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WELCOME

On behalf of the organising committee, it is with great pleasure that I invite you to the harbourside city of Sydney for the Annual Scientific Meeting of the Australasian Diabetes in Pregnancy Society (ADIPS). This meeting will be held at the International Convention Centre, Darling Harbour, from August 23rd to 25th.

We are delighted to welcome our Plenary Speaker, Professor Fidelma Dunne, Professor of Medicine at the National University of Ireland and a Consultant Endocrinologist at Galway University Hospital. Professor Dunne has been actively involved in research, including the EMERGE, DALI, CONCEPTT and EVOLVE trials, and is the current President of the International Diabetes in Pregnancy Study Group (IADPSG). She will deliver two plenary presentations: Pregnancy outcomes for women with type 1 and type 2 diabetes, and the evidence and impact of differing GDM criteria worldwide. We also have a diverse range of presentations from physicians, obstetricians, diabetes educators, midwives, dietitians and consumers.

There will be a conjoint afternoon plenary with the Australasian Diabetes Congress on Friday 23rd August, examining the maternal and fetal programming effects of gestational diabetes, hypertensive disorders of pregnancy and chronic disease on long term health outcomes.

The main themes for this meeting include:

- Maternal and Fetal Programming of Chronic Disease
- Optimising outcomes in Women with Diabetes in Pregnancy
- Technology: What, When and How?
- Guideline Updates: Therapeutic Guidelines, ADIPS and HAPO
- Strategies for managing difficult antenatal clinical scenarios: early testing, dietary challenges, steroid administration, timing of delivery and breastfeeding

In addition to an educational and informative meeting, there will be opportunities to review new research and clinical guidelines and update your knowledge of emerging new technologies available for those with pre-existing diabetes in pregnancy.

Our social calendar provides opportunities to reconnect with friends and colleagues over welcome drinks, as well as dinner “A Taste of Arabia” in Darling Harbour. And being in the heart of Sydney provides delegates with an opportunity to experience some of the iconic landmarks of the city we call home!

We look forward to seeing you at the ICC in August.

Dr Amanda Beech
Australasian Diabetes in Pregnancy Society ASM Convenor

LOCAL ORGANISING COMMITTEE

CONVENOR

Amanda Beech | Prince of Wales Hospital, The Royal Hospital for Women, University of New South Wales

Sarah Price | University of Melbourne

Victoria Rudland | Westmead Hospital & The University of Sydney

Arianne Sweeting | Royal Prince Alfred Hospital & The University of Sydney

ADIPS SECRETARIAT

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CONFERENCE SECRETARIAT

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INFORMATION FOR DELEGATES AND PRESENTERS

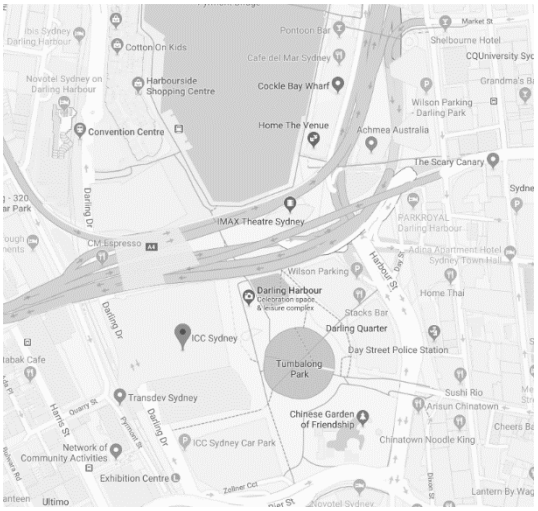
Venue Directory

International Convention Centre

14 Darling Drive
Sydney, NSW, 2000
Ph: +61 2 9215 7100

Web address: www.adipsasm.org

Location	Item
C4.4	Sessions
C4.5	Exhibition, Poster Display, Catering



Registration Desk

Operation Times:

- Friday 23rd August 2019 11:00am – 5:30pm
- Saturday 24th August 2019 7:30am – 5:00pm
- Sunday 25th August 2019 8:00am – 1:30pm

All conference related enquires should be directed to ASN Events staff at this desk.

Onsite Conference Manager:

Jordyn Trolove
ASN Events
Email: jordyn.t@asnevents.net.au
Mobile: +61 488 121 355

Registration Inclusions

Delegates will receive the following goods and services as part of their registration:

- Access to the sessions of your choice
- Conference satchel complete with conference program booklet
- Morning tea, lunch and/or afternoon tea for the days of nominated attendance
- Ticket to the Welcome Function (booking required)
- Use of the conference app
- Complimentary Wi-Fi

Welcome Function

The Welcome Reception will be held on Friday the 23rd August from 5:00pm to 6:30pm at the International Convention Centre, Sydney in room C4.5.

Conference Dinner

The conference dinner is without a doubt one of the highlights of the meeting. Come and celebrate at Kazbah Darling Harbour on Saturday 24th August from 6:30pm until 11:00pm. You do not want to miss your chance to be part of the "Taste of Arabia" feast. If you haven't booked a ticket, please see the registration desk to see if there are still places available.

Speaker Preparation

Presentations are to be loaded directly onto the PC within the room in which they are presented in as early as possible, and no later than at the beginning of the break prior to their session. The presentation should be on a USB, saved in a format for display on a PC within the room. An ASN representative or AV technician will be on hand to assist with transfer / loading issues and to help review your presentation. There are no Macintosh computers in the presentation rooms; however, you can bring your own and present from it provided you bring the appropriate conversion cables.

Poster Presentations

Poster viewing will be during the Welcome Function on Friday from 5:00pm until 6:30pm. Posters can be displayed from afternoon tea on Friday and must be taken down by morning tea on Sunday. The approved way of attaching your poster is with Velcro, which will be provided on your poster board.

Nametags

Delegates are required to wear their nametags to all scientific and catered sessions.

iPhone/Android Conference Web-App

The App is displayed in a simple and easy to read format on your phone, iPad, or computer. To get the 'App', please open the below link in your internet browser on your smart phone, iPad or laptop.

http://adips-2019.m.asnevents.com.au/

You will be prompted to add an icon onto your device home screen. The 'App' will allow you to:

- View the full conference program
- View all abstracts for the conference
- Save your favorite sessions and plan your day
- Take notes which will then be saved and downloaded from your registration profile
- Participate in live polling during the sessions

To use most of these functions, you will be prompted to 'log in" each day. Simply enter the same email and password which you used to register.

Wi-Fi

Complimentary Wi-Fi is available for delegates within the conference areas for the duration of the conference. The Wi-Fi connection is suitable for the viewing of emails and browsing.
How to connect:

1. Please connect to the following Network: ICC Sydney
2. No password required
3. Start internet

Special Meal Requests

If you have nominated a special meal (dietary requirements, vegetarian, etc.) please identify yourself to the Convention Centre staff. All requests have been passed onto ICC and will be catered for accordingly.

Smoking

Smoking is not permitted in the venue.

Mobile Phones

Please ensure your mobile phone is turned to silent during any session you attend.

Insurance

The hosts and organizers are not responsible for personal accidents, any travel costs, or the loss of private property, and will not be liable for any claims. Delegates requiring insurance should make their own arrangements.

Disclaimer

The hosts, organizers and participating societies are not responsible for, or represented by, the opinions expressed by participants in either the sessions or their written abstracts.

INVITED SPEAKERS

International Speaker

Professor Fidelma Dunne

National University of Ireland, Ireland

Fidelma Dunne holds a Personal Professorship in Medicine at the National University of Ireland. She is a Consultant Endocrinologist at Galway University Hospitals group. She obtained her medical degree from the National University of Ireland Galway (NUIG), her MD from University College Cork, her PhD from the University of Birmingham UK and also holds a Masters in Medical Education from the University of Dundee Scotland and a Masters in Clinical Research from NUIG. She is a former Dean of the School of Medicine (2009-2013) and currently is a board member of the Irish Medical Council (IMC)(2013-present). Her major research interest is in the area of pregnancy and diabetes. She has published >200 peer review publications and has received >15 million euro in grant funding either as PI or collaborator of national and international projects. Her research group is conducting a number of studies as part of the ATLANTIC DIP programme including a randomized controlled trial (RCT) of Metformin in GDM pregnancies (EMERGE). In addition, she has been involved in a number of international studies including a multicentre European funded (FP7) trial on prevention of GDM using Vitamin D and lifestyle intervention (DALI); CONCEPTT, a JDRF funded trial examining the benefits of CGMS in women with Type 1 Diabetes in pregnancy; and EVOLVE, a pan European collection of outcomes for women with Type 1 and Type 2 diabetes treated with insulin. She is currently contributing to the EXPECT study examining Tresiba insulin in women with Type 1 Diabetes in pregnancy. Professor Dunne is the only Irish committee member of the Diabetes in Pregnancy Study Group (DPSG) of EASD and is the current President of the International Diabetes in Pregnancy Study Groups (IADPSG) from 2016-2020. She was a Fulbright scholar for 2014-2015 at Columbia University New York.

Keynote Speakers

Dr Fiona Britten

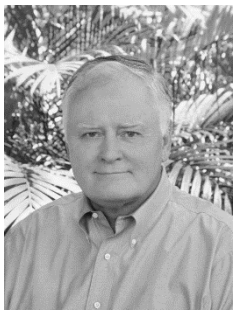
Royal Brisbane and Women's Hospital and the Mater Mothers' and Private Hospitals

Fiona Britten is an Obstetric Physician and Endocrinologist at the Royal Brisbane and Women's Hospital and the Mater Mothers' and Private Hospitals. She completed a dual degree Bachelor of Arts/Bachelor of Science in 2000, with majors in foreign languages and biomedical science. She completed her Bachelor of Medicine/Bachelor of Surgery in 2004, followed by physician training and advanced training in Endocrinology and Obstetric Medicine. Fiona also has a keen interest in teaching and research and has worked as Course Coordinator for the Third Year Medical Students at the Royal Brisbane and Women's Hospital. She has a special interest in lactation and is currently completing a Masters of Philosophy at the University of Queensland examining breastfeeding rates in women with type two diabetes, and factors influencing lactation outcomes in this population. She has been awarded a grant from the Royal Brisbane and Women's Hospital (RBWH) Foundation, as well as scholarships from the RBWH Foundation and Diabetes Queensland to support this research.

Megan Gemmill

Royal Women's Hospital

Megan Gemmill is a Credentialled Diabetes Educator and Registered Nurse/Midwife. Megan has been employed at the Royal Women's Hospital in the field of diabetes and pregnancy for ten years and is currently completing a Master of Public Health.



Professor David McIntyre

Mater Health Services & University of Queensland

Professor David McIntyre trained in Endocrinology in Australia and Belgium. He works clinically as Director of Obstetric Medicine at Mater Health Services and is Head of the Mater Clinical Unit for the University of Queensland. David has published over 180 papers (>12000 citations), primarily in the field of medical complications of pregnancy. Recent research studies have examined the effects of diabetes, obesity and hypertension during pregnancy on the health of Mothers and Babies, during pregnancy and with long term follow up. David is the Immediate Past Chair of the International Association of Diabetes in Pregnancy Study Groups (IADPSG). In 2016, he became the first Australian trained clinician to receive the Norbert Freinkel Award for contributions to diabetes in pregnancy from the American Diabetes Association.

Dr Sarah Price

University of Melbourne

Dr Sarah Price is an adult Endocrinologist (FRACP) and is the current President of the Australasian Diabetes in Pregnancy Society (ADIPS). She graduated from Monash University with first class honors (MBBS H1). She subsequently completed adult physician training, specialising in Endocrinology. In addition, she has completed a Diploma of Obstetrics and Gynaecology (DipRANZCOG) and Diploma of Child Health (DCH). Sarah was awarded a NHMRC post-graduate scholarship for her PhD research project titled 'Health consequences for mother and baby of substantial pre-conception weight loss in obese women', supervised by Professor Joe Proietto. This project was funded via a competitive Norman Beischer Medical Research Foundation grant. Her research interest is in the transgenerational transmission of metabolic disease including diabetes and obesity. Sarah regularly presents at both national and international conferences, and is involved in guideline development for the care of people living with diabetes. Sarah is involved in teaching University of Melbourne medical students and regularly contributes to the teaching of registrars. Sarah has public hospital appointments at Melbourne Health and Royal Women's Hospital, and works as a clinical trial physician with the University of Melbourne.

Dr Suet-Wan Choy

Austin Health, Eastern Health and the Mercy Hospital for Women

Dr Suet-Wan Choy completed her medical degree at Melbourne University with honours. She is a Nephrologist, General Physician and an Obstetric Medicine Physician with public clinical appointments at Austin Health, Eastern Health and the Mercy Hospital for Women. After completing her PhD at the Austin Hospital, University of Melbourne, Suet-Wan undertook a post-doctoral research fellowship at the Pittsburgh Center for Kidney Research, Renal-Electrolyte Division, Department of Medicine, University of Pittsburgh School of Medicine, Pennsylvania, USA. Suet-Wan has an active role in peri-operative medicine and provides medical consultation to surgical inpatients during the perioperative period at Austin Health. Suet-Wan is Co-Director of Physician Education and Regional Examiner at Austin Health. She is a clinical tutor, educational supervisor and professional development advisor for several basic and advanced physician trainees in General Medicine and advanced trainees in Nephrology at Austin and Eastern Health.

Local Speakers

Robyn Barnes

Diabetes Centre at Bankstown-Lidcombe Hospital

She has worked as a dietitian for over 20 years, and specialised in the field of diabetes for 16 years. She is a Senior Dietitian at the Diabetes Centre at Bankstown-Lidcombe Hospital. She is a Credentialed Diabetes Educator and Accredited Practising Dietitian. She is a PhD candidate at the University of Newcastle. She is researching the impact of dietary interventions on the optimisation of glycaemic control and neonatal outcomes in GDM. She is a lead or co-author of several publications on this topic. She is the NSW Convenor of the Dietitians Association of Australia Diabetes Special Interest Group.

