

2014/2015 Summer Studentship Project Application Form

Send to: Research Office, University of Otago Christchurch, PO Box 4345, Christchurch, by 5pm on **4 July 2014**

Supervisor Information (First named supervisor will be the contact):

Supervisor's Name(s): Joanna Gullam and Ruth Hughes

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Research Category (Choose one category only – to be used for judging the students' presentations):

Clinical YES

Laboratory

Community

Project Title (20 words MAXIMUM):

Evaluation of the latest NZ guidelines for screening for persistent postpartum hyperglycaemia following gestational diabetes

Project Description:

Aim: The latest recommendation from the NZ Gestational Diabetes Guidelines Group is to screen for persistent hyperglycaemia following gestational diabetes (GDM) with either a 2 hour oral glucose tolerance test (OGTT), or with an HbA1c measurement at three months postpartum. It is our local practice to screen all women who have had GDM with an OGTT at approximately six weeks postpartum. There are huge changes to red cell turnover at the time of delivery with blood loss, blood transfusions, iron deficiency and iron replacement all playing a role. These changes to red cell turnover have a direct effect on the HbA1c measurement. Other groups have shown that there is no correlation between an HbA1c measurement taken at 6 weeks postpartum and an OGTT. It seems logical that delaying the HbA1c measurement to three months postpartum might result in a better correlation with the OGTT, but there is no evidence to support this recommendation. Our aim is to evaluate the correlation between an HbA1c measurement and an OGTT at three months postpartum to screen for persistent hyperglycaemia in women that had a diagnosis of gestational diabetes.

Method: Women with GDM will be booked as is usual care to have a postnatal OGTT together with an HbA1c, but the test will be delayed until three months postpartum. The correlation between the two tests will then be explored. In order to achieve 90% power for detecting a correlation of ≥ 0.5 , a sample of at least $n=34$ is required. The sample size should be achieved within 9 weeks based on our current rates of GDM. The student will be expected to collate and analyse the test results with statistical support.

Significance: This study is an audit/evaluation of the new recommendations for screening women for persistent hyperglycaemia post GDM. The recommendations are not evidence based and this study will provide data to assess the validity of these recommendations. Around 30-40% of women with GDM have persistent hyperglycaemia and it is important that these women are detected to implement management strategies to reduce the long-term risks to their health. An HbA1c measurement is a much more convenient test, but we do not want to recommend a shift towards ordering this test over an OGTT if it hasn't been validated in this population.

