



International  
Diabetes  
Federation

POLICY BRIEFING

# DIABETES IN PREGNANCY: PROTECTING MATERNAL HEALTH

Diabetes is increasing worldwide, killing, disabling and impoverishing men and women alike. 366 million people already have diabetes, with roughly equal numbers of women and men. However, diabetes uniquely affects women through its impact during pregnancy and the threat it poses to the health of both mother and child. One of the 3 major forms – Gestational Diabetes Mellitus (GDM) – affects only pregnant women and is an overlooked cause of maternal and infant death and serious complications during labour.

## DIABETES IN PREGNANCY IS INCREASING RAPIDLY

Over recent decades, diabetes has expanded into low- and middle-income countries (LMCs) and the age of onset has shifted down a generation to people of working age and more recently, adolescents. As a consequence, more women of reproductive age have diabetes and more pregnancies are complicated by diabetes, diagnosed either before or during the pregnancy. Today as many as 60 million women of reproductive age have type 2 diabetes<sup>1</sup>, and GDM, a type of diabetes that starts or is first recognised during pregnancy, affects up to 15% of pregnant women worldwide. In India alone, an estimated 4 million women have GDM. These numbers are likely to increase as levels of maternal obesity continue to rise.

## DIABETES CAUSES LIFE-THREATENING COMPLICATIONS IN PREGNANCY

Without pre-conception planning, type 1 and type 2 diabetes can result in a significantly higher risk of maternal and child mortality and morbidity. In regions such as Africa where as much as 80% of diabetes is undiagnosed, unmanaged diabetes

in pregnancy poses a particularly high risk. The chances of an early miscarriage or having a baby with malformations are enhanced for women with type 1 diabetes, and the incidence of maternal mortality among pregnant women with type 1 diabetes in some countries is 5–20 times higher than that of women without diabetes.<sup>2</sup>

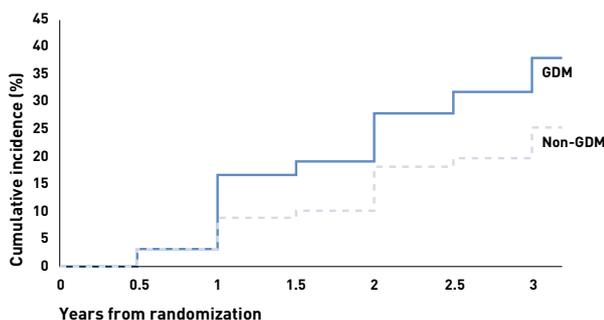
GDM accounts for 90% of all cases of diabetes in pregnancy, and if unrecognised and untreated, threatens the lives of both mother and baby. Women with GDM often give birth to macrosomic or large-for-gestational age (LGA) infants. In South Asia and Sub-Saharan Africa, where only around half of all births are attended by a skilled delivery assistant and caesarian section rates are as low as 3%, macrosomia can have devastating consequences<sup>3</sup>.

Too often it results in obstructed labour, the death of the mother and baby and birth injury for the infant. Pregnancies complicated by GDM also have a 4-fold increased risk of perinatal mortality. Almost 3 million babies are stillborn every year, and GDM is a major contributor to this unacceptable loss of life<sup>4</sup>. If these deaths are recorded it is unlikely that diabetes will be on the death certificate even though it is the root cause.

## GDM IS FUELLING THE TYPE 2 DIABETES EPIDEMIC

GDM also has long-term public health significance, contributing to the escalating type 2 diabetes epidemic. Although GDM is a temporary phenomenon for the pregnant woman, more than 50% of women with GDM develop type 2 diabetes within 5-10 years of delivery.<sup>5</sup> Moreover, infants of women with GDM have a higher prevalence of overweight or obesity as young children and adolescents, and a higher risk of developing type 2 diabetes later in life.

This graph shows the incidence of type 2 diabetes is significantly higher in women with a history of GDM than in women without a history of GDM<sup>6</sup>



Evidence has shown, however, that the progression of GDM into type 2 diabetes can largely be prevented through lifestyle modification and treatment. Breastfeeding an infant can also reduce childhood obesity. Interventions during and immediately after pregnancy therefore provide important opportunities to improve the lives of mothers and children today and reducing diabetes in future generations.

*"Each year, millions of women and children die from preventable causes. These are not mere statistics. They are people with names and faces. Their suffering is unacceptable in the 21<sup>st</sup> century"*

Ban Ki-moon,  
United Nations Secretary-General,  
Global Strategy for Women's and  
Children's Health, September 2010



## GDM IS INVISIBLE TO POLICY MAKERS

GDM has remained an invisible maternal and child health issue to policy makers, largely because there is no reliable profile of the global burden and distribution. Efforts to estimate global GDM prevalence have been hampered by the lack of consensus on the definition of GDM and the absence of universally applied standards for diagnosis and screening. GDM data exists from country to country, but it is not currently possible to compare and use them to project global figures. This has been a major barrier to understanding the significance of GDM and tackling it.