Professor Wah Cheung

Westmead Hospital

Professor Cheung is a clinical academic who has had a long-standing interest in Diabetes in Pregnancy. He has published extensively in this field, with his research focusing on clinical and epidemiological aspects of diabetes in pregnancy, and prevention of diabetes after GDM. He has previously served as the President of the Australian Diabetes Society, Co-Chairperson of the National Diabetes in Pregnancy Advisory Committee to the Commonwealth, Chairperson of the National Association of Diabetes Centres, a Board Member of Diabetes Australia, and a council member of ADIPS. He is the Director of Diabetes & Endocrinology at Westmead Hospital.

Professor Jeff Flack

Diabetes Centre at Bankstown-Lidcombe Hospital

Main area of clinical research interest is Information Technology applications in Medicine, especially Data sets and Quality Audit initiatives involving Diabetes Data collection, analysis and reporting. He developed [with Professor Stephen Colagiuri] the Australian National Diabetes Information Audit and Benchmarking initiative, [ANDIAB], that collated diabetes data from Specialist Diabetes Services in Australia and benchmarked results for participants to review their process and outcomes data with peers. ANDIAB ran as a Pilot in 1998, thence in 1999 - 2011. He Chaired the National Diabetes Data Working Group [NDDWG] until 2012, the Advisory Committee to the National Centre for Monitoring Diabetes (Incorporating the National Diabetes Register) at the AIHW. He served on the Australian Diabetes Society Council from 2000-2006, and was ADS President 2004-2006. He is a Conjoint Professor, School of Medicine Western Sydney University and Conjoint Associate Professor, Faculty of Medicine UNSW. In August 2014 he was awarded Honorary Life Membership of the Society and an ADS Lifetime Achievement Award for services to diabetes including ANDIAB. Professor Flack received an AM in the Australia Day 2016 Honours List.

Deborah Foote

Royal Prince Alfred Hospital

Deb has been working as a clinical dietitian for almost 40 years, predominantly specialising in diabetes. Her early career included being part of the team to set up a paediatric diabetes clinic at the Mater Hospital Newcastle followed by 8 years in paediatrics at The Children's Hospital, Camperdown where she worked in diabetes as well as many other sub-specialities. Deb has been the Senior Diabetes Dietitian at Royal Prince Alfred Hospital since 1995. She is particularly interested in intensive management of type 1 diabetes including carbohydrate counting, insulin adjustments, pumps and glucose monitoring, and diabetes in pregnancy. She has seen a substantial growth in the numbers of women with type 1 diabetes attending for antenatal care. Additional to a busy clinical practice Deb is active in health professional education and research.

Dr Adrienne Gordon

Royal Prince Alfred Hospital

Dr Adrienne Gordon is a Senior Neonatal Staff Specialist in the Royal Prince Alfred Hospital (RPAH) centre for newborn care and has just completed her NHMRC Early Career Fellow (ECF) at The University of Sydney. She is particularly interested in perinatal topics with a public health impact and her Fellowship focused on improving evidence and information resources for pregnant women targeting health behaviours that can optimise pregnancy outcome particularly stillbirth prevention. She is a chief investigator on the NHMRC Centre of Research Excellence in Stillbirth and leads the public awareness aspect of the program. Adrienne is involved in many ongoing multicentre NHMRC funded randomised controlled trials in perinatal care including the Australian Placental Transfusion Study, the My Babys Movements Trial, LIFT and PROTECT and is a key member of the Perinatal Society for Australia and New Zealand IMPACT Network which supports investigator led perinatal trials to improve maternal and newborn care. She currently leads a collaborative intervention enabled cohort called BABY1000 at the University of Sydney's Charles Perkins Centre, which aims to determine the modifiable risks and interventions prior to and during pregnancy that impact on offspring obesity, diabetes and cardiovascular disease.

Professor Jon Hyett

Royal Prince Alfred Hospital

Jon Hyett is the Head of High Risk Obstetrics and a Senior Staff Specialist in Obstetrics and Maternal and Fetal Medicine at the Royal Prince Alfred Hospital, Sydney. He is also Clinical Professor in the Discipline of Obstetrics, Gynaecology and Neonatology at the University of Sydney and a member of the Sydney Institute for Women, Children and their Families. Jon is a trustee of the Fetal Medicine Foundation (UK) as well as of the International Society of Ultrasound in Obstetrics and Gynaecology – where he is also the current Chair of the Education Committee. Jon's primary research interests include predictive modelling and preventative interventions for adverse obstetric outcomes. Many of these models are based on first trimester screening.

Dr Emma Inglis

Westmead and Auburn Hospitals

Dr Emma Inglis is a Staff Specialist in Obstetrics and Gynaecology at Westmead and Auburn Hospitals in Western Sydney. Dr Inglis completed her medical degree at Sydney University and her speciality training at Westmead Hospital. She is responsible for patients attending the multidisciplinary obstetrics and endocrinology antenatal clinic at Westmead Hospital.

A/Professor Sandra Lowe

Royal Hospital for Women & University of NSW

Sandra Lowe is a Consultant Obstetric Physician at the Royal Hospital for Women and Conjoint Associate Professor at the University of NSW. A/Prof Lowe speaks regularly at National and International conferences of Obstetric Medicine and she has a long-standing interest in teaching obstetric medicine. She has published numerous articles including as lead author of the SOMANZ National Guidelines on the Management of Hypertension in Pregnancy (2014) and Nausea and Vomiting in Pregnancy (2019) and contributed chapters to a number of textbooks of obstetric medicine. A/Prof Lowe is the Founding Co-editor of the international journal; "Obstetric Medicine". She has had longstanding executive roles with both local and international Societies of Obstetric Medicine and is the Immediate Past-President of the International Society of Obstetric Medicine. In 2017 A/Prof Lowe was awarded an AM as a Member of the Order of Australia for her contributions to obstetric medicine and in 2018, she was privileged to be appointed an Honorary Fellow of RANZCOG.

Dr Sue Mei Lau

Royal Hospital for Women & Prince of Wales Hospital

Sue Mei is a staff specialist endocrinologist and on-call physician at the Royal Hospital for Women, and Acting Director of the Department of Diabetes and Endocrinology at Prince of Wales Hospital in Sydney. Sue Mei has a clinical and research interest in diabetes in pregnancy.

Dr Jovana Mijatovic

The University of Sydney

Jovana Mijatovic graduated as an Accredited Practising Dietitian (APD) and Nutritionist in 2014. She was recently recommended for an award of a PhD. Her thesis project and pilot randomized clinical trial entitled MAMI GDM (Macronutrient Adjustments in Mothers to Improve GDM outcomes), April 2016 – May 2018, focused on prescribing a moderately lower carbohydrate diet for the management of pregnancies complicated by gestational diabetes. Following Jovana's thesis submission in November 2018, she worked as a research assistant under the supervision of Prof Jennie Brand-Miller, before being offered a postdoctoral research fellow position at The Boden Institute of Obesity, Nutrition, Exercise and Eating Disorders, Faculty of Science and Medicine in March 2019, where she now manages the Small baby Omega 3 (SO3) clinical trial.

A/Professor Glynis Ross

Royal Prince Alfred Hospital

Associate Professor Glynis Ross is an endocrinologist at Royal Prince Alfred Hospital (Lead Endocrinologist in the RPAH Diabetes in Pregnancy Service since 1989), Bankstown-Lidcombe Hospital, Sydney and Bathurst. Glynis has been on the Australian Diabetes Society Council since 2012, currently President. She was on ADIPS Council for two 8-year terms [President 2008-2010]. Her major clinical and research interests are Diabetes in Pregnancy, Type 1 Diabetes, Insulin Pump Therapy and Inpatient Diabetes Management. She serves on State and National Working Parties and in teaching programs for trainees in Anaesthetics, Obstetrics & Gynaecology, Physicians, Midwives, General Practitioners and Medical Undergraduates.

Dr Christopher Rowe

John Hunter Hospital

Dr Christopher Rowe is a Consultant Endocrinologist at John Hunter Hospital in Newcastle. He has published on insulin resistance in pregnancy and in type 1 diabetes, and is involved with studies of glycaemic control following betamethasone in women with diabetes in pregnancy. His current doctoral studies examine neurotrophins in nodular thyroid disease, and he has published on the management of thyroid nodules and thyroid cancer in pregnancy.

Dr Victoria Rudland

The University of Sydney

Victoria is a Staff Specialist Endocrinologist at Westmead Hospital and Unit of Study Coordinator/Lecturer for the Masters of Metabolic Health at The University of Sydney. She is leading the update of the ADIPS guidelines for pre-existing diabetes in pregnancy. Victoria was awarded the Peter Bancroft Prize by The University of Sydney for her NHMRC-funded PhD in gestational diabetes, and has a number of publications in high impact journals including novel findings in monogenic diabetes and zinc transporter antibodies in gestational diabetes. Victoria is currently working on two multicentre research studies that aim to evaluate the new diagnostic criteria and investigate the maternal gut microbiome in gestational diabetes.

Dr Renuka Shanmugalingam

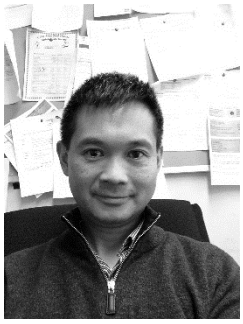
Liverpool and Bankstown Hospitals

Dr.Renuka Shanmugalingam is a nephrologist in Liverpool and Bankstown Hospitals (SWSLHD, NSW) with a strong clinical and research interest in obstetric medicine. She is in the final stages of completing her PhD on the immunomodulatory role of aspirin in the prevention of pre-eclampsia. Her work has been presented and awarded at both international and local conferences. She is also a researcher in the Women's Health Initiative Translational Research Unit (WHITU) at Liverpool Hospital and has a passion for improving maternal outcomes in high-risk pregnancies.

Professor David Simmons

Campbelltown Hospital

David is Professor of Medicine Western Sydney University (WSU), Macarthur Clinical School; Head of the Endocrinology Department, Campbelltown Hospital; Director of the South western Sydney Diabetes, Obesity, Metabolism Translational Research Unit (DOMTRU); Professorial Fellow, University of Melbourne and Visiting Professor, University of Örebro, Sweden. He is a previous President of ADIPS and is currently on the ADIPS Board where he chairs the ADIPS Clinical Audit Working Group. Between 2007-2014, he was the lead diabetes consultant at Cambridge University Hospitals NHS Foundation Trust, UK, the inaugural Professor of Medicine at the University of Auckland Waikato Clinical School/General Physician-Diabetes specialist at Waikato Hospital 2003-2007 and between 1998-2002, he was the Foundation Chair in Rural Health and First Dean of the Rural Clinical School, University of Melbourne as well as General Physician-Diabetes specialist at Goulburn Valley Health. He has over 300 publications and won several national and international awards for his work on diabetes.



Dr Vincent Wong

Liverpool and Bankstown Hospitals

Dr Vincent Wong is currently the Director of Diabetes and Endocrine Service at Liverpool and Fairfield Hospitals, and is conjoint associate professor at the South Western Sydney Clinical School, University of New South Wales. Although his PhD studies focussed on the effects of insulin on the ischaemic myocardium, in recent years he has developed an interest in gestational diabetes. Over the past 12 years, he has been collecting data on women with diabetes (gestational diabetes and pre-existing diabetes) in pregnancy, and has published widely in this field. Apart from studying the epidemiology of women with diabetes in pregnancy, he also collaborates with Professor David Simmons and Professor Jeff Flack in many aspects of diabetes care through the Diabetes, Obesity and Metabolism Translation Research Unit in South Western Sydney Local Health District.

PROGRAM

Friday 23rd August 2019

Registration Open
11:00am — Panorama Ballroom
Foyer

ADC/ADIPS Joint Plenary
12:15pm - 1:00pm — Parkside 2
Chair: Sarah Price

12:15pm **Karen Moritz**
Fetal Programming and its Metabolic Consequences

Lunch
1:00PM - 2:00PM

Maternal Outcomes and Chronic Disease
2:00PM - 3:00PM — Darling Harbour Theatre
Chair: Amanda Beech

2:00 PM **Sue Mei Lau**
Life after GDM: long term health outcomes in women with a history of GDM. abs# 2
2:30 PM **Suet-Wan Choy**
Hypertension in pregnancy as a risk factor for future cardiovascular disease. abs# 3

Improving Maternal Outcomes in T1DM and T2DM
3:00PM - 3:30PM — Darling Harbour Theatre
Chair: Ian Fulcher

3:00 PM **Renuka Shanmugalingam**
Prophylactic use of Aspirin in the prevention of pre-eclampsia abs# 4

Afternoon Tea
3:30PM - 4:00PM

First Trimester Prediction of Pre-Eclampsia
4:00PM - 4:45PM — Darling Harbour Theatre
Chair: Arianne Sweeting

4:00 PM **Jon Hyett**
First trimester prediction for prevention of pre-eclampsia: Can't we be bothered? abs# 5

Welcome Function and Poster Viewing
5:00PM – 6:30PM — Meeting Room C4.5

Saturday 24th August 2019

Medtronic Breakfast Symposia (breakfast provided)
7:15AM – 8:15AM Meeting Room C4.4

7:15 AM **David Simmons**
Diabetes in Pregnancy: Time in Range, Time for Change?

