FIGO-IDF Joint Statement and Declaration on Hyperglycemia in Pregnancy

The growing burden of diabetes and its consequence for women:

Diabetes mellitus is a rapidly escalating global public health problem with rising prevalence among all age groups. The International Diabetes Federation estimates that diabetes affects about 415 million people globally which is projected to increase to 642 million people by 2040. There is an equally high burden of pre-diabetes - approximately 318 million are estimated to have pre- diabetes which is likely to increase to about 481 million by 2040.[1]

There are currently over 199 million women living with diabetes and this is projected to increase to 313 million by 2040. [1] Gender influences vulnerability to diabetes, affects access to health services and health seeking behavior for women and amplifies both the short term and long term adverse impact of diabetes on women's health. Diabetes is the ninth leading direct cause of death in women globally, causing 2.1 million deaths each year.[1] As a result of socioeconomic inequalities girls and women are exposed to poor diet and nutrition and experience barriers in accessing diabetes prevention, early detection, diagnosis, treatment and care, particularly in developing countries. Stigmatization and discrimination faced by people with diabetes are particularly pronounced for girls and women, who carry a double burden of discrimination because of their health status and gender in male-dominated societies. These inequalities discourage girls and women from seeking diagnosis and treatment and receive less intensive care resulting in more complications and less likelihood of achieving positive health outcomes. This is particularly relevant in the context of diagnosis and treatment of hyperglycemia in pregnancy (HIP).

More than one third of people with diabetes and a majority of people with prediabetes remain undiagnosed and unaware; particularly the young and women, as they never get tested given that diabetes is mistakenly believed to only affect the elderly.

Overweight and obesity which increase the risk of type 2 diabetes and pre-diabetes are also on the rise globally. According to the World Health Organization's (WHO) data[2]; in 2014, more than half of the world's adult population was overweight (39%) or obese (13%) as were 41 million children under the age of 5. The high levels of overweight and obesity in the adult population including among women in the reproductive age (estimated 42 million pregnant women) has important ramification for the future burden of HIP, type 2 diabetes, obesity and cardiovascular diseases.

Hyperglycemia in Pregnancy and its public health relevance

The occurrence of HIP parallels the prevalence of prediabetes, overweight, obesity and type 2 diabetes in a given population and as noted above these conditions are on the rise globally. Moreover, the age of onset of diabetes, pre-diabetes, overweight and obesity is declining while the age of child-bearing is increasing thus more women entering pregnancy have risk factors that make them vulnerable to HIP. A

recent large population study examined results of fasting capillary plasma glucose (FPG) in 2.1 million women planning pregnancy in China; diabetes and prediabetes was seen in 1.4% and 12.9% women respectively, and 7.2% were overweight and 1.0% obese.[3]

Hyperglycemia is now one of the most common medical conditions seen during pregnancy. The International Diabetes Federation (IDF) estimates that 1 in 6 live births (16.8%) occur to women with some form of HIP of which 2.5% may be due to overt diabetes in pregnancy and rest 14.3% (one in seven pregnancies) due to gestational diabetes mellitus (GDM).[1]

Whereas globally maternal, newborn and infant mortality rates have declined substantially in the last decade as a consequence of increased attention from the United Nation's Millennium Development Goal (MDG) initiative; mortality and morbidity in the perinatal period still remains disconcertingly high. Hemorrhage, hypertension, sepsis and obstructed labor directly account for a large number of maternal deaths but indirect causes such as hyperglycemia in pregnancy (HIP) also contribute by increasing the risk for the direct causes of maternal mortality.

In the past, most of the attention on gestational diabetes including setting diagnostic cut off values was related to the future risk of type 2 diabetes in the mother with scant attention paid to perinatal outcomes particularly among women with 'mild gestational hyperglycemia'. Studies in the last decade have shown significant association between adverse pregnancy outcomes and levels of maternal glucose considered within the nondiabetic range. [4-6]

HIP significantly increases the risk of pregnancy complications- hypertension, obstructed labor, postpartum hemorrhage, infections, still births, premature delivery, both large and small for gestational age babies, congenital anomalies, newborn deaths due to respiratory problems, hypoglycemia and birth injuries. The risk, severity and number of complications are directly related to level of maternal hyperglycemia[4] and the stage of pregnancy at which exposure started.

