Personally tailored diabetes care reduces mortality in women but not men

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A follow-up study to assess the effects of personally tailored diabetes care in general practice has revealed that such care reduces mortality (both all-cause and diabetes-related), in women, but not men. The study is by Dr Marlene Krag, The Research Unit for General Practice, Department of Public Health, University of Copenhagen, Denmark, and colleagues, and is published in *Diabetologia*, the journal of the European Association for the Study of Diabetes (EASD).

Between 1989 and 1995, the original Diabetes Care in General Practice trial (Denmark) conducted an intervention of structured personal care in patients newly diagnosed with type 2 diabetes. In the intervention group, doctors were encouraged to stress the importance of diet and physical activity, delay the use of diabetes drugs until they assessed the effect of any diet and exercise, and give patients individual targets that were reviewed quarterly. GPs in the routine care group were free to choose any treatment and to change it over time, as they normally would.

After 6 years of tailored treatment there no effect was seen on mortality and other pre-defined non-fatal outcomes. However, the observed effect of structured personal care on reducing glycated haemoglobin (HbA1c - a standard method for measuring blood glucose control) measured 6 years after diagnosis was present only in women.

In this new study, the authors followed up the participants of the original study for 13 years (from 1995-2008). This analysis comprises the 970 out of the original 1,381 patients who survived and were re-examined at

the end of 6 years of intervention in 1995. Of these, 478 were women and 492 were men.

The data to the end of 2008 showed that women given structured personal care were 26% less likely to die of any cause and 30% less likely to die of a diabetes-related cause than women given routine care. Women given the personal care intervention were also 41% less likely to suffer a stroke, and 35% less likely to experience any diabetes-related endpoint (a combination of multiple outcomes). However, the findings for stroke and any diabetes-related outcome were not statistically significant. None of these differences were seen between the personal care and routine care points in men, but the differences between genders were only statistically significant for all-cause mortality and diabetes-related death.

Discussing the different results for women versus men, the authors say: "Structured personal diabetes care could provide women with significant attention and support and thus provide an incentive to treatment adherence. Women accept disease and implement disease management more easily, which might affect long-term outcomes. Masculinity may be challenged by diabetes, demanding daily consideration and lifestyle changes. The structured approach could conflict with men's tendency to trust self-directed learning instead of self-management."

They conclude: "We propose that the improved outcomes in women may be explained by complex social and cultural issues of gender. There is a need to further explore the gender-specific effects of major intervention trials in order to rethink the way we provide medical care to both men and women, so that both sexes benefit from intensified treatment efforts."

More information: Marlene Ø. Krag et al. The impact of gender on the long-term morbidity and mortality of patients with type 2 diabetes

receiving structured personal care: a 13 year follow-up study, *Diabetologia* (2015). DOI: 10.1007/s00125-015-3804-4