

## MANAGEMENT OF GESTATIONAL DIABETES MELLITUS

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### ABSTRAK : MANAJEMEN GESTASIONAL DIABETES MELITUS

Latar belakang: Gestational Diabetes Mellitus (GDM) adalah kondisi intoleransi glukosa yang terdiagnosis selama kehamilan, sering kali muncul pada trimester kedua atau ketiga. Meskipun dapat menandakan diabetes tipe 1 atau 2 yang tidak terdeteksi sebelumnya, GDM umumnya disebabkan oleh intoleransi glukosa sementara terkait kehamilan. Wanita hamil dengan faktor risiko seperti obesitas, riwayat keluarga diabetes, atau melahirkan bayi besar perlu dicurigai mengalami GDM. Jika tidak ditangani, GDM dapat menyebabkan komplikasi serius bagi ibu dan janin, termasuk preeklamsia dan makrosomia. Di Indonesia, prevalensi GDM diperkirakan mencapai 1,9% hingga 5% dari total kehamilan. Penelitian ini bertujuan: untuk mengevaluasi manajemen GDM di Primary Health Centre wilayah Kota Yogyakarta dengan pendekatan deskriptif fenomenologi. Metode: Data dikumpulkan melalui wawancara semi-terstruktur dengan lima bidan yang memberikan pelayanan Kesehatan Ibu dan Anak. Hasil: analisis menunjukkan dua tema utama yaitu pendekatan perubahan perilaku dan strategi reorientasi pelayanan kesehatan masyarakat. Kesimpulan: Manajemen yang baik melalui deteksi dini dan penanganan yang tepat dapat meningkatkan kesehatan ibu hamil dan mengurangi risiko komplikasi. Saran: skrining awal dan pengaturan gaya hidup penting untuk dilakukan selama kehamilan.

Kata Kunci: Bidan, Gestasional Diabetes Mellitus (GDM), Manajemen

### ABSTRACT

Background: Gestational Diabetes Mellitus (GDM) is a condition of glucose intolerance diagnosed during pregnancy, often presenting in the second or third trimester. Although it can signify previously undetected type 1 or 2 diabetes, GDM is generally caused by pregnancy-related temporary glucose intolerance. Pregnant women with risk factors such as obesity, family history of diabetes, or giving birth to a giant baby need to be suspected for GDM. Unsolved GDM, lead to serious complications for both mother and fetus, including preeclampsia and macrosomia. In Indonesia, prevalence of GDM is estimated at 1.9% to 5% of total pregnancies. This study aimed to evaluate the management of GDM at Primary Health Centre in Yogyakarta City using a descriptive phenomenological approach. Methods: data were collected through semi-structured interviews with five midwives who provide Maternal and Child Health services. The results: of the analysis showed two main themes, namely the behavior change approach and the strategy of reorienting public health services. Good management through early detection and appropriate treatment can improve the health of pregnant women and reduce the risk of complications. Suggestions: early screening and lifestyle regulation is important to conduct during pregnancy.

Key words: Midwife, Gestational Diabetes Mellitus (GDM), Management

### INTRODUCTION

Gestational Diabetes Mellitus (GDM) is a condition of glucose intolerance diagnosed during pregnancy. Although this intolerance may indicate the presence of previously undetected type 1 or type 2 diabetes, most cases of GDM are due to temporary glucose intolerance associated with pregnancy (Robson, 2011). This study will explain how

Gestational Diabetes Mellitus is managed at Primary Health Centre in Yogyakarta City.

GDM is often referred to as 'unmasked' because it is only identified when women are pregnant. Pregnant women with risk factors such as obesity, a family history of diabetes, giving birth to a baby weighing more than 4 kg, a history of stillbirth, or recurrent abortions should be suspected of having GDM (Risksdas, 2013). Undiagnosed and

untreated diabetes during pregnancy can lead to various comorbidities and complications for the mother and fetus. Complications for the mother include an increased risk in the years after delivery, risks during labor, as well as the possibility of developing conditions such as preeclampsia, pyelonephritis, and hypertension. For the baby, GDM can lead to congenital abnormalities due to poor blood sugar control, fetal macrosomia, caesarean delivery, polyhydramnios, metabolic disorders in the child, respiratory distress syndrome, and future risk of obesity (Saeideh et al., 2018).

