

Study shows high risk women can take control of diabetes 'destiny'

September 17 2008

(PhysOrg.com) -- Women at high risk of diabetes can reduce their body's 'insulin resistance' – the most important biological risk factor for diabetes – by exercising, a British Heart Foundation study from the University of Glasgow indicates today.

After seven weeks of an exercise programme insulin resistance had reduced by 22 per cent in women whose family history put them at a high risk of type 2 diabetes. No significant change in insulin resistance was seen in women from non-diabetic families.

People with a family history of diabetes are predisposed to the condition themselves, and tend to have greater 'resistance' – insensitivity – to insulin, which affects blood sugar control. Today's findings show that exercise can combat these people's innate susceptibility to adult-onset diabetes.

Dr Jason Gill, who heads the team that carried out the study, said: "The offspring of people with type 2 diabetes are about three times more likely to develop the disease than those with no family history of the disease. Not only is type 2 diabetes a very serious condition itself, but it can double or triple the risk of heart disease. In fact, more than two-thirds of all people with diabetes will die from heart disease."

Dr Gill and colleagues at the University of Glasgow studied women between 20 and 45 years who usually did less than one hour of physical activity per week and a sedentary job. Thirty four of the volunteers had

at least one type 2 diabetic parent and 36 ‘control’ volunteers were recruited whose parents had no history of the condition.

At the outset of the study the offspring of diabetics had higher insulin resistance than the controls.

All the women undertook an exercise training programme of three 30 minute exercise sessions in the first week, working up to five 60 minute sessions in weeks six and seven. Exercise was focussed on cardiovascular activities such as running, using a rowing machine, aerobics and cycling.

Dr Nick Barwell, who led the study, said: “The same exercise programme reduced insulin resistance to a vastly greater extent in the women with diabetic parents, telling us that exercise is particularly good at reducing diabetes risk in this vulnerable group.

“Our research shows that developing diabetes is not inevitable for people with a family history of diabetes. People at high risk have it within their power to substantially reduce their risk by increasing their activity levels.”

Professor Peter Weissberg, Medical Director at the BHF, who funded the study commented: “We know that exercise is good for you, but seeing in black and white that this high risk group improved their own bodies’ insulin resistance in just a couple of months is a striking demonstration of how effective it can be. I hope the findings will encourage people to get active for their health.”

The research, which is published today in the journal *Diabetologia*, only included women to limit the variables and therefore increase the likelihood that the results were ‘real’. Additional research is needed to conclude whether the benefits are also seen in men with diabetic parents.

Provided by University of Glasgow

Citation: Study shows high risk women can take control of diabetes 'destiny' (2008, September 17) retrieved 24 April 2024 from <https://medicalxpress.com/news/2008-09-high-women-diabetes-destiny.html>

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