Plenary 1: Outcomes for Women with T1DM, T2DM and the Evolve Trial
8:30AM - 9:30AM Meeting Room C4.4
Chair: Sarah Price

8:30 AM **Fidelma Dunne**
Outcomes for women with Type 1 and Type 2 diabetes; Disease burden starting pregnancy and strategies to improve pregnancy outcomes. abs# 6

Using Technology to Improve Outcomes in Diabetes in Pregnancy
9:30AM – 11:00AM Meeting Room C4.4
Chair: Cindy Porter

9:30 AM **Glynis Ross**
Using Technology to Improve Outcomes in Diabetes in Pregnancy abs# 7

10:30 AM **Megan Gemmill**
A Diabetes Educator Perspective of the CGM Subsidy at an Inner City Tertiary Hospital abs# 8

Morning Tea
11:00AM - 11:30AM Meeting Room C4.5

Updates: Guidelines, Clinical Audit and HAPO
11:30AM – 1:00PM Meeting Room C4.4
Chair: Leonie Callaway

11:30 AM **Sarah Price**
A review of the 'National Consensus Meeting on the definition of Gestational Diabetes' hosted by Therapeutic Guidelines abs# 9

11:50 AM **Victoria Rudland**
ADIPS Guidelines for Pre-existing Diabetes and Pregnancy abs# 10

12:10 PM **David Simmons**
ADIPS Diabetes in Pregnancy Clinical Audit Programme abs# 11

12:30 PM **David McIntyre**
The HAPO Follow Up Study (HAPO FUS) abs# 12

ADIPS AGM
1:00PM - 2:00PM Meeting Room C4.4

Lunch
1:00PM - 2:00PM Meeting Room C4.5

Oral Presentations
2:00PM - 3:00PM Meeting Room C4.4
Chair: Helen Barrett

2:00 PM **David Simmons**
The metabolic phenotypes of early onset gestational diabetes mellitus (GDM) and their association with adverse pregnancy outcomes abs# 13

2:10 PM **Claire T Roberts**
Validation of an Early Risk Prediction Tool for Gestational Diabetes in Nulliparous Women abs# 14

2:20 PM **Tang Wong**
Novel Web-based Risk Calculators and Nomograms for Predicting Adverse Pregnancy Outcomes in GDM Women abs# 15

2:30 PM **Rona Francisco**
Increased rate of SGA in GDM patients diagnosed according to IADPSG criteria abs# 16

2:40 PM **Danielle AJM Schoenaker**
Are diabetes in pregnancy and maternal BMI independently associated with offspring adiposity across childhood and adolescence? A life course analysis of the Longitudinal Study of Australian Children abs# 17

2:50 PM **Robyn A Barnes**
Does the addition of multidisciplinary weight management to GDM management equate to better pregnancy outcomes? abs# 18

Diets and Diabetes
3:00PM - 3:30PM Meeting Room C4.4
Chair: Marina Mickleson

3:00 PM **Robyn Barnes**
GDM and Ramadan abs# 19

3:10 PM **Jovana Mijatovic**
Modestly lower carbohydrate diet for gestational diabetes: are there unintended and potentially adverse effects on offspring? abs# 20

3:20 PM **Deborah Foote**
Challenges in nutritional management of type 1 diabetes in pregnancy abs# 21

Afternoon Tea
3:30PM - 4:00PM Meeting Room C4.5

Perspectives on GDM
4:00PM - 5:00PM Meeting Room C4.4
Chair: Victoria Rudland

4:00 PM **Glynis Ross**
Gestational Diabetes in the RPAH Diabetes in Pregnancy Service 1984-2019 abs# 22

4:10 PM **N Wah Cheung**
Developing a Career in Diabetes in Pregnancy Research and Public Health through Data and Service abs# 23

4:20 PM **David Simmons**
Perspectives on GDM abs# 24

4:30 PM **Jeff Flack**
Data and GDM/DIP abs# 25

4:40 PM **Vincent Wong**
Managing gestational diabetes in a busy hospital: journey of a junior consultant and his evolvement to a relatively senior clinician abs# 26

4:50 PM **Sandra Lowe**
Management of diabetes in labour – a low intervention model. abs# 27

Conference Dinner "Taste of Arabia"
6:30 pm – 11:00pm Kazbah Darling Harbour

Sunday 25th August 2019

Plenary 2: Worldwide GDM Criteria: Choices, their Evidence and Impact
8:30AM - 9:30AM Meeting Room C4.4
Chair: David McIntyre

8:30 AM **Fidelma Dunne**
Worldwide GDM criteria: Choices evidence and impact. abs# 28

Antenatal Steroid Administration and Diabetes
9:30AM - 10:30AM Meeting Room C4.4
Chair: Peter Wein

9:30 AM **Emma Inglis**
Steroid administration: why, when and what? abs# 29

9:50 AM **Adrienne Gordon**
Antenatal steroids to improve neonatal outcome: too much of a good thing? abs# 30

10:10 AM **Christopher Rowe**
Maternal hyperglycaemia and neonatal hypoglycaemia following betamethasone can be safely reduced by a pregnancy-specific algorithm-driven intravenous insulin infusion in women with gestational diabetes abs# 31

Morning Tea
10:30AM - 11:00AM Meeting Room C4.5

Oral Presentations
11:00AM - 12:10PM Meeting Room C4.4
Chair: David Simmons

11:00 AM **Felicia Widyaputri**
Adherence and Barriers to the Recommended Diabetic Retinopathy Screening Guidelines in Pregnant Women with Type 1 and Type 2 Diabetes abs# 32

11:10 AM **Carlos Salomon**
Changes in the circulating exosomal miRNAs across gestational diabetes mellitus pregnancies and their association with insulin sensitivity across gestation abs# 33

11:20 AM **Martha Lappas**
Role of adipose tissue derived mediators in regulating placental function in gestational diabetes abs# 34

11:30 AM **Arianne N Sweeting**
Antenatal corticosteroid administration in pregnancies complicated by diabetes: A prospective randomised controlled pilot study of a subcutaneous versus intravenous insulin protocol abs# 35

11:40 AM **Amanda J Poprzeczny**
Direct Fetal Intramuscular Betamethasone Injection as an Alternative Approach for Women with Type 1 Diabetes Mellitus at Risk of Preterm Birth: a Case Series abs# 36

11:50 AM **Sarah Chalak**
Is better peripartum glycaemic control in pre-existing diabetes linked to better outcomes? abs# 37

12:00 PM **Alison Green**
Diagnosing and providing initial management for patients with Gestational Diabetes: What is the General Practitioner's experience? abs# 38

Consumer Perspectives and Breastfeeding
12:10PM - 1:00PM Meeting Room C4.4
Chair: Janet Lagstrom

12:10 PM **Leonie Callaway**
Frank feedback – Consumers perspectives on GDM abs# 39

12:30 PM **Fiona Britten**
Breastfeeding in Women with Type 1 and Type 2 Diabetes abs# 40

Conference Close and Awards
1:00PM - 1:15PM Meeting Room C4.4

Lunch
1:15PM - 2:00PM Meeting Room C4.5

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Hannah Christie
Postprandial Walking as a Potential Non-Pharmacological Treatment for Women with Gestational Diabetes Mellitus (GDM): A Pilot Study abs# 42

Melissa Colombo
Pilot study of dietary intake, knowledge, attitudes and beliefs of women with gestational diabetes following initial group nutrition education. abs# 43

Veronica Corotto
Management and Outcomes in Pregnancies Complicated by Type 1 Diabetes Mellitus: A 4 year Audit of Practice. abs# 44

Susan de Jersey
How has changing the diagnostic criteria for GDM impacted perinatal outcomes in Queensland? abs# 45

Difei Deng
The prevalence of non-alcoholic fatty liver detected by FibroScan® in pregnant women at risk of developing gestational diabetes in a multiethnic population in Western Sydney. abs# 46

Kathryn Garsia
Investigating the role of the pharmacist in contraception and pre-pregnancy care for women with Type 1 and Type 2 diabetes in South West Sydney: patient and pharmacist perspectives. abs# 47

Kamala Guttikonda
A Tale of Two Diabetes: Pregnant Woman with Diabetes Insipidus and Gestational Diabetes – A Case Report. abs# 48

Amy L Harding
Complexities with diagnosis: A rare cause of diabetes mellitus in pregnancy. abs# 49

Kaitlyn KH Hockey
No Suggestion of Interventricular Wall Hypertrophy in Infants Born to Diabetic Mothers Compared to Controls. abs# 50

Tina TK Ko
Slipping Through the Cracks: Misconceptions of Pregnancy Oral Glucose Tolerance Testing in Women Prescribed Corticosteroids during Pregnancy. abs# 51

Siehoon Lah
Aspirin may protect from pre-eclampsia in women with pre-existing diabetes and additional risk factors, but increases the risk of post-partum haemorrhage. abs# 52

Robyn L Lawrence
Estimating true prevalence of gestational diabetes in New Zealand: commonly used data sources result in significant variation. abs# 53

Weiying Lim
Utility of continuous glucose monitoring and flash glucose monitoring for pregnant women with diabetes mellitus after steroid administration? abs# 54

Sharon Luccisano
Retrospective Audit of Obstetric Data: Prevalence and impact of obesity in early pregnancy in rural NW Tasmania. abs# 55

Julia Martin
Nutrient intake, carbohydrate counting and self-management skills in pregnant women with Type 1 Diabetes Mellitus. abs# 56

Michele Martin
The usefulness (or uselessness) of HbA1c for women tested early in pregnancy for GDM. abs# 57

Belinda J Moore
Multidisciplinary Care for Women with Diabetes in Pregnancy-are the services we are providing women actually improving maternal, foetal, neonatal and childhood health and wellbeing outcomes? abs# 58

Dorothy Ndwiga
Perceptions of risk and experiences of gestational diabetes mellitus among Australian Samoan women in South Western Sydney. abs# 59

Bianca Nightingale
A Retrospective Audit of the Efficacy of New Glycaemic Targets in the Treatment of Gestational Diabetes Mellitus (GDM) in the Sunshine Coast Hospital and Health Service District (SCHHS). abs# 60

Ajuma Ogiji
Investigating The Link Between Depression and Gestational Diabetes In Rural Australia. abs# 61

Rebecca Olivo
Oral glucose tolerance testing in pregnancy and impact on perinatal outcomes. abs# 62

Uchechukwu L Osuagwu
Reduction in pregnancy risk among young women with diabetes in a transition diabetes clinic. abs# 63

Sheila Pham
e-patients with sugar babies: How women diagnosed with gestational diabetes mellitus self-manage and experience support using the internet, social media and apps. abs# 64

Lisa Raven
Insulin isophane allergy in gestational diabetes mellitus. abs# 65

Lisa Raven
Associations of late third trimester HbA1c with adverse pregnancy outcomes in women with gestational diabetes. abs# 66

Helen Robinson
Ketonuria is associated with changes to the abundance of Roseburia in the gut microbiota of overweight and obese women at 16 weeks gestation. abs# 67

Natassia Rodrigo
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Christopher W Rowe
An insulin infusion designed for pregnancy provides comparable glycaemic control following betamethasone in women with gestational and pre-existing diabetes, although hypoglycaemia is more common in pre-existing diabetes. abs# 69

Christopher W Rowe
Transient extreme insulin resistance in pregnancy following betamethasone administration managed with high-dose intravenous insulin: case series and literature review. abs# 70

Jasmin Russell
Preconception weight loss therapy improves pregnancy outcomes and reduces kidney-related adverse effects of maternal obesity. abs# 71

David Simmons
An early pregnancy HbA1c ≥5.9% (41 mmol/mol) is not a valid biomarker for early or late gestational diabetes mellitus and does not predict adverse pregnancy outcomes in obese pregnant women. abs# 72

David Simmons
Relationship between sleep and snoring and body mass index among women with risk factors for gestational diabetes mellitus at booking: Preliminary findings from a multicentre randomized trial. abs# 73

Elizabeth Skalkos
Evaluation of the Diabetes Contraception and Pre-pregnancy Program (DCAPP) in General Practice. abs# 74

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Caring for women with Type 1 and Type 2 diabetes in pregnancy on the Coast- a model of care. abs# 75

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David Simmons
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Rosie J Viner
The I in IOL is rapidly becoming GDM-I - An audit of induction of labour at a tertiary metropolitan hospital in Western Australia. abs# 78

Aishah Virk
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Ching Shan Wan
Qualitative investigation into culturally appropriate gestational diabetes mellitus care: providers' and patients' perspectives. abs# 80