In Indonesia, approximately 70% of the population has diabetes, with 40% having impaired fasting glucose and 30% having impaired glucose tolerance. It is estimated that between 1.9% to 5% of all pregnant women in Indonesia have GDM (Sunjaya et al., 2018). The role of midwives in care and counselling during pregnancy is crucial to provide high-quality antenatal care to optimize the health of pregnant women through early detection and management of complications. Midwives are also expected to provide care based on the results of normal laboratory examinations such as hemoglobin levels in the blood as well as blood sugar and urine tests (Ministry of Health, 2007). The health service handbook recommends that all pregnant women with certain risk factors undergo blood sugar testing.

The diagnosis of GDM is made if the Whole Blood Glucose (GDS) level reaches or exceeds 200 mg/dL accompanied by classic symptoms of hyperglycemia or Fasting Blood Glucose (GDP) level  $\geq 126$  mg/dL at the first antenatal visit. In addition, the diagnosis of GDM can also be made by the value of glucose levels in the Oral Glucose Tolerance Test (OGTT)  $\geq 200$  mg/dL at gestational age between 24-28 weeks (Ministry of Health, 2013).

Good management of pregnant women with diabetes can result in outcomes equivalent to normal pregnant women. Through early screening, appropriate diagnosis, therapy, and counselling during pregnancy, the health status of the mother can be improved. Efforts to reduce the prevalence of GDM involve early blood sugar screening, regulation of Body Mass Index (BMI), therapeutic management, and lifestyle changes (Anderberg et al., 2009). People are expected to utilize health services for blood sugar monitoring and optimal therapy. Early screening is important to help mothers with GDM reduce the risk of complications. BMI and lifestyle regulation and dietary advice during pregnancy are important steps in preventing the development of

gestational diabetes. Therefore, maintaining health during pregnancy is necessary to reduce the current prevalence of gestational diabetes.

## **RESEARCH METHODS**

### **Data and place**

Data collection began with data collection at the Yogyakarta City Health Office, which was then researched to find health centers that had maternal patients with gestational diabetes mellitus. Primary Health Centre in Yogyakarta City, specifically Umbulharjo I, Danurejan I, and Kotagede I, have become research sites. A descriptive phenomenological approach in a study that took place from July 2018 to May 2019 was used as the design of this study.

### **Population and sample**

The population was 7 midwives, then 5 midwives were taken as samples through purposive sampling technique as the main participants based on inclusion and exclusion criteria. Inclusion criteria included midwives who provided Maternal and Child Health (MCH) services and were willing to participate, while exclusion criteria included midwives who were not in charge of MCH services, were attending training, or were attending further education.

The main variable in this study is Gestational Management of Diabetes Mellitus in Primary Health Centre of Yogyakarta City. Primary data were collected through semi-structured interviews with a face-to-face approach at the Primary Health Centre. A total of 10 open-ended questions that had been tested for validity and reliability by expert judgement were used as data collection instruments, which were supported by a letter passing the research ethics test with number 847/KEP-UNISA/II/2019. Data analysis was conducted using the method developed by Miles and Huberman, which consists of three stages: reduction, presentation, and conclusion drawing (Sugiyono, 2018).

