in the reference group. However, this was probably rare in these nurses; plasma samples from a random sample of those with no reported diabetes, indicated just 2% had diagnostic signs of type 2 diabetes.

As in all studies of cognitive decline, there is regression to the mean on the repeat cognitive assessment. As women with type 2 diabetes had worse cognitive performance at baseline, regression to the mean would probably have attenuated the true magnitude of cognitive decline associated with diabetes.

Participants who were not taking any treatment for diabetes probably included a heterogeneous group of women with untreated diabetes and diabetes controlled through diet. Diabetes that can be controlled through diet may not be associated with poor cognition.⁷ Thus, we have probably underestimated the effect of untreated diabetes. However, the increased odds of poor cognition associated with no treatment was similar across those with shorter and longer duration of diabetes (and duration is probably a good indicator of prevalence of dietary control), suggesting that our underestimate may be minimal.

There is growing evidence directly linking insulin to cognitive impairment: chronic hyperinsulinaemia⁸ and incremental increases in serum insulin concentration after a glucose load⁹ predict diminished cognition in the absence of diabetes or glucose intolerance. Moreover, insulin degrading enzyme regulates concentrations of both insulin and amyloid β in the brain¹⁰ and infusion of insulin into healthy humans increases amyloid β concentrations in the cerebrospinal fluid,¹¹ further supporting a direct association between insulin and cognition.

Other studies have also found less cognitive decline in those with medical treatment for their diabetes than those without.^{12–15} Thus, although physicians may avoid prescribing oral therapy for diabetes in older people, it may be important to their cognitive health.

Conclusions

We found worse cognitive function and accelerated cognitive decline among women with type 2 diabetes, which seemed to be ameliorated with oral hypoglycaemic treatment. Studies have established that, in apparently healthy people, even modest differences in cognition result in substantially increased risks of

dementia over several years.¹⁴ Prevention and control of type 2 diabetes in women could have critically important public health consequences.

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A memorable consultation

A home visit in an old industrial part of Swansea left me with an indelible memory of two things—the flu pandemic of 1918, which caused an estimated 24–40 million deaths, and the way in which doctors were sometimes paid in the past. It was not uncommon for this to be in kind, and occasionally grateful patients were prepared to part with cherished family heirlooms.

I saw Mrs Davies in the early 1980s, when she herself was 85 and her faculties were failing. She lived alone, and I arranged to see her with her brother, who had travelled some distance to be present. She gave an excellent account of her early life and the tragic circumstances of her husband's death.

It was early on a Friday. Her fiancé, a soldier, had returned home on leave from the first world war. On Monday they were married, and on Tuesday he started to develop flu symptoms. Its course was

rapid and fulminating, and on the following Friday he died. Within that week her world had changed from absolute joy to tragedy. She did not remarry and bore her loss with great dignity.

The consultation took place in the living room, the middle room of a terraced house. On the sideboard was an exceptional clock. It was 18 inches tall with a jet black wooden case, presumably ebony. Inside the glass front was a brilliant white face with black Roman numerals; the pendulum shone. As I left, I said to her brother that it was difficult not to admire such an exceptional timepiece. He paused, looked at me sternly, and growled, "It's mine."

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