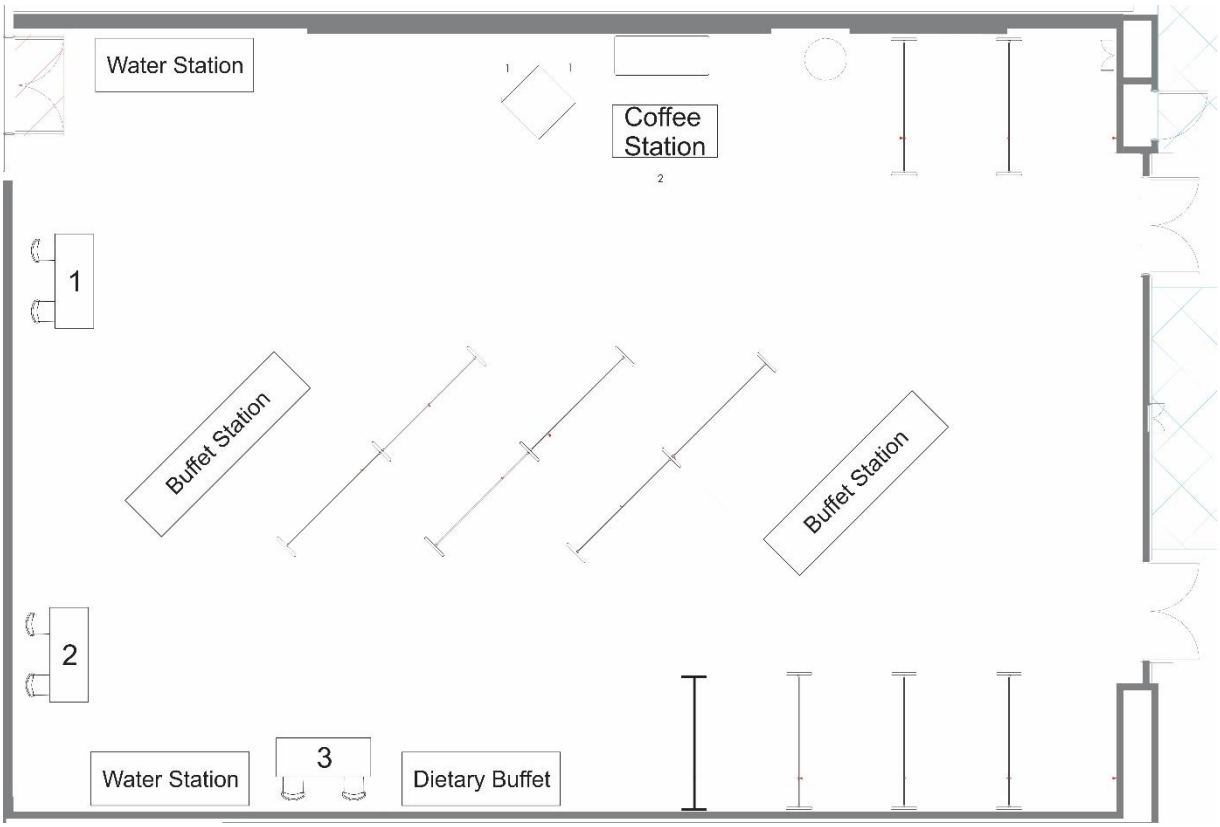
Tang Wong
Can risk prediction calculators be used to inform models of care aligned to risk stratification in women with GDM? abs# 81

Karen Wynter
Psychosocial Wellbeing among New Mothers with Diabetes: Analysis of the Postnatal Wellbeing in Transition Questionnaire. abs# 82

Rosemary Young
Gestational Diabetes in the ACT: Continuing to Grow. abs# 83

Julia Zinga
Factors that drive behaviour change in women diagnosed with Gestational Diabetes Mellitus at the Royal Women's Hospital. abs# 84

EXHIBITION & FLOOR PLAN



EXHIBITION FLOOR PLAN

SPONSOR & EXHIBITOR LISTING

Diabetes Australia ***Table 3***

The National Diabetes Services Scheme (NDSS) is an initiative of the Australian Government administered with the assistance of Diabetes Australia. Through the NDSS people living with diabetes have timely access to quality information, support services and subsidised diabetes products. Registration is free and open to people with diabetes with a Medicare Card.

Novo Nordisk Pharmaceuticals ***Table 2***

At Novo Nordisk, we are driving change to defeat diabetes and other serious chronic conditions.
Novo Nordisk is a global healthcare company with 95 years of innovation and leadership in diabetes care. This heritage has given us experience and capabilities that also enable us to help people defeat obesity, haemophilia, growth disorders and other serious chronic conditions.

Medtronic Australasia ***Table 1***

Making healthcare better is our priority, and we believe medical technology can play an even greater role in improving people's lives. With challenges facing families and healthcare systems — such as rising costs, aging populations, and the burden of chronic disease — we are using the power of technology to take healthcare Further, Together.

Innovation and collaboration are central to who we are. Since the late 1940s, we have been working with others to alleviate pain, restore health, and extend life. Today, we are a medical technology leader, employing more than 84,000 people worldwide, and offering therapies and solutions that enable greater efficiency, access, and value — for healthcare systems, providers, and the people they serve.

1

Fetal Programming and its Metabolic Consequences

Karen Moritz[1]

1. University of Queensland, St Lucia, Qld, Australia

Content not available at time of print.

2

Life after GDM: long term health outcomes in women with a history of GDM

Sue Mei Lau[1]

1. Prince of Wales Hospital, Randwick , NSW, Australia

Pregnancy unmasks an underlying disposition for metabolic dysfunction. Women with GDM have chronic beta cell dysfunction which is present before and after gestation. These women are 7 times more likely to develop type 2 diabetes compared to those without a history of GDM. In addition, they are 2-4 times as likely to develop metabolic syndrome and twice as likely to develop cardiovascular disease. This talk also discusses strategies for minimising the risk and impact of these chronic conditions in women with a history of GDM. These strategies include improved screening for type 2 diabetes, risk stratification, diet and exercise, pharmacological measures such as metformin, and breastfeeding.

3

Hypertension in pregnancy is a recognised risk factor for future cardiovascular disease in both mother and offspring. Hypertensive disorders of pregnancy (HDP) comprise gestational hypertension, pre-eclampsia/eclampsia, chronic hypertension and pre-eclampsia superimposed on chronic hypertension

Suet-Wan Choy[1]

1. Austin Health, Heidelberg, Vic, Australia

Maternal outcomes:
Women with a history of HDP are at increased risk of developing premature cardiovascular diseases such as hypertension, stroke and ischaemic heart disease later in life1,2. It is unclear whether pregnancy unmasks their cardiovascular risk, or whether HDP are an index event causing cardiovascular damage given the oft shared cardiovascular risk factors. The underlying pathophysiological mechanism for this association is unknown, though plausibly might relate to endothelial dysfunction and subclinical inflammation or ischaemia that persists for years in both the large vessels and microvasculature after delivery 2,3. Exploration of these potential mechanisms will be discussed briefly.

Offspring outcomes:
The associations between HDP and subsequent cardiovascular disease in the offspring are complex. Recent observational epidemiological studies have demonstrated that maternal hypertensive disorders are associated with an adverse cardio-metabolic risk in adult offspring (including raised body mass index, overweight and obesity and higher blood pressure)4,5. Both pre-eclampsia and gestational hypertension are associated with hypertension and stroke in the adult offspring5.

Postpartum follow up:
There is substantial variation in clinical recommendations and guidelines as to the optimal management of these women postpartum6. There is ongoing need for further research to determine effective and cost-efficient follow-up strategies of these high-risk women. The postpartum period offers an ideal opportunity to improve education, offer lifestyle intervention, make an early diagnosis of chronic hypertension and provide appropriate treatments to prevent and potentially reduce long term cardiovascular risk.

1. 1. MacDonald SD, Malinowski A, Zhou Q et al. Cardiovascular sequelae of preeclampsia/eclampsia: a systematic review and meta-analyses. Am Heart J 2008; 156:918-30.
2. 2. Bellamy, L, Casas J-P, Hingorani AD, Williams DJ. Pre-eclampsia and risk of cardiovascular disease and cancer in later life: systematic review and meta-analysis. BMJ 2007;335:974.
3. 3. Agatisa PK, Ness RB, Roberts JM et al. Impairment of endothelial function in women with a history of preeclampsia: an indicator of cardiovascular risk. Am J Physiol Heart Circ Physiol 2004; 286:H1389-93.
4. 4. Rice MM, Landon MB, Varner MW, et al. Pregnancy-Associated Hypertension and Offspring Cardiometabolic Health. Obstetrics and Gynecology 2018; 131:2, 313-321
5. 5. Thoulass JC et al J Epidemiol Community Health 2016; 70:414-422.
6. 6. Bro Schmidt G, Christensen M, Knudsen UB. Pre-eclampsia and later cardiovascular disease – What do national guidelines recommend? Pregnancy Hypertension: An International Journal of Women's Cardiovascular Health 2017; 10: 14-17.

4

Prophylactic use of Aspirin in the prevention of pre-eclampsia

Renuka Shanmugalingam[1]

1. School of Medicine, Western Sydney University, Sydney, NSW, Australia

Preeclampsia affects 5-10% of all pregnancies globally and is the indication for 20% of labour inductions and 15% of caesarean sections. Women with pre-existing diabetes have been found to have a higher risk of developing preeclampsia with recent data suggesting that 15-20% of pregnancies in women with type 1 diabetes and 10-14% of pregnancies in women with type 2 diabetes develop preeclampsia. This risk, however, increases substantially to 40% with the presence of diabetic nephropathy.

Aspirin has been used in the prevention of preeclampsia in high-risk women for over 40 years. The data on its efficacy, however, has been largely variable with data suggesting a risk reduction of 10-40%. In recent times, however, aspirin has been shown to have a risk reduction of up to 60%. The variability observed over the years has been largely attributed towards the heterogeneity of these studies.

This presentation focuses on the use of aspirin in the prevention of preeclampsia with emphasis on the proposed mechanism of action and factors that influence its efficacy as a prophylactic agent in the prevention of preeclampsia amongst high-risk pregnant women.

5

First trimester prediction for prevention of pre-eclampsia: Can't we be bothered?

Jon Hyett[1]

1. Royal Prince Alfred Hospital, Camperdown, NSW, Australia

Content not available at time of print

6

Outcomes for women with Type 1 and Type 2 diabetes; Disease burden starting pregnancy and strategies to improve pregnancy outcomes

Fidelma Dunne[1]

1. National University of Ireland, Galway Ireland (NUIG), Galway, CO GALWAY, Ireland

Women with Type 1 and Type 2 Diabetes entering pregnancy have more adverse pregnancy outcomes when compared with background populations around the world. Women with established diabetes start pregnancy with an increased disease burden both from diabetes but also from other medical conditions. This will be highlighted through baseline data from the EVOLVE study, a pan European registry of pregnant women with pre gestational diabetes and also from national audits in Ireland and the UK. The impact of pre pregnancy care (PPC) on pregnancy outcomes and its importance will be highlighted. The EXPECT trial examining the newer long acting insulin Tresiba compared to current Levemir in conjunction with Novorapid on further improving pregnancy outcomes will be discussed as will the benefits of CGMS as shown in the CONCEPTT trial. The importance of blood pressure control and targets for blood pressure for reducing rates of PET and pre term delivery will be shared as well as the impact of Aspirin on these outcomes.

7

Using Technology to Improve Outcomes in Diabetes in Pregnancy

Glynis Ross[1]

1. Royal Prince Alfred Hospital/Bankstown-Lidcombe Hospital, Ashfield, NSW , Australia

Diabetes technology has been steadily evolving for more than 40 years with regard to both insulin delivery and glucose monitoring. This has led to benefits with both control of glycaemia as well as improving quality of life and reducing the burden of living with diabetes.

Insulin pump therapy enables many with type 1 diabetes to achieve better glycaemic control, have reduced glycaemic excursions and better quality of life. It is not the preferred mode of insulin delivery for all though and requires appropriate training and active engagement of the person with diabetes for both optimal and safe usage. In addition it is not affordable for many. It also carries risk for ketoacidosis. It has not clearly been shown to lead to better pregnancy outcomes though there have been no randomised controlled studies in pregnancy comparing insulin pump therapy with multiple daily injections.

Continuous glucose monitoring (CGM) in conjunction with fingerprick glucose testing has been shown in the CONCEPTT study to lead to better pregnancy outcomes compared to fingerprick testing alone. This has led to the Commonwealth Government providing fully subsidised access to CGM for women with type 1 diabetes starting pre-pregnancy and continuing till 3 months after due delivery date.

All forms of diabetes technology require appropriate patient education and support. Diabetes technology is very time demanding for diabetes health professionals. This is particularly so during pregnancy when there is no ‘steady state’ period and contact /review is required mostly weekly for assessment and decisions on glycaemic management.

8

A Diabetes Educator Perspective of the CGM Subsidy at an Inner City Tertiary Hospital

Megan Gemmill[1]

1. Royal Women's Hospital, Parkville, VIC, Australia

The Royal Women's Hospital is a tertiary level maternity hospital located in Melbourne, with specialist clinics providing care for women with diabetes from pre-conception to post birth. On March 1st 2019, the national government amended the access to subsidised continuous glucose monitoring (CGM) through the National Diabetes Services Scheme to include women with type 1 diabetes who are actively planning pregnancy, pregnant, or immediately post pregnancy. Following the introduction of the subsidy, the diabetes education service at the Royal Women's Hospital commenced education sessions on CGM insertion and management for eligible women. This CGM education was incorporated into the setting of a diabetes education service already impacted by the demands of the IADPSG criteria without any prospective increase in staffing, or prior experience of CGM insertion. This session provides a diabetes educator perspective on the introduction of CGM into a diabetes education service, its impact on current workload and planning for the future of continuous monitoring.

9

A review of the 'National Consensus Meeting on the definition of Gestational Diabetes' hosted by Therapeutic Guidelines

Sarah Price[1]

1. University of Melbourne, Heidelberg Heights, VIC, Australia

ADIPS was invited by Therapeutic Guidelines to participate in the National Consensus Meeting on the definition of Gestational Diabetes. Other societies and organisations participating in this meeting included Australian Diabetes Society (ADS), Australian Diabetes Educators Association (ADEA), Australian College of Midwives (ACM), Endocrine Society of Australia (ESA), Maternity Choices, Royal Australian College of General Practitioners (RACGP), Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) and Society of Obstetric Medicine of Australia and New Zealand (SOMANZ).

The meeting was held on Monday 1st July 2019. The issues discussed included:

1. Options for a tiered approach to gestational diabetes
2. Options for changing diagnostic thresholds
3. Options for re-testing borderline abnormal results
4. Options for a change in gestational diabetes nomenclature

At the 2018 ADIPS ASM, the overwhelming majority of ADIPS members voted for no change to the current IADPSG/ADIPS criteria for the diagnosis of gestational diabetes. This view was communicated to the Therapeutic Guidelines committee and was supported by the majority of other organisations involved in the meeting.

There was broad consensus that health care providers can continue to improve the way they communicate with pregnant women who are being tested for gestational diabetes and/or have been diagnosed with gestational diabetes. Further education may assist health care providers to more effectively work with women to achieve the best possible health outcomes.

