

Later puberty and later menopause associated with lower risk of type 2 diabetes in women

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New research presented at this year's Annual Meeting of the European Association for the Study of Diabetes (EASD) in Barcelona, Spain (16-20 Sept) shows that use of the contraceptive pill and longer menstrual cycles are associated with a higher risk of developing type 2 diabetes (T2D), while later puberty and later menopause are associated with lower risk.

The study, by Dr. Sopia Tatulashvili, Avicenne Hospital, Bobigny, France, and colleagues, suggests that in general longer exposure to sex hormones, but later in life, could reduce the risk of diabetes, and that women at high-risk of T2D taking the [contraceptive pill](#) may require personalised advice.

Early screening to detect poor blood sugar control (that may lead to T2D) could lower the risk of further complications. For this reason, it is important to identify the risk factors of T2D. The aim of this study was to determine the association between various hormonal factors and the risk of developing T2D in the large prospective female E3N cohort study.

The study included 83 799 French women from the E3N prospective cohort followed between 1992 and 2014. Computer models adjusted for the main T2D risk factors were used to estimate risk and [statistical significance](#) between various hormonal factors and T2D risk. The risk

factors adjusted for included body mass index, smoking, age, [physical activity](#), [socioeconomic status](#), education level, family history of T2D, and [blood pressure](#).

The authors observed that higher age at puberty (aged over 14 years versus under 12 years) reduced T2D risk by 12%, and increased age at menopause (52 years and over compared to under 47 years) reduced risk by 30%. Breastfeeding (ever breastfed versus never breastfed) was also associated with a 10% reduced risk of developing T2D.

Furthermore, an increased total lifetime number of [menstrual cycles](#) (over 470 in a woman's lifetime versus under 390) was associated with a 25% reduced risk of developing T2D, and longer duration of exposure to sex hormones (meaning the time between puberty and menopause) (over 38 years compared with under 31 years) was associated with a 34% decreased risk of developing T2D.

By contrast, the use of contraceptive pills (at least once during a woman's lifetime compared with no use at all) was associated with a 33% increased risk of developing T2D, and longer time between periods (menstrual cycle length) (32 days and over versus 24 days and under) was associated with a 23% increased risk.

The authors say: "It seems that longer exposure to sex hormones but later in life could reduce the risk of later developing type 2 diabetes, independent of well-established risk factors. Risk induced by oral contraceptives could lead to personalised advice for young women at risk of developing T2D, such as those with a family history of diabetes, those who are overweight or obese, or those with polycystic ovary syndrome."

Provided by Diabetologia

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