

Women are more prone to hypoglycaemia than men

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Just how important a gender-specific perspective and the personalised treatment of illnesses are between men and women is being demonstrated by two current studies at the MedUni Vienna, which are being led by Alexandra Kautzky-Willer from the University Department of Internal Medicine III (Endocrinology and Metabolic Diseases, Gender Medicine Unit). On the one hand, the studies have shown that women have better protection against diabetes before the menopause than men, while on the other it has become apparent that women with diabetes are more likely to suffer hypoglycaemia (low blood sugar) than men, a condition that can be fatal.

"Generally speaking, we have made tremendous progress in diabetes

medicine. Thanks to improved treatment options, mortality has reduced, but patients' quality of life still remains significantly impaired. Diabetes still takes an average of seven years off a woman's life, whereas it is six for men," says Kautzky-Willer, who is the only Professor of Gender Medicine in Austria. The current study has shown that hypoglycaemia, perhaps caused by too high a dose of insulin, too little carbohydrate intake or other treatment mistakes, more frequently has a negative impact on the quality of life of women with diabetes than it does of men.

Says Kautzky-Willer: "We not only noticed this phenomenon during the day, but also at night." The reasons for this include the significant reduction in the haemoglobin A1c level (a marker of the mean blood sugar level over recent months) being less in women, plus the ratio of insulin to body weight was also higher than in men. Says Kautzky-Willer: "This invites the conclusion that we need to give women more targeted insulin doses that are adapted better to their personal situations in order to improve their blood sugar control, but without increasing the risk of dangerous hypoglycaemic attacks."

In a second study being carried out at the MedUni Vienna, which has now been published in the highly respected magazine *Obesity*, it has been discovered that pre-menopausal women are better protected against diabetes - probably due to the higher oestrogen levels in the blood - but that after the menopause their cardio-metabolic risk increases much more. "We have shown that women before the [menopause](#) are more sensitive to insulin and also have better insulin responses to glucose challenges, but their glucose and fat metabolism, as well as their blood pressure, deteriorate much more markedly after the age of 50 compared to men. This might explain why men develop diabetes more frequently in their younger and middle-aged years than women." These results will form the starting point for further research, says the metabolic expert, aimed at finding new approaches so that this menopausal change and the

post-menopausal increase in risk can be prevented with medicine.

More information: "Influence of Increasing BMI on Insulin Sensitivity and Secretion in Normotolerant Men and Women of a Wide Age Span." A. Kautzky-Willer, A. Brazzale E. Moro, J. Vrbíková, B. Bendlova, S. Sbrignadello, A. Tura, G. Pacini. *Obesity* (2012) [doi:10.1038/oby.2011.384](https://doi.org/10.1038/oby.2011.384).

"Glycemic Control and Hypoglycemia Prevalence According to Gender: An Analysis of RCT Data." A. Kautzky-Willer, L. Kosi, R. Mihaljevic, J. Lin, E. Wang. Sanofi, Bridgewater, NJ, USA. ADA (Philadelphia) 2012, *Diabetes* 61, Suppl.1

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