10

ADIPS Guidelines for Pre-existing Diabetes and Pregnancy

Victoria Rudland[1]

1. Westmead Hospital, Westmead, NSW, Australia and The University of Sydney, NSW, Australia

ADIPS are updating the 2005 ADIPS Management of Diabetes in Pregnancy Guidelines. In this session, information regarding the update will be presented. There will be a process of wide stakeholder engagement.

11

ADIPS Diabetes in Pregnancy Clinical Audit Programme

David Simmons[1]

1. University of Western Sydney, Campbelltown, NSW, Australia

Epidemiological and outcome data from pregnancies complicated by pre-existing diabetes and gestational diabetes are 'patchy' in Australia and New Zealand. There are some centres that retain an ongoing internal audit, while others have no systematic process to review their care. A national clinical audit programme can provide an implementation framework for those centres interested in reviewing and improving their care, and provide benchmarking support for those with established audit activities. ADIPS carried out a pilot study of 3 approaches to clinical audit (paper, stand-alone electronic, networked electronic) across 9 different clinical settings (rural, urban, large proportion of indigenous, New Zealand) linked with a Benchmarking Centre in 2007 (Australian and New Zealand Journal of Obstetrics and Gynaecology 2007;47:198–206). Based on the findings of that exercise, and developments in the field since, a revised dataset, a data dictionary, a process for de-identification of patients and sites and proposed central data analysis and reporting site protocols have been developed.

Discussions have been held with the Australian Institute for Health and Welfare (AIHW) to serve as both the data repository and the Trusted Third Party (anonymising sites in the process) and they have already reviewed the original proposal and the dataset. There are many variables that are new to the AIHW and the dataset is under review again. A key issue remains a source of ongoing funding for administration and benchmarking. In view of this, it is proposed that a pilot be undertaken to assist with the process of obtaining funding while arrangements with AIHW are worked through. Further issues will be discussed.

12

The HAPO Follow Up Study (HAPO FUS)

David McIntyre[1]

1. Mater Health, Mater Research and University of Queensland, South Brisbane, QLD

The HAPO study (n=23,316) established associations of glucose levels during pregnancy with perinatal outcomes and served as a major part of the basis for revised definitions of gestational diabetes mellitus (GDM). The HAPO FUS evaluated the long term outcomes following untreated GDM defined by IADPSG / WHO / ADIPS criteria in 4697 mothers and 4832 children at a mean of 11.4 years after the index pregnancy.

The primary maternal outcome was a disorder of glucose metabolism (diabetes or pre-diabetes). The primary offspring outcome was being overweight or obese. Multiple additional measures of offspring glucose metabolism and adiposity were evaluated (obesity, body fat %, waist circumference, sum of skinfolds).

Among mother with GDM, 52.3% developed a disorder of glucose metabolism, vs. 20.1% of those without GDM. Amongst offspring of mothers with GDM, 39.5% were overweight or obese vs. 28.6% of offspring of mothers without GDM. For obesity alone, the corresponding rates were 19.1% vs 9.9%.

Among women with GDM by IADPSG criteria, the GDM diagnosis was associated with significantly higher risks for diabetes and pre diabetes with long term follow up. Among children of mothers with GDM vs. those without it, the difference in the primary outcome of childhood overweight + obesity just failed to reach statistical significance after full adjustment including for maternal BMI during pregnancy. However the risk of childhood obesity alone was significant after full adjustment and multiple other measures of adiposity and glucose metabolism were also impaired in this group.

13

The metabolic phenotypes of early onset gestational diabetes mellitus (GDM) and their association with adverse pregnancy outcomes

Jincy Immanuel[1], David Simmons[1], Jürgen Harreiter[2], Gernot Desoye[3], Juan M Adelantado[4], Rosa Corcoy[4], Roland Devlieger[5], Sander Galjaard[5], Annunziata Lapolla[6], Maria G Dalfra[6], Alessandra Bertolotto[7], Ewa Wender-Ozegowska[8], Agnieszka Zawiejska[8], Alexandra Kautzky-Willer[2], Fidelma P Dunne[9], Peter Damm[10], Elisabeth R Mathiesen[10], Dorte M Jensen[11], Lise Lotte T Andersen[12], David J Hill[13], Judith GM Jelsma[14], Frank J Snoek[15], Mireille NM van Poppel[14]

1. School of Medicine, Western Sydney University, Campbelltown, NSW, Australia

2. Department of Medicine III, Division of Endocrinology, Gender Medicine Unit Medical University of Vienna , Vienna, Austria

3. Department of Obstetrics and Gynecology, Medizinische Universitaet Graz, Graz, Austria

4. Department of Medicine, Universitat Autònoma de Barcelona, Barcelona, Spain

5. KU Leuven Department of Development and Regeneration: Pregnancy, Fetus and Neonate, Leuven, Belgium

6. Universita Degli Studi di Padova, Padua, Italy

7. Azienda Ospedaliero-Universitaria Pisana, Pisa, Italy

8. Division of Reproduction, Medical Faculty I, Poznan University of Medical Sciences, Poznan, Poland

9. National University of Ireland, Galway, Ireland

10. Center for Pregnant Women with Diabetes, Departments of Endocrinology and Obstetrics, Rigshospitalet, Copenhagen, Denmark

11. Steno Diabetes Center Odense, Odense University Hospital, Odense, Denmark

12. Department of Gynecology and Obstetrics, Odense University Hospital, Odense, Denmark

13. Recherche en Santé Lawson SA, St. Gallen, Switzerland

14. Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Public and Occupational Health, Amsterdam Public Health research institute, Amsterdam, The Netherlands

15. Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Medical Psychology, Amsterdam, The Netherlands

Objective: We described the metabolic phenotypes of early-onset gestational diabetes mellitus (GDM) and their association with adverse pregnancy outcomes.

Methods: This study is a secondary analysis of the vitamin D and lifestyle intervention for GDM prevention (DALI) trial. In pregnant women (BMI ≥29kg/m^2) with early GDM (<20 weeks), insulin sensitivity and secretion were estimated using the homeostasis model assessment for insulin resistance (HOMA-IR) and Stumvoll first phase indices, respectively. Dichotomizing the median values in women with normal glucose tolerance (NGT), GDM women were classified into 3 groups: GDM-R (insulin resistance alone), GDM-S (secretion impairment alone), and GDM-B (a combination of both). GDM was treated according to local protocols.

Results: In the 902 women included, the GDM rate was 27.7% before 20 weeks. Compared with women in the NGT group (n = 652), women in the GDM-R group (n = 145) had higher BMI and fasting and post-load glucose values and insulin levels. Women in this group were at greater risk of having large for gestational age babies (adjusted odds ratio [aOR] = 2.98 [1.47–6.07]) and cesarean section (aOR = 2.59 [1.39–4.81]) than those in the NGT group. Women in the GDM-B group (n = 62) experienced the highest fasting and 2-hour glucose values, and their neonates were more likely to develop small for gestational age (aOR = 3.44 [1.19–9.98]) and hyperbilirubinemia (aOR = 4.97 [1.69–14.63]) than those of women in the NGT group. Pregnancy outcomes were similar in both GDM-S (n = 37) and NGT groups.

Conclusion: Pregnancy outcomes among women with an early diagnosis of GDM differed dependent upon their underlying pathophysiology.

14

Validation of an Early Risk Prediction Tool for Gestational Diabetes in Nulliparous Women

Claire T Roberts[1, 2], Shalem Y Leemaqz[1, 2], Prabha H Andraweera[1, 2], Pieternella (Petra) E Verburg[1, 2], Tina Bianco-Miotto[1, 2], Tanja Jankoviv-Karasoulos[1, 2], Dale McAninch[1, 2], Dylan McCullough[1, 2], Jessica A Grieger[1, 2], Luke Grzeskowiak[1, 2], Ben W Mol[2, 3], Lesley McCowan[4], Julia Dalton[1, 2], Gustaaf A Dekker[1, 2]

1. University of Adelaide, Adelaide, SA, Australia

2. Robinson Research Institute, University of Adelaide, Adelaide, SA, Australia

3. Obstetrics and Gynaecology, Monash University, Melbourne, Vic, Australia

4. Department of Obstetrics and Gynecology, University of Auckland, Auckland, New Zealand

Gestational diabetes mellitus (GDM) is rising worldwide. Australia and New Zealand have had universal screening for GDM at 24-28 weeks' gestation for many years. First trimester risk assessment and diagnosis may facilitate early interventions to protect the mother and fetus from short- and long-term adverse effects of weeks of hyperglycaemia.

We developed a 3-tier risk prediction algorithm in 2,832 women from the Adelaide and Auckland SCOPE cohorts, recruited in 2004-2008. The algorithm classifies women at low, moderate and high risk for GDM and includes clinical, lifestyle and genetic variables. Here we aimed to validate the algorithm at ~12 weeks' gestation in a new prospective cohort, the STOP Study, recruited in 2015-2018 in Adelaide. GDM was diagnosed at 24-28 weeks' gestation with a 75g OGTT using WHO criteria.

Of 1,233 Adelaide STOP women, 197 (16.0%) developed GDM. Of 389 women classified at low risk, 32 women (8.2%) subsequently developed GDM. Of 746 women classified at moderate risk, 137 (18.4%) developed GDM, while 28 of the 98 women classified at high risk developed GDM (28.6%).

The incidence of GDM has increased remarkably to 16% in STOP women from 5% (using the same diagnostic criteria) in the Adelaide SCOPE women which does not appear to be explained by obesity and about which our research is ongoing.

We have now validated our model in a new prospective cohort recruited 10 years after that in which it was developed. This screening tool needs further validation but may enable early identification of women at risk. All women at moderate and high risk of GDM could be offered an early OGTT and dietary advice or therapy if diagnosed with GDM, while low risk women could be offered an OGTT at 28 weeks' gestation as per routine care.

15

Novel Web-based Risk Calculators and Nomograms for Predicting Adverse Pregnancy Outcomes in GDM Women

Tang Wong[1, 3, 2], Glynis Ross[1, 2], Robyn Barnes[1, 4], N Wah Cheung[2, 5], Jeff Flack[1, 3, 6]

1. Department of Diabetes and Endocrinology, Bankstown-Lidcombe Hospital, Sydney, NSW, Australia

2. University of Sydney, Sydney, Australia

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5. Department of Diabetes & Endocrinology, Westmead Hospital, Westmead, NSW, Australia

6. Western Sydney Univerisity, Sydney, NSW, Australia

Background:
Risk prediction calculators, such as the Framingham fracture risk calculator (FRAX) are commonly used in medical practice but are not yet available for GDM management.

Aim:
1)To create, compare and validate predictive models of adverse pregnancy outcomes in GDM across ADIPS1998 and IADPSG criteria
2)To use these models to create nomograms and online risk calculators available for web access

Methods:
The training dataset for model creation included women diagnosed with GDM (ADIPS1998 criteria[2]) at Bankstown-Lidcombe hospital from 1992-2013. Datasets from Jan2014-Feb2016(also ADIPS1998 criteria) and March2016-March2019 (IADPSG criteria) were used for validation purposes. Antenatal variables were analysed for correlation and significance on univariate analyses and included in multivariate models(if $p<0.05$). The final models were fitted using logistic regression. End-points assessed included need for insulin therapy, large for gestational-age infant (LGA) and a composite neonatal outcome (≥1 of the following; needing insulin therapy, pre-term labour, caesarean section, LGA, neonatal hypoglycaemia/jaundice). Two models were created per outcome evaluated; one for continuous variables(model 1) and a second model for their categorical counterparts(model 2).

Results:
There were a total of 3095 singleton births to GDM women in the training dataset. There were 759 and 1280 women in the validation datasets according to ADIPS1998 and IADPSG criteria respectively. Risk calculators and nomograms were generated and are accessible on www.gdmriskcalculator.com. LGA and the composite outcome could only be modestly predicted by the models. However models for predicting Insulin therapy, in particular model 1, performed well; AUC-ROC 0.757(95% CI.737-0.776). Across all outcomes, model 1 performed better than model 2 in both training and validation datasets. Performance of each model in the training and validation datasets is displayed in the table below.

A comparison of the AUC-ROC according to each model in training and validation datasets.

Outcome	Model 1 Training Dataset (1992-2013, ADIPS1998 dx) N=3095 AUC-ROC (95% CI, p-value)	Model 1 Validation Dataset (Jan2014-Feb2016, ADIPS1998 dx) N=759 AUC-ROC (95% CI, p-value)	Model 1 Validation Dataset (Mar2016-Mar2019 IADPSG dx) N=1280 AUC-ROC (95% CI, p-value)	Model 2 Training Dataset (1992-2013, ADIPS1998 dx) N=3095 AUC-ROC (95% CI, p-value)	Model 2 Validation Dataset (Jan2014-Feb2016, ADIPS1998 dx) N=759 AUC-ROC (95% CI, p-value)	Model 2 Validation Dataset (Mar2016-Mar2019 IADPSG dx) N=1280 AUC-ROC (95% CI, p-value)
LGA	0.682 (0.653-0.711, p<0.0001)	0.660 (0.599-0.721, p<0.0001)	0.672 (0.621-0.724, p<0.0001)	0.674 (0.646-0.702, p<0.0001)	0.611 (0.538-0.684, p<0.01)	0.660 (0.609-0.712, p<0.0001)
Insulin Therapy	0.757 (0.737-0.776, p<0.0001)	0.768 (0.732-0.803, p<0.0001)	0736 (0.707 – 0.764, p<0.0001)	0.735 (0.714-0.755, p<0.0001)	0.713 (0.670-0.755, p<0.0001)	0696 (0.666-0.726, p<0.0001)
Composite Outcome	0.688 (0.667-0.710, p<0.0001)	0.678 (0.638-0.719, p<0.0001)	0.650 (0.617-0.682), p<0.0001	0.666 (0.644-0.688, p<0.0001)	0.621 (0.573-0.669, p<0.0001)	0.613 (0.579 -0.646, p<0.0001)

Conclusion:
The risk of adverse pregnancy outcomes in GDM, particularly insulin therapy can be reliably predicted using GDM risk calculators. Risk calculators incorporating continuous variables (model 1) performed better than those exclusively using categorical variables (model 2) and performed more consistently across ADIPS1998 and IADPSG criteria.

