

# Keeping abreast of the latest diabetes research: Pre-pregnancy care, flash monitoring, and glucose levels and mortality

Too busy to keep up to date with the latest research? In this series, Julie Brake, A DSN in Liverpool, selects the latest papers of interest to diabetes nurses.

## Modelling the effects of different HbA<sub>1c</sub> targets on diabetes complications

Mostafa SA et al (2018)  
*Diabet Med* 35: 72–7

This article modelled the degree to which targeting different HbA<sub>1c</sub> reductions might reduce the risk of diabetes-related complications. Using data from the TECOS trial, micro- and macrovascular complication rates were estimated with HbA<sub>1c</sub> levels of 86, 75, 64, 53 and 42 mmol/mol (10%, 9%, 8%, 7% and 6%) while holding other risk factors constant at their baseline levels. Ten-year cumulative relative risk reductions for the modelled HbA<sub>1c</sub> values are shown in *Table 1*.

These simulated complication rates might help inform the degree to which complications could be reduced by targeting specific HbA<sub>1c</sub> levels in people with type 2 diabetes.

## Fasting glucose and all-cause mortality risk by age

Yi SW et al (2018) *Diabetes Care* 41: 623–26

This study looked at the associations between fasting plasma glucose (FPG) levels and mortality in Korean adults with diabetes. The FPG levels associated with the lowest mortality were 5.0–7.2 mmol/L, except for in those aged 18–44 years, in whom the optimal level was 4.5–5.2 mmol/L. Tighter glucose control thus lessens the risk of premature death in younger adults with diabetes.

Hypoglycaemia was associated with higher mortality than was an FPG of 9.5–11.0 mmol/L, while an FPG of 3.6–4.6 mmol/L had risks comparable with those at levels 7.8–9.4 mmol/L. The optimal FPG ranges were approximately

**Table 1. HbA<sub>1c</sub> values and modelled 10-year cumulative relative risk reductions.**

HbA <sub>1c</sub>	Relative risk reduction				
	Myocardial infarction	Stroke	Ulceration	Amputation	Single-eye blindness
86 mmol/mol	Reference	Reference	Reference	Reference	Reference
75 mmol/mol	4.6%	6.0%	14.4%	21.5%	13.6%
64 mmol/mol	9.3%	12.8%	26.6%	39.0%	25.4%
53 mmol/mol	15.1%	19.6%	37.1%	52.3%	36.0%
42 mmol/mol	20.2%	25.8%	46.4%	63.1%	44.7%

5.0–7.2 mmol/L, except in younger adults aged 18–44 years, who had similar optimal ranges to individuals without known diabetes. Avoidance of low-normal levels (3.6–4.6 mmol/L) and hypoglycaemia may improve survival in people with diabetes.

## Factors associated with attendance at pre-pregnancy care and reasons for non-attendance among women with diabetes

Morrison M et al (2018) *Diabetes Res Clin Pract* 142: 269–75

These authors sought to describe the factors associated with uptake of diabetes-specific pre-pregnancy care (PPC) and to determine the reasons for non-attendance.

Of 429 eligible women, 54% reported having attended PPC. In multivariable logistic regression analysis, having type 1 diabetes, being married or in a relationship, tertiary education and employment were associated with greater likelihood to attend PPC. Overall, 68% rated PPC as helpful. A lack of awareness about the availability of PPC (48%) and unplanned pregnancy (47%) were the main

reasons for non-attendance. Of women with future pregnancy plans, 43% were aware of local services offering PPC and 84% indicated they would attend PPC if available.

Reasons reported for non-attendance suggest that strategies to increase awareness about the availability of diabetes-specific PPC and the risks of unplanned pregnancy are warranted.

## Flash glucose monitoring beneficial over 2 years in type 1 diabetes

Londahl M et al (2018) *Diabetes* 67(Suppl 1): A249 (abstract 958-P)

The aim of this study was to evaluate the long-term effects of flash glucose monitoring (FlaGM) on HbA<sub>1c</sub> and treatment satisfaction in people with type 1 diabetes.

Of 334 people who started on FlaGM, 80.5% were still users after 2 years, 8.7% changed to a continuous glucose monitoring system, 6.6% stopped due to skin reactions, 3.4% did not want to continue and 1.3% had died. Compared with baseline, HbA<sub>1c</sub> was 9.0±11.8 mmol/mol lower after 2 years. Both high and low blood glucose levels were less common. ■