GESTATIONAL DIABETES: BIBLIOGRAPHIC REVIEW WITH EMPHASIS ON KNOWLEDGE, ATTITUDES AND SELF-CARE

MOHAMED KASSEM SAIDAH[1], TÁRIK KASSEM SAIDAH[2], PATRÍCIA GONÇALVES EVANGELISTA[3], WALDEMAR NAVES DO AMARAL[3]

ABSTRACT

The aim of this study is to bring an updated bibliographic review on gestational diabetes from concept to diagnosis and describe the importance of knowledge, attitude and self-care in diabetic pregnant women. Gestational diabetes is one diagnosed during pregnancy in a patient who was not diagnosed with diabetes before pregnancy in what we call prior diabetes. The diagnosis is controversial, but it is recommended that on the occasion of the first prenatal consultation, all pregnant women should be subjected to fasting plasma glucose. Lack of awareness, negative attitudes and inappropriate self-care practices among diabetic patients are some of the important variables that influence the progression of diabetes and its complications, which are largely preventable through education and patient involvement. Gestational diabetes is associated serious maternal, fetal and neonatal diseases. Prenatal care is an opportunity for pregnant women to receive guidance, they should be informed about their health care, the importance of regular exercise, dietary adjustment and suitability for taking medications, thus improving knowledge, attitudes and self-care in diabetic pregnant women. The literature on knowledge, attitude and self-care about GDM in pregnant women is scarce.

KEYWORDS: GESTATIONAL DIABETES, KNOWLEDGE, SELF-CARE, ATTITUDES.

INTRODUCTION

Diabetes Mellitus (DM) represents a set of metabolic disorders characterized by hyperglycemia resulting from insulin deficiency; this deficiency may be due to reduced pancreatic production, of inadequate release and/or increased peripheral resistance to the hormone. Considering the pregnancy-puerperal period, it is possible the occurrence of hyperglycemia both in women already known to have DM prior to pregnancy and in pregnant women without this previous diagnosis[1].

Diabetes is a common medical condition during pregnancy. It is associated with an increased risk of complications for the mother and fetus during pregnancy and postpartum[2].

The treatment of gestational diabetes is important to avoid maternal-fetal morbidity and mortality, nutritional therapy being the first treatment option for pregnant women, and the practice of light to moderate physical exercise should be encouraged in the absence of obstetric contraindications. Drug treatment is recommended when glycemic targets are not reached or in the presence of fetal excessive growth on ultrasound. The traditional treatment for gestational diabetes is insulin therapy, although more recently the use of oral hypoglycemic agents has been considered a safe and effective option. Treatment monitoring is performed with measurement of capillary blood glucose, with assessment of fetal abdominal circumference and amniotic fluid through obstetric ultrasonography from the twenty-eighth week of gestation onwards[3].

The higher the knowledge, attitude and self-care scores, the lower the impacts on the health of the mother and baby and the complications resulting from diabetes. Therefore, the aim of this study is to bring an updated literature review on gestational diabetes from concept to diagnosis and describe the importance of knowledge, attitude and self-care in diabetic pregnant women.

1. CONCEPT AND CLASSIFICATION

Diabetes mellitus, known as diabetes, is a group of metabolic disorders characterized by the presence of hyperglycemia and can be classified in different ways, as shown in Table 1[4].

1. Hospital e Maternidade Dona Íris
2. Unievangélica
3. Universidade Federal de Goiás - UFG

ADDRESS
PATRÍCIA GONÇALVES EVANGELISTA
Alameda Emílio Póvoa, 165 - Vila Redenção
Goiânia - GO, 74845-250
E-mail centrodeestudoshdmi@gmail.com

Type 1 diabetes
Type 2 diabetes
Hybrid forms of diabetes
Immune-mediated and slowly evolved diabetes in adults
Type 2 diabetes with a tendency to ketosis
Other specific types
Monogenic diabetes
- Monogenic defects of β cell function
- Monogenic defects in insulin action
Exocrine Pancreas Diseases
Endocrine Disorders
Induced by drugs or chemicals
Infection-related diabetes
Specific unusual forms of immune-mediated diabetes
Other genetic syndromes sometimes associated with diabetes
Unclassified diabetes
Hyperglycemia first detected during pregnancy
Diabetes mellitus in pregnancy
Gestational diabetes mellitus

Source: ADA,2020[5].

Table 1 - Diabetes classification according to the World Health Organization, 2020.