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Increased rate of SGA in GDM patients diagnosed according to IADPSG criteria

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Background Controversy exists as to whether Gestational Diabetes (GDM) diagnosed according to IADPSG thresholds benefits maternal and neonatal outcomes across all population groups[1].

Aims To evaluate whether LGA and SGA rates differ in GDM women diagnosed according to IADPSG versus ADIPS1998 criteria.

Methods Bankstown-Lidcombe Hospital implemented IADPSG criteria (Fasting ≥5.1mmol/L, 1 hour≥10mmol/L, 2 hour≥8.5mmol/L) on 1-Mar-2016. We reviewed prospectively collected data from a cohort of GDM women diagnosed according to ADIPS1998 criteria (Feb 2014-Feb 2016, Group 1) versus those diagnosed with IADPSG criteria (March 2016 onwards, Group 2). Management involved 1-2 weekly multidisciplinary clinic visits and insulin was prescribed if treatment targets were not met**.** Variables analysed were maternal age, parity, pre-pregnancy BMI, maternal weight gain up to first clinic visit and between 1st and last clinic visits, ethnicity, OGTT results and HbA1c at diagnosis. Data were expressed as Odds Ratios (OR) with 95% confidence intervals (95%CI).

Results There were 723 patients in Group 1 and 1280 in Group 2. No significant differences in baseline characteristics between groups apart from gestational age at diagnosis (25.2vs23.6years), weight gain up to first visit (9.9-vs-9.2kg), gestational weight gain between 1st and last visits (2.5-vs-2.9kg), ethnicity (European 22.3% vs 28.7%, East/SE Asian 29.7%vs21.6%) and HbA1c (5.22%-vs-5.16%). There was an increased rate of SGA using IADPSG criteria (6.5% vs 10.2%,p<0.01) without significant difference in rates of LGA. Neonatal hypoglycaemia was increased (3.0%vs10.5%,p<0.0001). On univariate analysis, increased rate of SGA was associated with diagnosis using IADPSG criteria (OR 1.64, 95%CI 1.151-2.329, p<0.01), parity (OR 0.87,95%CI 0.762-0.983,p<0.05), gestational weight gain (OR0.93,95%CI 0.89-0.98,p<0.01) and fasting glucose (OR 0.77,95%CI 0.593-0.997,p<0.05). On multivariate analysis, GDM diagnosed according to IADPSG criteria remained significant associated with SGA compared to those diagnosed using ADIPS1998 criteria (adjusted OR 1.73,95%CI 1.21-2.37).

Conclusions Compared to ADIPS1998 criteria, there was a higher rate of SGA in women diagnosed using IADPSG criteria, without any significant improvement in the rate of LGA.

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Are diabetes in pregnancy and maternal BMI independently associated with offspring adiposity across childhood and adolescence? A life course analysis of the Longitudinal Study of Australian Children

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Aims: Diabetes in pregnancy (DIP) and maternal overweight/obesity may have persistent effects on offspring adiposity. We aimed to examine the independent and combined associations of DIP and maternal overweight/obesity with offspring adiposity from early-childhood to late-adolescence.

Methods: We analysed population-based prospective data from the B-cohort (n=2,436 children, aged 0-1 at baseline in 2004) and the K-cohort (n=2,245, aged 4-5 at baseline) of the Longitudinal Study of Australian Children. DIP and maternal BMI were self-reported at baseline, and offspring height, weight and body fat were measured at 2-year intervals. Associations of DIP and maternal overweight/obesity with offspring BMI, fat mass index (FMI) and fat-free mass index (FFMI) between ages 2 and 16 were examined using weighted generalised estimating equations and adjusted for maternal characteristics, paternal BMI, and offspring gestational age at delivery, age and sex. Product terms were added to the models to examine interactions between DIP and maternal BMI, and changes in associations with increasing offspring age. Interaction tests indicated no cohort differences, and data were therefore combined (n=4,681).

Results: Both DIP (5.5%) and maternal BMI (44.4% overweight/obese) were associated with higher offspring BMI: 0.49 kg/m^2 (95% CI 0.04-0.95) and 1.17 kg/m^2 (0.99-1.34), respectively. Mutual adjustment for both maternal risk factors attenuated the association for DIP (0.22 kg/m^2 [-0.24-0.67]), but not for BMI (1.17 kg/m^2 [0.99-1.35]). Maternal overweight/obesity was associated with a 2-fold higher risk of offspring overweight/obesity (relative risk 1.90 [1.73-2.10]). The differences in BMI between offspring born to mothers with normal weight compared with overweight/obesity became larger with increasing offspring age (*p*-interaction=<0.0001). There was no significant interaction between DIP and maternal overweight/obesity (*p*-interaction=0.42). Similar results were found when examining the associations with offspring FMI and FFMI.

Conclusions: Maternal overweight/obesity was strongly associated with poorer adiposity measures in childhood and adolescence, whereas the association between DIP and offspring adiposity was largely explained by maternal BMI. Future studies are needed to determine if preconception weight loss improves offspring adiposity trajectories.

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Does the addition of multidisciplinary weight management to GDM management equate to better pregnancy outcomes?

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Background: Excessive gestational weight gain during GDM management is associated with greater insulin use, Large for Gestational Age (LGA) infants, caesarean section and assisted delivery (1).

Aims: 1. Assess effectiveness of including weight gain advice and monitoring in GDM management 2. Investigate outcomes of women who achieved individualised weight targets compared to those who did not.

Methods: Prospectively collected data (March 2016-March 2019) (Bankstown-Lidcombe Hospital) from singleton GDM pregnancies diagnosed by IADPSG (2) criteria were included. On commencement of GDM management, women were provided with personalised weight gain targets for the remainder of pregnancy (GDM weight target). These were based on Institute of Medicine (IOM) maternal weight gain guidelines - calculated according to pre-pregnancy BMI, weeks' gestation, and gestational weight already gained. Weight maintenance was recommended if women had already exceeded their maximum target weight (defined as ≤ 1 kg gained). Women were weighed each clinic (weekly to fortnightly). Exclusions: presenting >34 weeks gestation; last recorded weight >4 weeks before delivery; incomplete data.

Results: 1034 women met criteria. At presentation with GDM, 60.5% (n=626) had exceeded IOM weight gain targets for stage of pregnancy. A total of 43.4% (n=449) achieved their GDM weight target, 29.2% (n=302) exceeded it, and 27.4% (n=283) gained below targets. The rate of LGA was lower in women who achieved their GDM weight target versus those who exceeded it (9.8%versus18.9%, p<0.0001). Insulin therapy initiation was lower in women who achieved their GDM weight target versus those who exceeded it (41.4%versus49.7% (p<0.03). Rates of caesarean section and neonatal hypoglycaemia were no different between groups. Rates of Small for Gestational Age were only greater in women who gained below target weights versus those who achieved them (14.5%vs8.2%) (p<0.01)

Conclusions: Achievement of individualised weight targets during GDM management was associated with lower rates of LGA and insulin therapy initiation. However more intensive interventions are needed to optimise weight gain and clinical outcomes for mothers with GDM and their offspring.

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GDM and Ramadan

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Fasting during Ramadan is one of the five pillars of Islam. Ramadan is a month long fast - where no food or drink is consumed from sunrise to sunset. This fast includes oral medication. Whilst pregnancy and medical illness exempts a Muslim person from fasting, many still desire to do so. The diet followed during Ramadan often includes a high intake of calories, carbohydrate and sugar at the meal taken to break the fast at sunset (iftar). Multiple snacks may follow this meal. A second main meal (suhoor) is then eaten before sunrise. This presentation will provide an overview of the potential risks and current evidence regarding the implications of Ramadan fasting for a woman with GDM. An overview will also be provided on existing practical clinical guidelines including advice on blood glucose testing times and Medical Nutrition Therapy (MNT). MNT during Ramadan fasting needs to ensure that the woman with GDM eats a balanced diet, and an adequate amount of calories for pregnancy. At the same time, carbohydrate intake should be spread evenly over meals and snacks to minimise post prandial hyperglycaemia. MNT needs to be individualised, taking into account the patient's comorbidities, nutritional requirements, lifestyle and cultural food preferences.

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Modestly lower carbohydrate diet for gestational diabetes: are there unintended and potentially adverse effects on offspring?

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Currently, the safety and efficacy of lower carbohydrate diets in gestational diabetes (GDM) management is unclear. They have the potential to raise blood ketone concentration, which in turn may negatively impact infant brain development. To determine the risk of ketonaemia and pregnancy outcomes in women with GDM following a modestly lower carbohydrate (MLC) diet, we conducted a pilot, 6-week randomised controlled trial (MAMI: macronutrient adjustments in mothers to improve GDM) at 2 Sydney Hospitals. The MLC diet prescribed a carbohydrate target of 135g/day, whereas routine care (RC) diet had 180-200g/day. Blood ketones and 3-day food diaries were collected at baseline and after the intervention, whereas pregnancy outcomes were obtained from medical records. Thirty-three women completed the study (MLC = 16, RC = 17). Carbohydrate and total energy intake were significantly lower in MLC vs RC (mean ± SEM, carbohydrate 165 ± 7 g vs 190 ± 9 g; P = 0.042; energy 7040 ± 240 kJ vs 8230 ± 320 kJ; P = 0.006, respectively), but there were no differences in blood ketones (MLC 0.1 ± 0.0 mmol/L vs RC 0.1 ± 0.0 mmol/L; P = 0.308). Infant head circumference was significantly lower in the MLC group (MLC 33.9 ± 0.1 cm vs RC 34.9 ± 0.3 cm; P = 0.046), before and after adjustment for gestational weight gain, weeks gestation at delivery and infant sex (P = 0.043). While the MLC diet contained enough carbohydrates to prevent ketonaemia, it may have reduced the overall energy and nutrient intake with a potentially negative impact on brain development.

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Challenges in nutritional management of type 1 diabetes in pregnancy

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Nutrition therapy remains a major component of the management of all types of diabetes, both during and outside pregnancy. Evidence supporting a specific dietary pattern or macronutrient composition of the diet for gestational diabetes remains controversial and is even more lacking in type 1 diabetes. Despite an increasing number of pregnancies complicated by T1DM, there have been virtually no RCTs examining diet in this group in the past 3 decades since the St Vincents declaration. Evidence for outcomes of pregnancy in T1DM is also scant. Nutrition therapy revolves around provision of adequate carbohydrate for maternal and foetal requirements, optimisation of glycaemic control, whilst ensuring overall nutritional adequacy for pregnancy. Weight gain within the recommendations adopted by RANZCOG is also a goal. Challenges to achieving these goals will be discussed in this presentation.

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Gestational Diabetes in the RPAH Diabetes in Pregnancy Service 1984-2019

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In mid 1980s most diabetes in pregnancy was in women with type 1 diabetes, with long periods of time spent as inpatients. Gestational diabetes (GDM) was diagnosed on the 3hour 100g glucose load GTT. An increased rate of congenital malformations was noted in women with GDM and the high risk ethnicity was mainly Mediterranean. Glucose meters were expensive and had limited availability. Co-located multidisciplinary diabetes antenatal clinics were running and 'busy' with ~14 women per week.

From 1991 universal screening started using the 2-step process and ADIPS criteria, though higher risk women were tested in early 2nd trimester and a 1-hour glucose was also used in GDM diagnosis. Around that time the ethnicity of the local population was changing with a marked increase in the number of women of Asian ethnicity, predominantly Chinese, being seen.

From the beginning of 2015 the IADPSG/WHO criteria were used for diagnosis of GDM increasing the GDM prevalence from ~15% to 18% and with another change of ethnic mix with a decrease in the number of Chinese women but increase in those of South Asian ethnicity being seen. In addition over time there has been a significant rise in maternal age and pre-pregnancy weight/BMI. Antenatal clinics now average 100+ women per week in addition to those having initial visits or starting insulin, attending other antenatal clinics eg twins, and non-face-to-face diabetes stabilisation services offered.

There has been a longstanding interest in the heterogeneity of gestational diabetes and need for individualisation of care.

Since the early 1990s there has been also an increase in the number of women with pre-gestational diabetes, particularly those with type 2 diabetes. Although there has been an improvement in the number of women with type 1 having diabetes-specific pre-pregnancy planning (~75% compared to ~40%), the rate of pre-pregnancy planning in women with type 2 diabetes has remained poor at about 20%.

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Developing a Career in Diabetes in Pregnancy Research and Public Health through Data and Service

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1. Westmead Hospital, Westmead, NSW, Australia

Diabetes in pregnancy research can be undertaken by researchers who have not previously conducted research in this area, and can be achieved without the resources of a large organisation. Similarly, one can one can contribute to diabetes in pregnancy care at the population level without having previously been involved in public health and policy work. With enthusiasm, a data source, and a willingness to devote time to being involved, all this can be achieved. In this short presentation, I will outline a personal journey, which I hope will help junior members of ADIPS to develop a career in diabetes in pregnancy.

