

PLANNING FOR A HEALTHY START

A diet and lifestyle mobile app targeting a critical window in early pregnancy is being introduced to women in the northern suburbs of Perth, with researchers hoping it will help break the ‘transmission’ of obesity from one generation to the next.



Obesity – a health issue that costs Australia an estimated \$58 billion a year – is projected to affect 75 per cent of the Australian population by 2030, partly thanks to ‘intergenerational transmission’

which sees the health issue passed from one generation to the next.

It’s a cycle researchers with The ORIGINS Project believe they can help to break with a simple, well-timed intervention aimed at prospective mothers early in their pregnancies.

The evidence-based PLAN app (Pregnancy, Lifestyle, Activity and Nutrition) collects data from pregnant women and provides interactive feedback to help them achieve healthy gestational weight gain and maintain diet and exercise during pregnancy.

A clinical trial involving women birthing at the Joondalup Health Campus (JHC) showed that after 12 weeks of using the PLAN app, the intervention group had a significantly improved diet, improved measured motivation to change their lifestyle, and lower infant weight at three months of age, compared to a control group.

The results led JHC – in consultation with its antenatal clinic, dietetics, paediatric and obstetric departments, and the Perth Pregnancy Clinic – to endorse wider roll-out of the PLAN app, and it is now being embedded in routine clinical practice in the antenatal clinic.

Clinical researcher Associate Professor Rae-Chi Huang, who led the PLAN study, said that previously there had been no formalised way of addressing overweight and obesity in mothers who came to JHC to have their baby.

“JHC has 3,500 births each year and we found that more than 40 per cent of these mothers enter pregnancy overweight or obese,” Associate Professor Huang said.

“This may have a lifelong, detrimental impact on their child, as evidence shows that excess weight

gain during the first trimester increases the risk of obesity developing in offspring.”

JHC antenatal clinic now includes information on the PLAN app as part of its obstetric welcome pack, delivered to all women birthing at the hospital.

“Having the app certainly helps with difficult conversations around weight gain in pregnancy that may assist women getting intervention and support at an appropriate time in pregnancy,” JHC antenatal clinic midwife Nicole Shaw said.

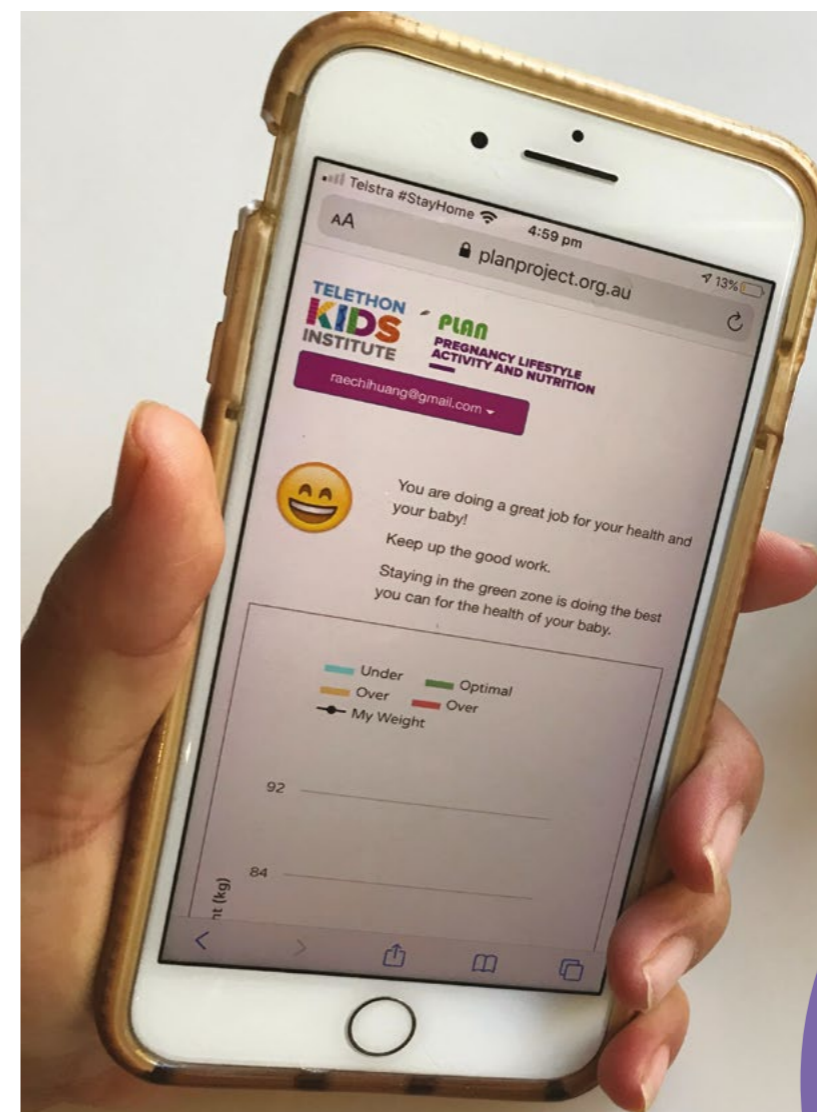
Researchers increasingly understand that an individual’s lifetime health and disease may be programmed at a very early stage, while a child is still in the womb. It was this knowledge which spurred The ORIGINS Project, a collaboration between Telethon Kids Institute and Joondalup Health Campus which is looking at the impact of the early environment on short and long-term health outcomes.

One of the most comprehensive studies of pregnant women and their families in Australia to date, ORIGINS is collecting detailed information from 10,000 families over a decade on how a child’s early environment and parents’ physical health and genetics influence the risk of a wide range of diseases and conditions such as asthma, eczema, food allergies, hay fever, diabetes, obesity and autism.

Even small changes in infant weight have the potential to change future obesity trajectories, leading to a lifetime of improved health.

With obesity and overweight affecting 25 per cent of Australian children, the PLAN study was embedded as a sub-project of The ORIGINS Project to try to address the issue early on.

Associate Professor Huang believes the PLAN app will help many women maintain a focus on good health during their pregnancy journey.



“We are seeing an increasing number of studies promoting healthy gestational weight gain, but a limitation of many of these interventions is the reliance on support from research staff or health professionals, restricting the reach and scalability to larger sections of the community,” she said.

“With the JHC antenatal clinic offering the digital delivery of these interventions through the PLAN app, it offers a low-cost, easy access method to augment their health professional care.”

The Western Australian Health Translation Network awarded Federal Budget funds for the Rapid Applied Research Translation program to conduct this work in the antenatal area of Joondalup Health Campus.

The ORIGINS Project is a collaboration between the Telethon Kids Institute and Joondalup Health Campus, which is part of Ramsay Health Care. The project is funded by the Paul Ramsay Foundation and the Commonwealth Government through Telethon.



What’s next?

- The team is implementing an upgrade to the app in July 2020, and will also incorporate strategies to ensure sustainable benefits, such as workshops for clinicians, a manual, guidelines, and an implementation framework for the hospital.
- If the app is successful at JHC, ORIGINS will seek funding to roll out the app to antenatal clinics nationally.