Diabetes Mellitus in Women: A Call to Action

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ABSTRACT

Diabetes mellitus (DM) poses a huge burden on individuals and the health system globally. Its effects on individuals lead to morbidity and mortality arising from cardiovascular diseases (CVD), kidney disease, retinopathy/blindness, neuropathy, foot ulcers, which may lead to amputation, and associated mental health problems, notably depression. When DM affects women, the impact is huge among them when compared with men. Among women with gestational DM (GDM), the effect is not only felt by the women but also by the offspring. Even though women are relatively protected from cardiovascular diseases (CVD) by the effects of oestrogen before menopause, this protection is obliterated in T2DM, causing women to have a 50% higher risk of fatal coronary heart disease than men. The severity of DM retinopathy is said to worsen when a woman with DM becomes pregnant, and diabetes kidney disease also occurs more commonly in women than men. To reduce this burden, women are encouraged to take action by practicing measures that have been proven to prevent or delay the development of DM, especially type 2 DM and its complications.

Keywords: Diabetes mellitus, women, call to action, prevention, burden

INTRODUCTION

Diabetes mellitus (DM), a chronic metabolic disorder, is classified into type 1 diabetes mellitus (T1DM), type 2 diabetes mellitus (T2DM), other specific types, and gestational diabetes mellitus (GDM), which occurs in pregnant women. The prevalence of this metabolic disorder, especially T2DM, which is the most common type, is rising globally, fueled mostly by obesity, physical inactivity, and aging. According to the International Diabetes Federation (IDF), 536.6 million people aged 20–79 had DM in 2021, and this is expected to rise to 783.2 million people by the year 2045. DM, which affects all genders, is a cause of morbidity and mortality arising from cardiovascular diseases (CVD), kidney disease, retinopathy/blindness, neuropathy, foot ulcers, and amputation. DM is also associated with mental health problems, notably depression.

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T2DM, which is the most common type, is rising globally, fueled mostly by obesity, physical inactivity, and aging.[1,2] According to the International Diabetes Federation (IDF), 536.6 million people aged 20–79 had DM in 2021, and this is expected to rise to 783.2 million people by the year 2045.[1] DM, which affects all genders, is a cause of morbidity and mortality arising from cardiovascular diseases (CVD), kidney disease, retinopathy/blindness, neuropathy, foot ulcers, and amputation. [1,2] DM is also associated with mental health problems, notably depression. [3,4]

In the year 2021, 10.2% of women globally had DM, and the impact was said to be huge on them [1, 5]. T2DM has also been found to affect women disproportionately. [6] The impact of DM on women is mostly related to its complications arising from poor glycaemic control [7, 8], reproductive health, mental health, access to health care, and health-seeking behaviour. [9-11]

Women daily battle not only with DM but with its complications. Even though they are relatively protected from CVD by the effects of oestrogen before menopause, this protection is obliterated in T2DM, causing women to have a 50% higher risk of fatal coronary heart disease than men. [12,13] In a study conducted in the United States of America, the coronary artery disease (CAD) rate was reported to be lower among women without diabetes, but in the presence of diabetes, it was associated with a significant four- to five-fold higher CAD rate among women after adjusting for demographics. [14] The increased risk of stroke was also found to be higher among women with an associated poor prognosis. [15-17]

Even though diabetic retinopathy (DR) has not shown any gender difference, pregnancies have been associated with the worsening of preexisting DR. [8, 18] End-stage kidney disease (ESKD), which is the terminal stage of diabetic nephropathy, is more likely to occur in women than in men. [19]

Women, like men with DM, struggle with sexual dysfunction, which includes sexual desire disorders, sexual arousal disorders, orgasmic disorders, and sexual pain disorders. [20] However, this has not been well studied among women, but it is said to occur mostly in the presence of depression. [21, 22]

DM during pregnancy can negatively affect the health of women and their babies. GDM, which is one of the classes of DM, is first recognised during pregnancy. The prevalence of GDM varies depending on the criteria used. [23] Globally, the prevalence of hyperglycemia in pregnancy in women aged 20–49 is 16.9%, with more than 90% of cases estimated to occur in middle- and low-income countries. [24] In Nigeria, a prevalence of 7.7% has been reported. [25]

Despite the fact that GDM disappears after delivery, it can reoccur in subsequent pregnancies and can lead to the development of T2DM in 50% of these women later in life. [23, 26, 27] The impact of hyperglycemia in pregnancy affects not only the woman but also the offspring. [28] For women with T1DM or T2DM, high blood glucose around the time of conception increases babies' risk of birth defects, stillbirth, and preterm birth [29]. Other outcomes that can occur among women with any type of DM include polyhydramnios, pre-eclampsia, perinatal mortality, hypertension, obstructed labour, postpartum haemorrhage, infections, newborn deaths due to respiratory problems, hypoglycemia, birth injuries, and macrosomia, leading to an increased rate of caesarean section and the risk of developing obesity or T2DM in the child in the future. [30, 31]

DM has been found to affect the psychological health of people affected by it. [3,4,7] A study reported that the risk of major depressive disorder among those with DM is stronger in women than men. [10] The mental health outcomes of depression, anxiety, stress, and psychological distress are also seen in women with GDM. [32] This psychological health problem has been suggested to be the reason associated with worse glycaemic control in women than men. [33]

This huge impact of DM on women calls for action on DM prevention. Gender influences vulnerability to DM and affects access to health services and health-seeking behaviour for women. [31] In

developing countries, particularly, girls and women are exposed to poor diet and nutrition and experience barriers to accessing diabetes prevention, early detection, diagnosis, treatment, and care because of socioeconomic inequalities. [31]

T2DM, which is the most common form of DM, can be prevented or delayed. In addressing its prevention among women, an increase in awareness of the risk factors and education on measures to prevent this disorder are key. The woman without DM should participate in healthy behaviours, including an increase in physical activity and eating a healthy diet, to promote weight loss and prevent obesity and T2DM. Women with GDM should also be aware of the risk of obesity and T2DM the babies they carry have in the future and the importance of raising these offspring in a healthy manner. The provision of facilities for DM screening for early detection is also key to DM prevention. This should be achieved by providing more accessible, available, and affordable primary health-care services of high quality by the government and non-governmental organisations, which should screen both DM and GDM. Strengthening of the primary health care services by integrating mental health services and training and retraining of staff should also be considered.

Complications of DM arise from poor glycaemic control. To ensure good glycaemic control, women with DM should have access to health care and be educated on the complications associated with DM and the impact of poor glycaemic control on them. They should be encouraged to keep their clinic appointments, increase physical activity, take their medications, and adhere to dietary counseling. Facilities for physical activities and the provision, availability, affordability, and accessibility of these medications should be made possible by the government and non-governmental organisations. These women should also be encouraged to educate their children about the risk of T2DM they have and encourage them to live a healthy life. To make this possible, emphasis should be placed on education, both informal and formal, that supports and enables women to acquire knowledge, develop self-esteem, make decisions, and take responsibility for their own health. Early detection through screening of mental health disorders, especially depression, should also be conducted among these women to institute measures for intervention to prevent its consequences.

CONCLUSION

The impact of DM on women is enormous, with its effects not only experienced by them but also by the offspring they carry. Since T2DM can be prevented or delayed, women should be encouraged to take action by practicing preventive measures to protect not only themselves but also their offspring.

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