

Study explores effectiveness of obesity intervention in pregnancy

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Pregnancy test. Credit: public domain

South Auckland women in early pregnancy are needed to help with a study that looks into healthy pregnancy nutrition and healthy weight gain.

This is the first study in New Zealand to look at obesity prevention, by intervening in pregnancy, and has potential to impact on the health of both the mothers and their babies.

More than 150 women in early pregnancy are needed for the Healthy Mums and Babies Study (known as HUMBA) that is based in the

Counties Manukau area. Women need to be less than 17 weeks pregnant with one baby, healthy with no diabetes, and heavier than average ie with a BMI of 30 or more.

Most study participants are referred to the HUMBA research midwives by their own midwives or their general practitioner but women can also refer themselves directly.

The study, led by the University of Auckland's head of Obstetrics and Gynaecology, Professor Lesley McCowan, is funded by the University, Counties Manukau Health, Cure Kids, the Lottery Grants Board and the Mercia Barnes Trust.

"By improving nutrition in pregnancy we are hoping to optimise both infant birth weight and the mothers' weight gain," says Professor McCowan. "It's known that large babies can become large children and large adults and this is an opportunity to try to break the obesity cycle during pregnancy."

The HUMBA trial recruits women in [early pregnancy](#) who are heavier than average (BMI>30) and is testing two novel, practical interventions:

- culturally appropriate, affordable, sustainable dietary education
- probiotic capsules (naturally occurring healthy bacteria that have potential to reduce diabetes in pregnancy).

"The HUMBA trial is an important first step to gaining insight into dietary education interventions that may work in the South Auckland population which has one of the highest rates of obesity in the world," says Professor McCowan. "Our vision is to pave the way to reducing the intergenerational cycle of overweight and obesity and the long-term health consequences in New Zealand children, women, families and communities."

The study's dietary education is provided by community health workers and is compared to routine dietary advice. The pro-biotic capsules are being compared with a placebo. To date the study has recruited 67 participants.

"We are now beginning to see women for their 28 and 36 week HUMBA visits," says Professor McCowan. "Several have finished their dietary interventions and our first participant had her baby in early September."

She says more than a quarter of a million New Zealand children are now overweight or obese.

The rates of overweight and obesity are much higher in Pacific and Māori children (51 percent and 43 percent). Pacific and Māori make up about half the population in the Counties Manukau district where this research is focussed.

"Being overweight in pregnancy is the starting point of obesity for many children," says Professor McCowan. "In Counties Manukau more than 40 percent of mothers are significantly overweight when they become pregnant."

She says when overweight mothers become pregnant the unborn baby is exposed to excess nutrients inside the womb which makes them more likely to be born large and to become [overweight](#) as children and adults.

"The problem for the baby is worsened in [overweight mothers](#) who also gain excessive weight or develop gestational diabetes mellitus (GDM) while pregnant," she says. "Unfortunately, the majority of pregnant women gain excessive weight while pregnant and gestational diabetes is becoming increasingly common as women get heavier."

"Pregnancy is described as a "teachable moment" that provides a window

of opportunity in which to intervene to improve the environment the unborn child is exposed to and to improve subsequent child and maternal health," says Professor McCowan.

"An important first step to breaking this vicious inter-generational cycle is to develop successful interventions for these [women](#) and their families," she says. "If pregnancy [weight gain](#) can be limited and maternal glucose metabolism improved, fewer infants will be born excessively large. "

Provided by University of Auckland

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