

Behavioral interventions to prevent progression to diabetes equally effective in men and women

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Behavioural and drug interventions aiming to prevent people with prediabetes progressing to full blown type 2 diabetes are equally effective for both sexes at preventing progression and reducing weight, according to a new systematic review and meta-analysis. The research is by Dr Anna Glechner, Danube University Krems, Austria, and Dr Jürgen Harreiter, Medical University of Vienna, Austria, and colleagues.

Prediabetes is a general term that refers to an intermediate stage between normal blood glucose control (normoglycaemia) and type 2 [diabetes](#) ([high blood glucose](#) levels/poor control). It includes individuals with impaired glucose tolerance (IGT), impaired fasting glucose (IFG) and a combination of the two.

Early detection of prediabetes offers the possibility of using lifestyle or pharmacological interventions to prevent or slow the progression to type 2 diabetes. Numerous studies provide evidence that [lifestyle interventions](#) such as changes in diet and [regular physical activity](#), or oral glucose-lowering drugs, can delay or prevent the onset of type 2 diabetes in people with prediabetes.

In this new analysis, the authors searched for studies between 1980 and 2013 that explored sex-specific differences in treatment effects, and found 12 studies that matched their criteria. If published studies did not provide enough detail, they contacted authors to release unpublished data

on sex-specific differences. Compared with usual care, men and women who received lifestyle interventions (including diet and exercise) were 40% less likely to progress to type 2 diabetes after 1 year; and 37% less likely to progress after 3 years.

People involved in lifestyle interventions also experienced greater weight reductions (mean increased weight loss 2.45 kg after 3 years versus usual care), and greater reductions of fasting plasma glucose (-0.31 mmol/l greater after 3 years versus usual care). No statistically significant differences in treatment effects between men and women were apparent for any outcomes.

Overall, no differences in the preventive effect of therapies with oral glucose-lowering agents between men and women could be detected. However, the intake of oral glucose-lowering drugs was associated with a reduction of type 2 diabetes.

The authors say: "To the best of our knowledge, this is the first systematic review that assessed potential sex-specific differences in effects of preventive interventions in prediabetic people. Overall, based on data from more than 5,500 men and 7,400 women, our review did not find any relevant sex-specific differences in [treatment effects](#) during 1 to 6 years of active interventions. In both sexes, lifestyle and pharmacological interventions had a beneficial preventive effect on the incidence of type 2 diabetes and weight gain."

They add: "Clinically, these findings highlight an important issue. Despite differences in age of onset, detection and burden of type 2 diabetes between men and women, the effectiveness of preventive interventions in people with prediabetes is not influenced by gender. Consequently, clinicians and prevention managers can focus on factors that are known to determine the magnitude of beneficial effects, such as adherence. Clinicians also need to focus on other aspects of sex-

disparities such as the higher incidence of [type 2 diabetes](#) in middle-aged men and gaps in the quality of care between diabetic men and women."

Successful prevention of diabetes also, say the authors, has an economic impact. They say: "Recent cost-effectiveness analyses indicate that lifestyle interventions are the most cost-effective approach. In people with prediabetes who are not able to adhere to lifestyle changes, initiation of metformin is probably the next best option, but thus far, no trial evidence confirms this for non-responders to lifestyle interventions."

Provided by Diabetologia

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