Gestational diabetes is the one diagnosed during pregnancy in a patient who was not diagnosed with diabetes before pregnancy, which we call prior diabetes. The identification and timely management of gestational diabetes is important to prevent fetal, child and maternal complications. Physical activity and dietary changes remain the hallmarks of treatment, with insulin becoming the drug of choice if further intervention is needed[2,6,7].

PREVALENCE

In 2015, the International Diabetes Federation (IDF) estimated that 8.8% (95% confidence interval [CI]: 7.2 to 11.4) of the world population aged 20 to 79 years (415 million people) lived with diabetes. If current trends persist, the number of people with diabetes is projected to exceed 642 million by 2040. The World Health Organization (WHO) estimates that high blood glucose is the third most important factor in the cause of premature mortality. Diabetes is responsible for 14.5% of all-cause mortality worldwide, and this is greater than the sum of deaths caused by infectious diseases. Global spending on diabetes in 2015 was estimated at between US$ 673 and US$ 1.197 billion, with projections for 2040 in the order of US$ 802 to US$ 1.452 billion. For Brazil, the estimated cost in 2015 was US$ 22 billion, with a projection of US$ 29 billion for 2040[8].

The prevalence of hyperglycemia during pregnancy may vary depending on the diagnostic criteria used and the population studied. According to population studies carried out in recent decades, the prevalence of GDM varies from 1 to 37.7%, with a world average of 16.2%, one in six births occur in women with some form of hyperglycemia during pregnancy, with 84% of these cases being due to GDM1.

DIAGNOSIS

The diagnosis is controversial, but it is recommended that at the time of the first prenatal consultation, all pregnant women should undergo fasting plasma glucose. A fasting blood glucose value (8 to 12 hours) greater than or equal to 92 mg/dl (5.1 mmol/l) but less than 126 mg/dl (7.0 mmol/l) makes the diagnosis of GD. Pregnant women with fasting plasma glucose values equal to or greater than 126 mg/dl (7.0 mmol/l) or with an occasional plasma glucose value greater than 200 mg/dl (11.1 mmol/l), if confirmed with a fasting value greater than or equal to 126 mg/dl, should be considered as having a diagnosis of Diabetes Mellitus in Pregnancy. If the blood glucose value is less than 92 mg/dl, the pregnant woman should be reassessed between 24 and 28 weeks of gestation with an OGTT with 75 g of glucose. The test must be done in the morning, after fasting for at least 8 hours, but not longer than 12 hours. It must be preceded, within the previous 3 days, by regular physical activity and a non-restrictive diet containing at least 150 g of carbohydrates. The test consists of ingesting a solution containing 75 g of glucose diluted in 250-300 ml of water. Blood samples are required to determine plasma glucose at 0, 1h and 2h. During the test, the pregnant woman must remain at rest[9,10].

RISK FACTORS

Risk factors are the classic triad, older age, higher BMI and family history of diabetes mellitus. According to Dode et Santos (2009), in addition to being over 25 years old, excessive central deposition of fat, obesity or excessive weight gain in ongoing pregnancy and family history of diabetes mellitus, the non-white color should be included among the risk factors for gestational diabetes mellitus[11].

A study by Ribeiro et al (2015), aimed at identifying predictive factors for the development of diabetes mellitus (DM) in women with a history of gestational diabetes (GD), demonstrated in a sample of 300 women, born before 1995, with a diagnosis from GD between January 1, 2001 and December 31, 2010, with monitoring of pregnancy at Hospital de Braga. It was observed that 32.7% of women developed DM. The probability of developing DM after GD increased by 8.2 times when the gestational age was less than 24 weeks at diagnosis (OR = 8.19; $p < 0.001$), 3.4 times if insulin therapy was needed (OR = 3.36; $p < 0.001$) and 3.1 times if previous body mass index (BMI) ≥ 26.4 kg/m2 (OR = 3.07; $p = 0.003$). The value of fasting blood glucose, maternal age at diagnosis, as well as postpartum BMI, despite being associated with the development of DM, were not predictors for the onset of DM[12].

KNOWLEDGE, ATTITUDES AND SELF-CARE IN DIABETIC PREGNANT WOMEN

According to the WHO "self-care" is the ability of individuals, families and communities to promote health, prevent disease, maintain health, and deal with illnesses and disabilities with or without the support of a health care provider." The scope of self-care includes health promotion; disease prevention and control; self-medication, care for dependent people. Hospital/specialist care should be sought in case of necessity, in addition to rehabilitation including palliative care[13].