Eight low and middle-income countries that contribute to over half the global live births and two thirds of maternal and perinatal mortality and morbidity, also account for more than half of the global diabetes burden.[7] Efforts to further reduce maternal mortality will have to be refocused on reduction of indirect causes such as HIP not only in these countries but everywhere including the developed world.[8]

Gestational diabetes mellitus (GDM) develops due to hormonal changes of pregnancy and is confined to the duration of pregnancy. Most women diagnosed with GDM can be adequately managed through proper monitoring and practical nutrition and lifestyle counseling. Some may require medical treatment and referral to specialist care. Meta-analysis of randomized control trials shows that treatment of gestational hyperglycemia improves pregnancy outcomes. [9, 10]

HIP is the most reliable marker of future type 2 diabetes[11] and cardio metabolic disorders in women; [12] with a proven possibility of prevention or delaying onset through appropriate post-partum lifestyle interventions. Without post-partum preventive care, almost half of women with GDM develop type 2 diabetes and a significant proportion develop premature cardiovascular disease, within 10 years of

childbirth. Providing preventive lifestyle care to women post GDM pregnancy has been shown to reduce their risk for future diabetes and cardiovascular disease.[13-15]

HIP also perpetuates the risk of type 2 diabetes and obesity into the next generation. Offsprings of mothers with HIP are at a significantly heightened risk of early onset obesity, type 2 diabetes and cardio-metabolic disorders as a consequence of intrauterine developmental programming. [16, 17] Whether good control of HIP will prevent or reduce these risks is currently unknown and requires further well designed studies. Being born full term and normal weight is undoubtedly a good start to life; in addition, early life attention to avoid excess weight and inculcate healthy eating and physical activity behavior may further help prevent or delay onset of long term consequences.

In pregnant women the cost of health service utilization for in patient care rises incrementally with higher BMI and HIP because of the increased risk of maternal morbidity, operative interventions and maternal and neonatal hospital admissions. It has been estimated that the total cost for overweight and obese pregnant women with GDM during pregnancy and up to two months following delivery increased 23% and 37% respectively as compared to women with normal BMI. [18, 19]

While several risk factors such as overweight and obesity and increasing maternal age increase the risk for HIP; in practice, only a little more than half of the women with GDM have these risk factors; [20-22] supporting the argument for universal testing of all pregnant women to identify women with GDM. [7] Despite evidence of both immediate and long term benefits (health and economic) of testing, diagnosis and management of GDM and providing post-partum preventive care, instead of finding pragmatic solutions, misplaced concerns focusing on the short term, continue to be expressed that universal testing and (consequently) increased diagnosis of GDM would place additional logistical and economic challenges to healthcare systems.

Focusing attention on GDM is a sustainable and cost effective way of reducing maternal and newborn morbidity and rising rates of obesity, diabetes and cardiovascular diseases; as well as, offering an opportunity for addressing two important components of the sustainable development goal 3 (maternal and newborn health and NCDs) with one comprehensive intervention

The United Nations Secretary General in his report on the Prevention and control of non-communicable diseases to the UN General Assembly on 19th May 2011 noted that "the rising prevalence of high blood pressure, diabetes and gestational diabetes is increasing adverse outcomes in pregnancy and maternal health. Improving maternal health and nutrition plays an important role in reducing the future development of such diseases in offspring."[23]

The Political Declaration of the High-level Meeting of the UN General Assembly on the Prevention and Control of Non-communicable Diseases[24] held in New York on 19th September 2011 noted with concern that maternal and child health is inextricably linked with non-communicable diseases and their risk factors, specifically such as prenatal malnutrition and low birth weight create a predisposition to obesity, high blood pressure, heart disease and diabetes later in life, and that pregnancy conditions, such as maternal obesity and gestational diabetes, are associated with similar risks in both the mother and her offspring. It advocates for the inclusion of non-communicable disease prevention and control

within sexual and reproductive health and maternal and child health programs, especially at the primary health-care level, as well as other programs as appropriate, and also integrate interventions in these areas into non-communicable disease prevention programs.

The International Diabetes Federation's Focus on Diabetes in Women

The International Diabetes Federation (IDF) has for many years focused on the issue of women and diabetes and taken several initiatives to bring attention to the problem. IDF has announced that the theme of World Diabetes Day 2017 will be *Women and diabetes - Our right to a healthy future*.

The World Diabetes Day 2017 campaign will promote the importance of affordable and equitable access for all women with diabetes or at risk to the essential diabetes medicines and technologies, self-management education and information they require to achieve optimal diabetes outcomes and strengthen their capacity to prevent type 2 diabetes. In this context while supporting the WHO position on the diagnostic criteria and classification of hyperglycemia first detected in pregnancy;[25] Diabetes Research and Clinical Practice (DRCP) the official journal of the IDF published an article describing strategies for implementing the WHO recommendations hinting at the need for a pragmatic approach based on available resources and constraints [26] - an approach very similar to that recommended by FIGO.[7]

The International Diabetes Federation is an umbrella organization of over 230 national diabetes associations in 165 countries and territories. It represents the interests of the growing number of people with diabetes and those at risk. The Federation has been leading the global diabetes community since 1950. IDF's mission is to promote diabetes care, prevention and a cure worldwide. IDF is engaged in action to tackle diabetes from the local to the global level — from programmes at community level to worldwide awareness and advocacy initiatives.