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Perspectives on GDM

David Simmons[1]

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Over the last 30 years, the management of gestational diabetes mellitus (GDM) has evolved from an almost randomised controlled trial (RCT) "evidence-free" condition, based upon historical, clinical experience, to a much studied, and discussed, clinical entity with varied guidelines around the world. While the guidelines continue to converge, based upon RCTs and robust cohort studies, differences in views on "best practice" remain. The Diabetes and Pregnancy Vitamin D And Lifestyle Intervention for Gestational Diabetes Mellitus Prevention (DALI) studies have now provided insight into reasons why the existing paradigm, that GDM largely commences at 24-28 weeks, and management is directed by the oral glucose tolerance test (OGTT) at that time, is seriously flawed. In fact, for many years, studies have shown that GDM diagnosed early in pregnancy is associated with worse outcomes than pregnancies with GDM developing later in pregnancy. Such early, "booking" or "prevalent" GDM is about 40-60% of all GDM, and a new debate is how its diagnosis should take place. Another major issue is our dissatisfaction with the variation (and discomfort) associated with the OGTT, but the lack of a replacement test that assesses both existing glycaemia and risk of insulin secretory insufficiency, without confounding by other factors (eg red cell turnover with HbA1c). With the current precision of glucose monitoring, there appears to be an increasing unwritten acceptance of the principle, that rather than the OGTT being the gateway to specialist care, such triaging should often be guided by the glucose monitoring after the OGTT. New evidence (eg diagnostic criteria, glucose action thresholds) is urgently required to ensure that this paradigm shift improves pregnancy outcomes while minimising the burden on the women affected.

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Data and GDM/DIP

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In the allocated time I will, as requested, provide some perspectives on GDM/DIP and some changes that I have seen over time, attempting to do so from the standpoint of my major area of clinical interest which has been (and remains) clinical datasets, data collection, quality audit and benchmarking. Supported initially by senior colleagues and subsequently by dedicated staff, I have been able to pursue my clinical interest in the above areas and have seen a number of benefits from the structured data collection that we have championed in our Department in the area of GDM and Diabetes in Pregnancy. Key points from our clinical research have been presented at ADIPS meetings and in the published literature. In the short time available I will highlight some of these with a focus on the elusive 'minimum dataset', and I will finish with three important 'take home messages'.

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Managing gestational diabetes in a busy hospital: journey of a junior consultant and his evolvement to a relatively senior clinician

Vincent Wong[1]

1. Liverpool Hospital, Liverpool BC, NSW, Australia

Liverpool is located in south-western part of Sydney, and the population is characterised by its cultural diversity, with 55.3% of its residents born overseas (and 27.6% arriving since 2011). The main ethnic groups in our local government area came from Middle East, South Asia and East/South-East Asia. Our population growth rate is one of the fastest in the country, and the prevalence of gestational diabetes mellitus (GDM) is also one of the highest in the state. Clinicians at our institution had struggled with the management of diabetes in pregnancy, both in terms of the sheer number of women with diabetes during pregnancy as well as the extra challenges due to language barriers and varying health literacy. The number of women who failed to be managed on medical nutrition therapy at Liverpool Hospital had been consistently above 40%. In the past 10 years, the number of women with GDM seen at our service had risen from 420 in 2008 to 778 in 2018. Over time, there had been significant changes to the way we manage diabetes in pregnancy. With limited resources, we need to be flexible and have the courage to trial new models of care in order to meet these constant challenges.

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Management of diabetes in labour – a low intervention model

Sandra Lowe[1]

1. Royal Hospital for Women and UNSW, Randwick, NSW, Australia

A significant part of a woman's experience of pregnancy is birth and delivery. Current guidelines on the management of labour for women with diabetes in pregnancy recommend a range of often intensive regimes aimed at maintaining maternal euglycemia to reduce the risk of neonatal hypoglycaemia.
At our institution, we have been following a low intervention approach to management of maternal blood sugar levels for women with both gestational and pre-gestational diabetes for more than 20 years. This includes issuing a personalised plan to each woman documenting the required frequency of capillary blood glucose monitoring as well as a protocolised approach to the use of supplemental insulin and/or glucose. Insulin and dextrose infusions are rarely used, even for women with pre-gestational diabetes. Insulin pump therapy is continued throughout labour unless contraindicated.
Our audit figures confirm that a low intervention model of care for women with gestational and pre-gestational diabetes undergoing vaginal birth is desirable and safe. This model more closely meets women's desire for "a physiological labour and birth" and "if intervention was needed or wanted, women wanted to retain a sense of personal achievement and control through active decision-making".

1. Downe S, Finlayson K, Oladapo O, Bonet M, Gülmezoglu AMJPo. What matters to women during childbirth: a systematic qualitative review. PLoS ONE [Electronic Resource]. 2018;13(4):e0194906.

28

Worldwide GDM criteria: Choices evidence and impact.

Fidelma Dunne[1]

1. National University of Ireland, Galway Ireland (NUIG), Galway, CO GALWAY, Ireland

GDM is the most common metabolic condition experienced in pregnancy. Prevalence rates continue to increase in parallel with rising obesity rates, type 2 diabetes rates in the background population and rising maternal age. GDM is associated with adverse maternal health for both the mother and her infant. In addition GDM is associated with future cardio-metabolic risk for the mother and diabetes and obesity in the offspring in later life. Despite the wealth of knowledge about GDM its treatment and outcome, debate still continues on its screening. The world is united that women should be screened at 24-28 weeks and the recommended test is an oral glucose tolerance test (OGTT). Debate continues on the cut off values for diagnosis on the OGTT and the associated glucose load. The talk will focus on the most commonly used criteria, the evidence related to them and the associated outcomes. In addition researchers are exploring other biomarkers that have potential to replace the OGTT that is burdensome for the woman and the health professional which will be explored.

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Steroid administration: why, when and what

Emma Inglis[1]

1. Westmead Hospital, Westmead, NSW, Australia

Antenatal corticosteroids administered prior to preterm birth before 34 weeks are highly effective in preventing neonatal mortality, respiratory distress syndrome and reducing the risk of intraventricular haemorrhage. A single course of antenatal corticosteroids prior to preterm birth has now become a standard, prophylactic treatment against respiratory distress syndrome. Recently the Antenatal Late Preterm Steroids (ALPS) trial demonstrated benefit in gestations from 34 to 37 weeks and this practice has been recommended in clinical guidelines by ACOG.

Diabetes mellitus in pregnancy, both pre-gestational and gestational, is increasingly common, and late preterm birth among these women is more common than in the general population. In women with diabetes, however, corticosteroid administration is not without risk for the mother and neonate. There is a lack of good quality evidence for administration of corticosteroids in women with diabetes especially in the late preterm and early term gestations. Where evidence is lacking an individualised decision regarding the administration of corticosteroids considering both benefits and harms is appropriate.

This talk will review the evidence for antenatal corticosteroid administration at different gestations of pregnancy including in women with pre-existing and gestational diabetes and identify areas where further research is required.

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Antenatal steroids to improve neonatal outcome: too much of a good thing?

Adrienne Gordon[1]

1. Royal Prince Alfred Hospital, Camperdown, NSW, Australia

BACKGROUND: Around 1 in 12 babies are born prematurely. Women at risk of preterm birth receive antenatal corticosteroids as part of standard care to accelerate fetal lung maturation and thus improve neonatal outcomes. Steroids affect both maternal and fetal organs and can disturb both glucose control plus have long-term impacts on offspring health.

AIMS: This talk will consider current clinical practice of antenatal corticosteroid use, some of limitations of the evidence and consider potential harms

RESULTS: The dose and formulation of antenatal corticosteroid treatment has not changed significantly since the first clinical trial in 1972. Although clearly beneficial for infant survival in very to moderately preterm infants, there remain key controversies including the use of repeat steroids if delivery does not occur and steroid use at term for planned Caesarean section including in women who have diabetes.

CONCLUSION: Further research in this area is still needed especially regarding type of corticosteroid and optimal timing . In the meantime care must be taken to maximise benefit but minimise any long term harm.

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Maternal hyperglycaemia and neonatal hypoglycaemia following betamethasone can be safely reduced by a pregnancy-specific algorithm-driven intravenous insulin infusion in women with gestational diabetes

Christopher Rowe[1]

1. John Hunter Hospital, Newcastle, NSW, Australia

Administering betamethasone to women with gestational diabetes causes maternal hyperglycaemia, and is associated with neonatal hypoglycaemia [1]. There are limited data to guide interventions to control maternal hyperglycaemia in this population, including treatment targets and endpoints.

Here we discuss results of a recently published cohort study [2] reporting safety and efficacy of a novel Pregnancy-specific Intravenous Insulin-Glucose Infusion (P-IVI) protocol, validated at John Hunter Hospital since 2017, as compared to the previous standard of care (a generic Adult IntraVenous Insulin protocol (A-IVI) not designed for pregnancy). Primary outcome was percentage of on-infusion time with capillary blood glucose (BGL) at target (3.8-7mmol/L). Secondary outcomes were percentage time with critical hyperglycaemia (BGL>10mmol/L) or hypoglycaemia (BGL <3.8mmol/L), and incidence of neonatal hypoglycaemia (BGL<2.5mmol/L in first 48 hours if betamethasone given within 2 days of birth).

We found that on-infusion time at target was 68% (95%CI 64-71%) for P-IVI compared to 55% (95%CI 50-60%) for AIVI (p=0.0002). Time with critical hyperglycaemia was lower with P-IVI compared to A-IVI (0% vs 2%, p=0.02), with lower incidence of maternal hypoglycaemia (2% vs 12%, p=0.02). Neonatal hypoglycaemia occurred in 29% of births following P-IVI, compared to 54% births following A-IVI (p=0.03). A multiple logistic regression model adjusting for potential confounders gave an odds ratio for neonatal hypoglycaemia with P-IVI of 0.27 (95%CI 0.10-0.76, p=0.01).

We conclude that an infusion protocol designed for pregnancy effectively controlled maternal hyperglycaemia following betamethasone. This is the first protocol to show a reduction in betamethasone-associated neonatal hypoglycaemia, linked with optimum maternal glycaemic control.

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Adherence and Barriers to the Recommended Diabetic Retinopathy Screening Guidelines in Pregnant Women with Type 1 and Type 2 Diabetes

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11. Department of Ophthalmology, Royal Melbourne Hospital, Melbourne, Victoria, Australia
12. Department of Surgery, University of Melbourne, Melbourne, Victoria, Australia

Aims

Diabetic Retinopathy (DR) can deteriorate during pregnancy. Current guidelines recommend at least one eye-check during pregnancy, ideally one each trimester. Here we report adherence of pregnant women with pre-existing diabetes to recommended eye-screening guidelines in a prospective cohort study.

Methods

Pregnant women with type 1 (T1DM) or type 2 diabetes (T2DM) were prospectively recruited from two tertiary maternity hospitals in Melbourne. Barriers to attending eye-screening were assessed using the Compliance with Annual Diabetic Eye Exams Survey (which primarily comprises 5-point Likert scale items).

Results

Of the 163 patients approached, 136 (83.4%) participated. Mean age was 33.8 years (range 19-47). Sixty women (44%) had T1DM (median duration 16.5 years), while 56% had T2DM (median duration 3 years). Retinal assessment was performed at least once during pregnancy in 108 women (79.4%) and 15 (11%) received assessment once in each trimester. DR was present in 34 (31.5%) women. Women who failed to attend eye-screening responded differently to women who attended. Ninety-two percent of women who were not screened each trimester felt confident controlling their blood glucose compared to 60% of women who were screened (Kendall's tau test, p=0.002); 31% of non-attendees agreed that yearly eye exams were not a top priority compared to 7% of attendees (p=0.015). Of women who failed to attend *any* eye-screening during their pregnancy, 32% believe that there is treatment for diabetic eye diseases versus 58% of screening attendees (p=0.011). Overall, respondents ranked obstetrics and endocrinology appointments their highest priority during pregnancy, whilst ophthalmology review was considered a much lower priority (median rank 5th out of 7 health appointments).

Conclusions

Despite the risk of DR during pregnancy, only 15 of 136 pregnant women with diabetes adhered to recommended screening guidelines, and women ranked eye health as a low priority. More proactive efforts to educate about the importance and treatability of DR and to integrate care are needed to prevent vision loss in this growing demographic.

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Changes in the circulating exosomal miRNAs across gestational diabetes mellitus pregnancies and their association with insulin sensitivity across gestation

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With a worldwide prevalence of 9-15%, gestational diabetes mellitus(GDM) has been recognized as the most common medical complication during pregnancy. Exosomes are extracellular vesicles that have potential to be used as biomarkers and therapeutic delivery tools for GDM. Exosomal content is often parent cell-specific thus providing insight or "fingerprint" of the intracellular environment of the originating cell. Furthermore, exosomes carry can communicate intercellular messages and also have the ability to modify target cells. We investigated the exosomal miRNA profile across gestation in women with normal glucose tolerance (NGT) and GDM and determined the signaling pathways associated with changes in their miRNA profile. Plasma was collected at three times during pregnancy (<16 weeks, 22-30 and 33-37 weeks of gestation) from NGT and GDM women. Exosomes were isolated from plasma samples that were obtained from two independent cohorts of patients, which were used for the discovery (cross-sectional study design with n=18 per group) and validation (longitudinal study design with n=16 and n=8 for NGT and GDM, respectively) phases of this study. Exosomes were characterized during gestation using a wide range of methods, including i) quantification of different populations of exosomes present in maternal circulation using nanocrystals coupled with specific antibodies (e.g. placental, endothelial and adipose tissue markers); ii) isolation of placental exosomes from maternal circulation by immunoaffinity capture using anti-PLAP-coated beads; and iii) optimisation of exosomal miRNA and protein analysis by next-generation sequencing and SWATH Mass Spectrometry, respectively. Using a small RNA library and linear mixed modelling analysis, statistically, significant differences in the expression of 279 (NGT) and 308 (GDM) miRNA were identified across gestation. In addition, 175 miRNA were miRNAs deferentially expressed in NGT and GDM. The plasma expression of miR-10a-5p, miR-16-2-3p, miR-92a-3p, miR-151b, and miR-1910-5p were significantly different between NGT and GDM women across gestation in the validation cohort. Using a quantitative, data-independent acquisition mass spectrometry approach, we identified a set of proteins in skeletal muscle tissues from women with GDM associated with glycolysis and gluconeogenesis which could be targeted by the candidate miRNAs within circulating exosomes. In conclusion, the miRNA content in maternal circulating exosomes differs across gestation in women with GDM compared to NGT women, suggesting that exosomes may be involved in maternal metabolic adaptation to pregnancy through the delivery of bioactive miRNAs.