Knowledge is defined as a set of information that individuals need to master to manage their health condition. However, knowledge alone is not enough to promote behavioral changes, which also involve other variables, namely, education, time of diagnosis, beliefs related to health and disease, family support, easy access to health services, among other dimensions. Although knowledge is a prerequisite for self-care, it cannot be the only and main factor involved in the educational process. Knowledge combined with decision-making shared with patients, according to their values, in addition to perceived barriers of self-care, motivation and proposed goals, can lead to the adoption of positive attitudes towards the treatment. Thus, it is clear that low levels of knowledge and negative attitudes towards the disease are factors that still interfere with metabolic control and treatment adherence[14].

A positive attitude towards the disease means having tolerance, acceptance, cooperativeness and a belief about the fact that the disease is not a significant source of suffering.

Lack of awareness, negative attitudes and inadequate self-care practices among diabetic patients are some of the important variables that influence the progression of diabetes and its complications, which are largely preventable through education and patient involvement[15].

FINAL CONSIDERATIONS

Gestational diabetes is associated with serious maternal, fetal and neonatal illnesses. Prenatal care is an opportunity for pregnant women to receive guidance, they must be informed about their health care, the importance of regular exercise, diet adjustment and medication adequacy, thus improving knowledge, attitudes and self-care in diabetic pregnant women. Literature on knowledge, attitude and self-care about GDM in pregnant women is scarce.

REFERENCES

1. Opas. Organização Pan-Americana da Saúde. Ministério da Saúde. Federação Brasileira das Associações de Ginecologia e Obstetrícia. Sociedade Brasileira de Diabetes Rastreamento e diagnóstico de diabetes mellitus gestacional no Brasil. Brasília, DF: OPAS, 2016
2. Benhalima K, Devlieger R, Assche AV. Screening and management of gestational diabetes. Best Pract Res Clin Obstet Gynaecol., v. 29, n. 3, p:339-349, 2015.
3. Weinert LS. et al. Diabetes gestacional: um algoritmo de tratamento multidisciplinar. Arq Bras Endocrinol Metab, v. 55, n. 7, p?435-445, 2011.
4. OMS. Organização mundial da saúde. Global report on diabetes. Disponível em: http://apps.who.int/iris/bitstream/10665/204871/1/9789241565257_eng.pdf?ua=1. Acesso em 12.03.2017.
5. ADA. American Diabetes Association. Diabetes Care.2020.
6. Kautzky-Willer A et al. Gestationsdiabetes (GDM) Gestational diabetes mellitus. Wien Klin Wochenschr., v.128, suppl 2, p:S103-S112, 2016.
7. Dugan JA, Crawford JM. Managing gestational diabetes [published correction appears in JAAPA. 2019. JAAPA., v. 32, n. 9, p:21-25, 2019.
8. SBP. Sociedade Brasileira de Diabetes. Diretrizes da Sociedade Brasileira de Diabetes. 4º ed. Itapevi, São Paulo: Clannad; 2019-2020.
9. Hapo, N England J Med 2008;358:1991-2002.
10. Ruas L, Almeida MC. Consenso "Diabetes Gestacional": Atualização 2017. Revista Portuguesa de Diabetes, v. 12, n. 1, p: 24-38, 2017.
11. Dode MASO, Santos IS. Fatores de risco para diabetes mellitus gestacional na coorte de nascimentos de Pelotas, Rio Grande do Sul, Brasil, 2004. Cad. Saúde Pública, Rio de Janeiro, v. 25, n. 5, p:1141-1152, mai, 2009.
12. Ribeiro AMC et al. Diabetes gestacional: determinacão de fatores de risco para diabetes mellitus. Rev Port Endocrinol Diabetes Metab, v. 10, n. 1, p:8-13, 2015.
13. WHO. World Health Organization, Regional Office for South-East Asia. 2014. Self care for health. WHO Regional Office for South-East Asia. https://apps.who.int/iris/handle/10665/205887.
14. Islam B et al. Knowledge and attitude regarding gestational diabetes mellitus (GDM) among obese pregnant women coming for antenatal checkup at a tertiary care hospital. IJCS, v. 5, n. 5, p: 179-189, 2017.
15. Kakade AA, Mohanty IR, Rai S. Assessment of knowledge, attitude and self-care activities among type-2 diabetic patients attending a tertiary care teaching hospital. Int J Basic Clin Pharmacol., v. 5, n. 6, p:2458-2462, 2016.