pressure that were sustained after 18 months versus a group receiving usual care. Over 500 subjects were enrolled and were

randomised to either standard care or the intervention, which included five telephone sessions of about 30 minutes duration every 5 weeks, conducted by a diabetes nurse educator. Topics included update of best practice guidelines for type 2 diabetes management, motivational interviewing techniques and programme software use.

The intervention group also received a welcome package containing relevant information and a glucose kit. All participants received similar education material on type 2 diabetes via a DVD.

Long-term glycaemic variability and risk of adverse outcomes

Gorst C et al (2015) *Diabetes Care* **38**: 2354–69

It has long been accepted that not all HbA_{1c} levels are created equal and for many people with diabetes the “perfect number” comes at the price of significant highs and lows in their typical daily pattern. The understanding of the relevance of glycaemic variability has been difficult to assess as we have had less than optimal tools to be able to assess glycaemic variability for all people with diabetes. This meta-analysis looked at both the incidence and rate of micro- and macrovascular complications when correlated with HbA_{1c} variability.

It was found that HbA_{1c} variability was positively associated with microvascular (specifically renal disease) and macrovascular complications, as well as mortality, independent of the actual value of HbA_{1c}. With improved tools and capability to measure glycaemic variability, we need to appreciate this as an important predictor of diabetes-related complications. ■