International Federation of Gynecology and Obstetrics (FIGO) – Focus on hyperglycemia in pregnancy

The recent focus of the International Federation of Gynecology and Obstetrics (FIGO) on hyperglycemia in pregnancy resulted in the release of pragmatic guidelines[7] at the FIGO World Congress in Vancouver in 2015 and the subsequent setting up a working group on HIP.

FIGO calls for greater attention to the link between maternal health and non-communicable diseases in the sustainable developmental goals (SDG) agenda; in particular, to gestational hyperglycemia and its propensity to fuel the global diabetes, obesity and cardiovascular disease pandemic. FIGO also asks for public health measures to increase awareness, access, affordability, and acceptance of preconception counseling, and prenatal and postnatal services for women of reproductive age to be prioritized.

Since 1954 FIGO is the only global organization representing national societies of obstetricians and gynecologists and has Member Societies in 130 countries or territories. FIGO's vision is that women of the world achieve the highest possible standards of physical, mental, reproductive and sexual health and wellbeing throughout their lives. FIGO's work is dedicated to the improvement of women's health and

rights and to the reduction of disparities in healthcare available to women and newborns, as well as to advancing the science and practice of obstetrics and gynecology.

IDF and FIGO synergy

Given the interaction between hyperglycemia and poor pregnancy outcomes, the role of in utero imprinting in increasing the risk of diabetes and cardio-metabolic disorders in the offspring of mothers with hyperglycemia in pregnancy, as well as increasing maternal vulnerability to future diabetes and cardiovascular disorders, there is a natural synergy between the work of IDF and FIGO and a need for greater collaboration. The relevance of HIP as a priority area for maternal health and its impact on the future burden of non-communicable diseases therefore provides a natural bridge for the two organizations to collaborate. The leadership of the two organizations has therefore decided to release this joint statement and declaration

FIGO and IDF hereby declare

- That hyperglycemia in pregnancy is a significant public health challenge impacting maternal, newborn and child health and the future burden of type 2 diabetes and cardio metabolic disorders globally.
- That until and unless urgent action is taken to systematically address the issue, it has the potential to undo the gains in maternal and newborn health achieved in the last decade and further worsen the ongoing diabetes and obesity epidemic.
- That focusing on maternal obesity and HIP provides a unique opportunity to integrate services, to lower traditional maternal and perinatal morbidity and mortality indicators and address the inter-generational prevention of NCDs such as obesity, diabetes, hypertension, CVD and stroke
- That the two organizations resolve to address the challenges posed by the rising rates of hyperglycemia in pregnancy and maternal obesity and to convert them into opportunities for improved health outcome for mothers and the future generation globally.

And to this effect,

We Agree to

- Undertake actions in our various capacities to support efforts to address the link between maternal health, obesity and diabetes as a public health priority
- Support efforts to increase public awareness about hyperglycemia in pregnancy and its impact on maternal and child health, encourage preconception counseling, antenatal care and post-natal follow up.
- Promote and celebrate a National GDM Awareness Day as an instrument to bring public attention and raise awareness of the problem
- Encourage and support task shifting and role based training to build capacity for prevention, early diagnosis, and treatment of HIP and continued engagement with the high risk mother child pair over a prolonged time period.

- Advocate for access to uninterrupted diagnostic supplies, medications and trained manpower for diagnosis and appropriate management for HIP at all levels of care at affordable costs keeping the pregnant women's convenience in mind.
- Ensure through our member societies that as a minimum, all pregnant women attending health facilities will be tested for hyperglycemia using a single-step procedure, as advocated by FIGO[7] IDF [26]and WHO.[25]
- Make all efforts to support post-partum follow up and engagement of the high risk mother child pair post-GDM pregnancy linked to the child's vaccination program or other initiatives by encouraging our respective fraternity members to collaborate with each other and with other health care professionals.
- Help develop, support and carry out a robust research agenda that fuels both the discovery of new tools and procedures to improve point of care diagnostics, monitoring and management of HIP and health care provider's ability to engage, counsel and track the mother-child pair over the long term; as well as carry out operational research to improve collaboration and efficacy in existing programs, keeping in mind the health care delivery realities in different parts of the world.

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6th December 2017

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