

# A retrospective cohort study on birth outcomes in treatment versus diet - controlled gestational diabetes mothers in a tertiary unit at Western Australia

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## Introduction

Gestational diabetes mellitus (GDM) is deemed to be the subtype of diabetes which has been rapidly increasing in numbers in Australia.<sup>1</sup> Annual number of GDM has more than 50 percent increase in last decade.<sup>1</sup> According to Diabetes Australia, more than five hundred thousand women in Australia will be diagnosed as GDM.<sup>1</sup> GDM leads to high risk pregnancy with significant complications to mother and baby. GDM can be managed with diet and medication which includes oral hypoglycaemic agent (OHA) and metformin. As a tertiary unit, we would like to compare birth outcomes between GDM managed with diet and insulin with OHA.

## Aim

To compare adverse birth outcomes between GDM managed with diet and medication.

## Method

Data derived from STORK Perinatal Database from January 2020 until April 2021 which consist of 1121 women with GDM.

## Discussion

Two most clinically significant outcomes are incidence of IOL and vaginal delivery. Women from medicated group are more likely to get induced compared to diet group and this reduces chances of vaginal delivery. Hence, more studies need to be conducted in this area to support our routine practice of offering induction earlier to medicated group as it significantly reduced the chance of vaginal delivery.

## References

1. Position Statement , Gestational Diabetes in Australia , August 2020, Diabetes Australia.  
<https://www.diabetesaustralia.com.au/wp-content/uploads/Gestational-Diabetes-in-Australia-Position-Statement-2020.pdf>
2. ACOG Practice Bulletin No. 190 Summary: Gestational Diabetes Mellitus. *Obstetrics & Gynecology*. 2018; 131 (2): 406-408. doi: 10.1097/AOG.0000000000002498.

## Result

1121 women with GDM were included in this study where 790 (70%) of them were from medicated group and 331 (30%) of them were from diet-controlled group.

Incidence of caesarean section is higher in medicated group compared to diet 42% versus 39% (Odds ratio, OR 1.13; 95% Confidence interval 0.86-1.46; P = 0.37). As expected, incidence of vaginal delivery is lower in medicated group compared to diet, 35% versus 43% (Odds ratio, OR 0.73; 95% Confidence interval 0.56-0.94; P < 0.05). Apart from that, medicated group has higher incidence of instrumental delivery compared to diet, 23% versus 18% (Odds ratio, OR 1.34; 95% Confidence interval, 0.97-1.86; P=0.08). Medicated group has higher incidence of induction of labour (IOL) compared to diet, 61% versus 49% (Odds ratio, OR 1.64; 95% Confidence interval, 1.27-2.13; P< 0.05). Moreover, medicated group has higher incidence of postpartum haemorrhage compared to diet, 38% versus 35% (Odds ratio, OR 1.17; 95% Confidence interval, 0.9-1.53; P =0.252).

Babies born in medicated group have lower incidence of admission to special care nursery compared to diet group ,17% versus 24% (Odds ratio, OR 0.62; 95% Confidence interval, 0.46-0.84; P=0.002). On top of that, incidence of neonatal hypoglycaemia is higher in medicated group compared to diet , 10% versus 8% (Odds ratio , OR 1.2 ; 95% Confidence interval , 0.76 – 1.87 ; P=1.2).

## Conclusion

We need more studies to validate our practice of inducing women earlier with gestational diabetes managed with medication with good blood sugar control. The American College of Obstetrician and Gynaecologist in 2018 have recommended induction from 39 weeks onwards for above group.<sup>2</sup>

Hence, we should aim induction from 39 weeks onwards for women with GDM on medication with good blood sugar control.