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Role of adipose tissue derived mediators in regulating placental function in gestational diabetes

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The world is witnessing an alarming increase of gestational diabetes mellitus (GDM), correlated with the current obesity epidemic. GDM now complicates 15–20% of all pregnancies, compromising not only the health of women but ultimately that of the next generation. The programming of metabolic functions in fetuses subjected to the adverse intrauterine environment in GDM pregnancy may have intergenerational effects, and thus perpetuate a vicious cycle which has become a major public health concern. Changes in placental function may contribute to the adverse effects of offspring of women with GDM. Studies by my team, and others, have shown that adipose tissue derived factors including soluble (e.g. adipokines) and membrane-bound vesicles (called exosomes) can impact placental function by inducing inflammation and altering nutrient uptake/transport. For example, we have shown that the secretion of the pro-inflammatory cytokine IL1B is higher from adipose tissue from GDM compared to normal glucose tolerant (NGT) pregnancies. In placenta, IL1B induces inflammation and oxidative stress, and increases amino acid transport and fatty acid accumulation. Furthermore, we have shown that the

number of adipose tissue derived exosomes (AT-exo) is significantly higher in GDM and positively correlated with birthweight. Excitingly, AT-exo from women with GDM increases the expression of genes associated with glycolysis and gluconeogenesis in placental cells. In concert with these studies, we have shown that in primary human placental cells, AT-exo from women with GDM significantly increased glucose uptake compared to NGT women. The effect of AT-exo on placental inflammation and oxidative stress is currently in progress. Studies are now also underway to determine the effect of adipose tissue exosomes on placenta metabolism in vivo. In conclusion, our studies demonstrate that maternal adipose tissue secretes factors that are involved in regulating placental function in GDM which may be to be responsible for some of the adverse consequences in this pregnancy complication, such as fetal overgrowth. Future studies are require to determine if regulating the secretion of adipose tissue derived mediators may be a novel therapeutic stratergy to improve outcomes in GDM.

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Antenatal corticosteroid administration in pregnancies complicated by diabetes: A prospective randomised controlled pilot study of a subcutaneous versus intravenous insulin protocol

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Background Antenatal corticosteroids reduce the incidence of neonatal respiratory distress syndrome in preterm delivery[1] but cause acute maternal hyperglycaemia in pregnancies complicated by diabetes. Validated protocols to prevent maternal hyperglycaemia are lacking[2,3].

Aim Evaluate the safety and efficacy of a subcutaneous insulin (SC-I) in comparison to intravenous insulin (IV-I) protocol for optimising glucose levels (BGLs) in women with diabetes post-betamethasone administration.

Methods Prospective randomised controlled pilot in-patient study in women with pre-existing (T2DM) and gestational diabetes (GDM) at Royal Prince Alfred Hospital, Sydney. SC-I protocol was stratified by pre-corticosteroid insulin dose utilising supplementary SC-I titrated to predicted maternal hyperglycaemia ± rescue IV-I[4]. IV-I infusion protocol was titrated to hourly BGLs. Primary outcome was maternal at-target BGL (4.0-8.0 mmol/L) and incidence of maternal hypoglycaemia (BGL <4.0 mmol/L) over 48-h post-betamethasone administration.

Results 19 women (3 T2DM, 4 GDM-diet, 12 GDM-insulin) were randomised to a SC-I (*n*=13) or IV-I (*n*=6) protocol in a 9-month period. Total SC-I dose increased by 27% from day 1 to day 2 (*Figure 1*) with only 4 women requiring rescue IV-I (duration 3 to 12-h). Reduced insulin doses were required for women with intrauterine growth-restriction (IUGR) or pre-eclampsia. There was a non-significant trend for higher mean percent at-target BGLs with SC-I vs IV-I (88.1% vs 81.3%; *p*=0.055) (*Figure 2*). The overall rate of hypoglycaemia (BGL <4.0 mmol/L) was higher with SC-I vs IV-I (7 vs 2 women, respectively). Of those, 4 women with SC-I and none with IV-I reported a BGL <3.8 mmol/L, and this was associated with sub-optimal glycaemic control and higher glucose variability pre- and post-betamethasone administration.

Conclusions Either a SC-I or IV-I protocol effectively controlled maternal hyperglycaemia following antenatal corticosteroid administration in pregnancies complicated by diabetes, but the SC-I protocol may achieve more time on-target while minimising labour intensive IV-I. IV-I protocol may be preferable in women with sub-optimal glycaemic control, IUGR or pre-eclampsia to reduce the risk of hypoglycaemia.

Figure 1. Total daily SC-I dose (units)

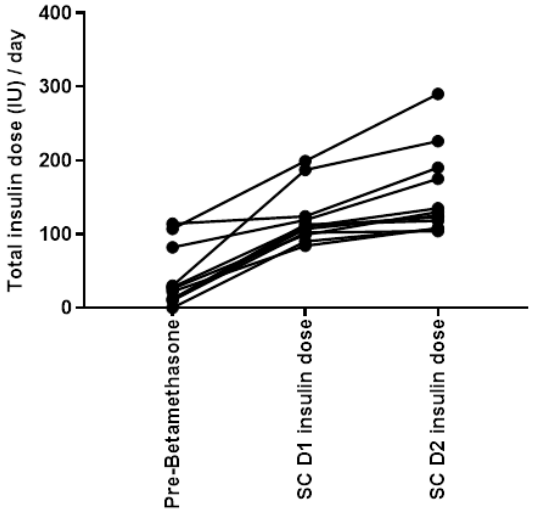
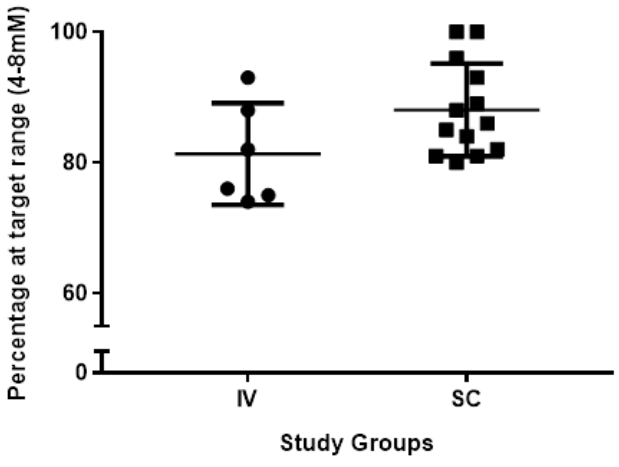


Figure 2. Percentage at target BGL



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Direct Fetal Intramuscular Betamethasone Injection as an Alternative Approach for Women with Type 1 Diabetes Mellitus at Risk of Preterm Birth: a Case Series

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Introduction:

Women who have type 1 diabetes mellitus are at an increased risk of preterm delivery. These women are also at an increased risk of requiring delivery by planned late preterm or early term caesarean section. Recent evidence of a beneficial effect of antenatal corticosteroids prior to late preterm birth, and subsequent college guidelines recommending their use in this population, has resulted in a widening of the population of women who are being prescribed antenatal corticosteroids. Women with type 1 diabetes mellitus have traditionally been excluded from studies of antenatal corticosteroids for preterm birth, resulting in a lack of evidence on effectiveness and safety in this population. In our centre, women thought to be at particularly high risk of adverse effects from traditional antenatal corticosteroids (i.e. maternal intramuscular betamethasone) are considered for an alternative – direct fetal intramuscular betamethasone, delivered into the fetal thigh *in utero*. We present a series of these cases, the indications, neonatal outcomes, and maternal blood glucose profiles associated with this novel approach.

Methods:

Retrospective case note audit of women with type 1 diabetes mellitus who underwent direct fetal intramuscular betamethasone injection prior to preterm birth or planned caesarean section.

Results:

Twelve women with type 1 diabetes mellitus underwent direct fetal intramuscular betamethasone injection *in utero*. Glycosylated haemoglobin at booking ranged from 5.9-11.1%. All but two women had evidence of diabetic fetopathy on serial ultrasound growth scans. Gestation at delivery ranged from 34+1 to 37+3 weeks, with direct fetal intramuscular betamethasone given 1-4 days prior. The intervention did not appreciably affect maternal blood sugar profiles, as compared to blood sugar profiles prior to fetal injection.

Discussion:

We present a novel approach to providing antenatal corticosteroids to fetuses at risk of preterm delivery, with minimal effect on maternal blood sugar levels. Further research is required.

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Is better peripartum glycaemic control in pre-existing diabetes linked to better outcomes?

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Introduction

The relationship between peripartum blood glucose levels (BGLs) and neonatal outcomes is unclear[1]. Our objective was to assess the association of optimised peripartum BGLs with neonatal outcomes in Type 1 diabetes (T1DIP) and Type 2 diabetes in pregnancy (T2DIP) within the Central Coast Local Health District (CCLHD).

Methods

Retrospective analysis of T1DIP and T2DIP presenting for antenatal care between 2014–2019 was conducted from available medical records. Peripartum BGLs within 24hrs of delivery were collected. Our intrapartum BGL target is 4-7mmol/L; an insulin infusion is commenced if BGLs >7mmol/L on two consecutive readings.

Results

Peripartum BGLs and neonatal outcome data for 30 T1DIP and 31 T2DIP were available. Groups were divided into maternal peripartum average BGL > 7mmol/L (Group 1) and BGL <7mmol/L (Group 2). The average gestation at delivery was 36.8±2.39 weeks. Overall average maternal BGL over the 24 hours pre-delivery (in T1DIP and T2DIP) was 6.80±2.3 mmol/L and over the 6 hours pre-delivery was 6.69±2.6 mmol/L. The overall average neonatal BGL within 24 hours of birth was 2.08±1.3 mmol/L.

Group 1 were more likely to have peripartum steroids administered, (53.6% vs 19.4% in Group 2; p=0.006). Group 1 in the 24 hours pre-delivery were more likely to be treated with insulin infusion.

Rates of neonatal hypoglycaemia(NH) in Group 1 vs Group 2 at 6hrs was 84.2% vs 63.4%; p=0.102 and at 24 hrs was 78.3% vs 64.9% ; p=0.271. Maternal maximum BGL >7mmol/L in the 6 hours pre-delivery were more likely to have babies with NH requiring parenteral therapies (80.8% vs 35%, p=0.014); this was also found in Group 1 24 hours pre-delivery (80.6%vs44%; p=0.011).

Group 1 neonates had high rates of respiratory distress (50.0 vs 19.6%, p=0.013) but lower rates of neonatal jaundice (26.8% vs 55.6%; p=0.034).

Conclusions

Rates of NH were not significantly different between the two groups. Peripartum maternal hyperglycaemia is associated with increased rates of respiratory distress and requiring parental treatment for NH.

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Diagnosing and providing initial management for patients with Gestational Diabetes: What is the General Practitioner's experience?

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Aims

Long term follow up for Gestational Diabetes Mellitus (GDM) is vital. It is a chronic risk factor, unmasked in pregnancy, for the development of T2DM. Rates of follow up are universally poor. While much has been written about the perspective of patients with GDM, little is known about the experience of General Practitioners (GP) at the time of initial diagnosis and management. In a scenario increasingly managed in the tertiary hospital, the confidence of GPs and their role in ongoing care has not been examined. Our study explores GDM from the GP's perspective.

Methods

Through purposive and snowball sampling, we conducted semi-structured interviews exploring the GP experience in diagnosis and initial management of GDM. Data collection and analysis were concurrent, to identify the point of data and thematic saturation. The Leximancer data analysis tool assisted with content analysis and suggestion of themes.

Results

Dominant themes include uncertainty / urgency and feeling under-utilised. GPs have a pragmatic approach in the face of uncertainty, and adopt one of several strategies to meet the patient's needs. A key issue that may impact on long term follow up and high quality GP-patient relationships is the concern about the patient being 'taken away' by the hospital. Communication with the hospital is generally perceived as poor.

Conclusions:

The experience of GPs in the initial diagnosis and management of GDM may hold some insights into improving GDM follow up post-partum. GPs are likely an untapped resource in management pathways, particularly for diet-controlled GDM. GP uncertainty could be reduced with clear supported management protocols and patient resources. GPs feel underutilised and are open to doing more, if supported and sustainably resourced. Protection of, and respect for, the GP-patient relationship may increase patient satisfaction and improve follow up rates in GDM and therefore improve patient outcomes.

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Breastfeeding in Women with Type 1 and Type 2 Diabetes

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Rates of breastfeeding in women with pregestational diabetes, and in particular type 2 diabetes are poorly characterised. Small studies suggest they are lower than the general population despite clear evidence of benefit in this population and the vast majority of women intending to breastfeed. This is a complex problem due to the contribution of different aetiologies including social and educational factors, iatrogenic factors associated with management of pregnancies in women with diabetes, as well as the potential of underlying metabolic abnormalities to interfere with copious milk secretion "secretory activation" and consequent lactation establishment. This presentation will review the physiology and endocrinology of lactation and hypothesise how insulin resistance and metabolic syndrome may play a role failure to successfully establish lactation in this population. It will also introduce the "Breastfeeding in Mothers with Type 2 Diabetes Study" (BFT2DM), currently in progress at the Royal Brisbane and Women's Hospital which aims to assess the rate of lactation establishment in women with type 2 diabetes and the correlation between delayed secretory activation (milk 'coming in') and successful lactation establishment by measuring the change in electrolyte concentrations in colostrum over time. Finally, it will discuss practical changes that clinicians can make to improve breastfeeding outcomes in this group, while acknowledging the need for further research to guide evidence-based care.

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