## INTEGRATING DIABETES INTO MATERNAL HEALTH INITIATIVES

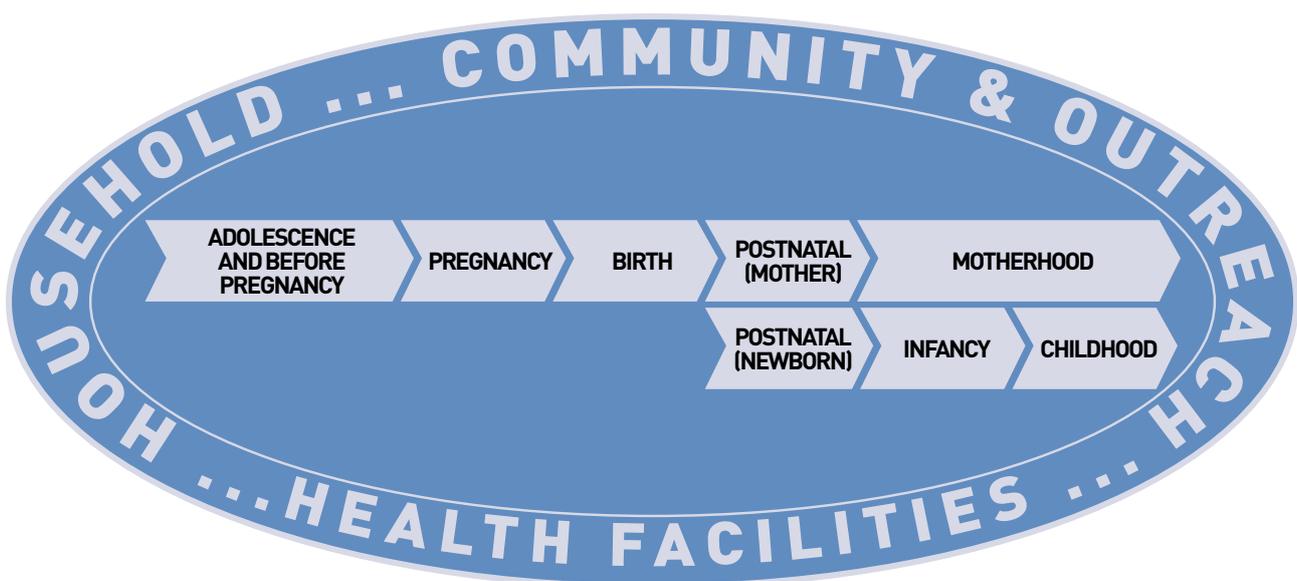
Global efforts to improve maternal and child health are threatened by the neglect of diabetes, particularly as the epidemic grows in LMCs where maternal and child mortality are highest. Critically, progress on the Millennium Development Goals (MDGs) to reduce child mortality (MDG 4) and improve maternal health (MDG 5) will fall short of the targets set for 2015. It makes no sense to invest in unconnected vertical health initiatives that will save a woman from dying from infection during labour, only to have her die from diabetes-related obstructed labour. Preventing and treating diabetes and GDM is essential for women's rights and health equity.

A comprehensive approach to women and children's health is needed, integrating diabetes and other noncommunicable diseases (NCDs) into existing health systems. Momentum for this can be seen in the recent UN Secretary General's Global

Strategy on Women's and Children's Health, which puts forward integrated care, integrated packages of essential interventions and services, health systems strengthening and health workforce capacity building as key elements for progress.<sup>7</sup>

There are entry points for integrating diabetes across the maternal and newborn child health (MNCH) continuum of care, from adolescence and pre-pregnancy through to the post-natal period and early childhood. For example, ensuring all women with diabetes have access to pre-conception planning services to reduce risk during pregnancy can be achieved through existing sexual and reproductive health channels. Ante-natal care visits during pregnancy must be optimised for health promotion in young women and early detection of diabetes and GDM. Post-natal follow up provide important gateways to reducing the progression of type 2 diabetes in both mother and child through preventative lifestyle measures and nutritional counseling.

## DIAGRAM OF THE CONTINUUM OF CARE FOR REPRODUCTIVE, MATERNAL, NEWBORN AND CHILD HEALTH



*"We must make the prevention and control of noncommunicable diseases and improvement of maternal health top priorities of the development agenda. Both are part of the agenda for strengthening health systems and revitalising health care."*

Dr Margaret Chan, Director-General,  
World Health Organization (WHO)

## WHAT NEEDS TO BE DONE

- Integrate diabetes and GDM screening and treatment into other maternal health interventions and services at primary healthcare level will ensure early detection, better care for women and reduced maternal mortality
- Increase the availability of preconception care for women with diabetes and build awareness that that it reduces maternal and fetal complications
- Ensure pregnant women with diabetes have access to the essential diabetes medicines and technologies, self-management education and information they need to achieve optimal pregnancy outcomes
- Introduce interventions to reduce overweight and obesity as a means of preventing or delaying the onset of diabetes in all women
- Establish global standards for diagnosis and screening for GDM, in order to calculate GDM prevalence and plan policy and interventions accordingly
- As the primary source of information in developing countries, traditional birth attendants and healthcare workers need to be educated in the benefits of early detection and post-partum screening for diabetes. They should be trained in the identification, treatment, management and follow up of these conditions during pregnancy
- Develop coordinated teamwork between obstetricians, midwives, paediatricians and endocrinologists to improve pregnancy outcomes for women with diabetes
- All countries need to ensure that maternal and infant deaths from diabetes are recorded in maternal death audits
- Health systems must keep long-term records to facilitate periodic assessments for women with previous GDM and their infants where appropriate.

### References

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