

GUEST EDITORIAL

Does South Africa need a diabetes-in-pregnancy study group?

The prevalence of non-communicable diseases in South Africa (SA) is increasing. Alarming, SA is one of the nations with the most obese people in the world.^[1-3] The incidence of gestational diabetes mellitus (GDM) is similarly increasing. However, while healthcare policies focus on communicable and non-communicable diseases, advocacy for screening, immediate and long-term management and follow-up of GDM are lacking.

GDM is associated with adverse maternal and perinatal outcomes if undetected and untreated. Furthermore, the fetal programming theory demonstrates that offspring of diabetic mothers (including mothers with GDM) are at increased risk of obesity and metabolic syndrome during childhood and later in life.^[4,5] Women with GDM have an increased risk of developing type 2 diabetes within 10 years.^[6] Observational studies have noted that partners of women with GDM are also more likely to be obese and at risk of metabolic diseases.^[7]

The screening and management of GDM are cost effective if coupled with postpartum follow-up and lifestyle modification, resulting in lower rates of non-communicable diseases later in life. The latest guidelines for GDM screening by the International Association of Diabetes in Pregnancy Study Groups (IADPSG) were based on the Hyperglycemia and Adverse Pregnancy Outcome (HAPO) study data. HAPO did not demonstrate a clear inflection point above which the risk of adverse outcomes increases. Rather, hyperglycaemia-associated adverse outcomes increase along a continuum. The IADPSG recommendations are based on a 1.75 odds ratio of developing adverse outcomes. These glucose thresholds are low and have been criticised for increasing the number of women with GDM, thus increasing workload and cost.^[8] The Society for Endocrinology, Metabolism, and Diabetes of South Africa (SEMDSA) endorsed these guidelines in 2017.^[9] However, little consideration was given to implementation, effect on cost, workload, follow-up or management of women with GDM. Consequently, the screening and management of GDM are sporadic and inconsistent among the different healthcare facilities and provinces in SA.

The IADPSG was formed in 1998 as an umbrella organisation to facilitate collaboration between various regional and national organisations that focus on diabetes in pregnancy. Their principal objective is to foster an international approach to enhancing the quality of care, facilitating research and advancing education in the field of diabetes in pregnancy.^[10]

SA could benefit from forming an association of diabetes-in-pregnancy study group, comprising interested obstetricians, diabetologists, endocrinologists, dieticians, public health specialists and scientists. Pooling knowledge and experience, and research collaboration in the SA context, can lead to more appropriate national screening and management policies. The IADPSG provides for screening strategies in low- and middle-income countries such as India and China. SA, which has many similar challenges, can share experiences and thus extrapolate appropriate achievable recommendations based on SA research and international experience if affiliated to the IADPSG. The IADPSG also investigates alternative, less cumbersome screening strategies for GDM. While such research is ongoing in SA, local researchers can benefit from international collaboration.

Hence, the formation of an SA association of diabetes-in-pregnancy study group affiliated to the IADPSG has multiple potential benefits:

- collaborative, co-operative research in SA to address prevalence, role of risk factors, on-site training, diagnostic thresholds, therapeutic strategies
- appropriate follow-up of postpartum women and early detection of type 2 diabetes in women with GDM
- investigation of potential early or novel markers for diagnosis of GDM
- follow-up of children of mothers with GDM for obesity, metabolic risk and glycaemic control
- collaboration with public health specialists
- evaluation of the cost-effectiveness of screening and management of GDM patients
- creation of viable implementation policies so that all pregnant women regardless of location receive the same level of care.

SA is faced with a dual burden of disease. While diabetes mellitus has gained more attention, GDM is largely ignored. Conditions such as pre-eclampsia and obstetric haemorrhage are a major focus in obstetric care – understandably so, as they cause maternal mortality. However, if we do not acknowledge the increasing prevalence of GDM we shall be creating a future generation of obese, sick individuals who overburden the healthcare system. Prevention is better than management, and a good way to protect future generations is to identify at-risk individuals as early as possible (even *in utero*) and implement lifestyle programmes to prevent future disease epidemics.^[11]

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1. Taylor MM. The globesity epidemic. In: Taylor MM, ed. *The Obesity Epidemic* (internet). 2017:1-20. https://doi.org/10.1007/978-3-319-68978-4_1
2. Scott A, Ejikeme C, Clotey E, Thomas J. Obesity in sub-Saharan Africa: Development of an ecological theoretical framework. *Health Promotion Int* 2012;28(1):4-16. <https://doi.org/10.1093/heapro/das038>
3. Fruhstorfer B, Mousoulis C, Uthman O, Robertson W. Socio-economic status and overweight or obesity among school-age children in sub-Saharan Africa – a systematic review. *World Obes Clin Obes* 2016;6(1):19-32. <https://doi.org/10.1111/cob.12130>

4. Monteiro LJ, Norman JE, Rice GE, Illanes SE. Fetal programming and gestational diabetes mellitus. *Placenta* 2016;48(30):S54-S60. <https://doi.org/10.1016/j.placenta.2015.11.015>
5. Hollis J, Robinson S. Prenatal experience and childhood obesity. In: Frelut ML, ed. *The ECOG's eBook on Child and Adolescent Obesity*. 2015. ebook.ecog-obesity.eu (accessed 24 March 2019).
6. Song C, Lyu Y, Li C, et al. Long-term risk of diabetes in women at varying durations after gestational diabetes: A systematic review and meta-analysis with more than 2 million women. *Obes Rev* 2018;19(3):421-429. <https://doi.org/10.1111/obr.12645>
7. Dasgupta K, Ross N, Meltzer S, et al. Gestational diabetes mellitus in mothers as a diabetes predictor in fathers: A retrospective cohort analysis. *Diabet Care* 2015;38(9):e130-e131. <https://doi.org/10.2337/dc15-0855>
8. Werner EF, Pettker C, Zuckerwise L, et al. Screening for gestational diabetes mellitus: Are the criteria proposed by the International Association of the Diabetes and Pregnancy Study Groups cost-effective? *Diabet Care* 2012;35(3):529-535. <https://doi.org/10.2337/dc11-164>
9. SEMDSA Type 2 Diabetes Guidelines Expert Committee. SEMDSA type 2 diabetes guidelines for the management of type 2 diabetes mellitus. *J Endocrinol Metab Diabet S Afr* 2017;21(1)(Suppl):S1-S196.
10. International Association of Diabetes and Pregnancy Study Groups Consensus Panel. International Association of Diabetes and Pregnancy Study Groups recommendations on the diagnosis and classification of hyperglycemia in pregnancy. *Diabet Care* 2010;33(3):676-682. <https://doi.org/10.2337/dc09-1848>
11. Pérez-Escamilla R, Meyers J. *Preventing Childhood Obesity: Maternal-child Life Course Approach*. Farmington, CT: Child Health and Development Institute of Connecticut, 2014.

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