## **RESEARCH RESULTS**

The results of the analysis using Miles and Huberman's theory, as well as triangulation of research sources showed that Gestational Management of Diabetes Mellitus at Primary Health Centre in Yogyakarta City Region resulted in two themes, namely health promotion approaches and strategies, as shown in table 1 below:

**Table 1  
Results of Qualitative Data Analysis**

Theme	Sub-theme	Services
Approach	Behavior Change	<p>Counselling service before Blood Glucose Level (BGL) check by midwife</p> <p>Nutritionists play a role in providing education on nutritional dietary patterns</p> <p>Midwives provide counselling on Healthy Living Behavior (PHBS)</p> <p>Counselling is conducted with the collaboration of the health promotion team, the coordinator, and those who provide material related to the case.</p> <p>The accuracy of the implementation of health promotion activities is determined by the classification, identification, and intervention of community groups through field surveys.</p> <p>The health promotion team has special duties in the field of health promotion, which can consist of midwives or public health graduates.</p> <p>Empowering pregnant women for their health through classes for pregnant women, maintaining blood sugar levels, regulating nutrition patterns, physical activity, and receiving treatment interventions.</p> <p>The distribution of classes for pregnant women can be done by achieving the target of implementing classes for pregnant women per year or based on the trimester of pregnancy with a total of 10 people per class.</p> <p>Classes for pregnant women are given 4 meetings with each topic namely pregnancy, labor, complications, and newborns</p> <p>Pregnancy training can only be done at &gt;20 weeks gestation</p> <p>Husband and community involvement in receiving education and counselling by midwives is also a form of empowerment</p>
Strategies	Reorientation of Public Health Services	<p>No empowerment except referral</p> <p>Referrals for women with gestational diabetes mellitus can be directed to general practitioners, nutritionists, internal medicine, and obstetrics and gynecology specialists.</p> <p>The ability of primary health centers to treat pregnant women with gestational diabetes mellitus is determined by general practitioners</p> <p>National Health Insurance rules require primary health centers to serve 144 diagnoses</p> <p>High-risk patients at primary health centers can be referred to type C services and so on through the PCare National Health Insurance system.</p> <p>Health facilities that have not cooperated with the National Health Insurance, require patients to come to primary health centers to request referrals</p> <p>Health facilities that have collaborated with the National Health Insurance can make referrals according to the PCare system flow</p> <p>The referrer corresponds to the place where the patient first registered, for example, registering at MCH then being referred by MCH</p> <p>National Health Insurance referrals use the PCare system while referrals with independent fees are only a cover letter</p> <p>Referrals should be by region and level starting from primary health centers referring to type D, continuing to type C, then type B, up to type A</p> <p>The type of referral health facility is adjusted to the severity of the case</p>

The citations that support the qualitative research results mentioned above are as follows:

a. Behavior Approach

Crowter et al. state that pregnant women with diabetes mellitus during pregnancy can be treated with dietary advice, blood glucose monitoring, and insulin therapy to improve pregnancy health status. *"It's more about nutrition education. Because it is related to nutrition, we will refer the consultation to a*

*nutritionist, more competent. Yes, I think GDM is related to diet and lifestyle. So finally, the anticipation is what the diet is like. The nutritionist will explain how to diet"*.

Study conducted by Crowter et al. stated that pregnant women with diabetes mellitus during pregnancy can be treated with dietary advice, blood glucose monitoring, and insulin therapy to improve pregnancy health status. Research conducted by Worang et al.

also showed that there is a relationship between diabetes mellitus control (physical activity, meal planning, medication planning, and education) with blood glucose levels in patients with diabetes mellitus. Blood sugar control is a way to see the effects of the results of diet, exercise, and other treatments that have been done.

b. Reorientation of Public Health Services Strategies

The government provides convenience for health services through the National Health Insurance service flow that has started from Level I Health Facilities." *That ... National Health Insurance is based on the plot. Based on the National Health Insurance plot, if we are PPK 1, if PPK 1 ... then when we meet automatically, we will consult with a general practitioner, as an ANC team we will organize there. Later, if necessary, we can refer to a higher-level hospital, to a type D hospital. We have that principle. Type C or D first, then if it can be arranged in that type of hospital then there is (without moving from the referral hospital). We already have this, the procedure, the National Health Insurance rules work like that. Then when we refer, we connect from registration to the poly, so the risk factors are already visible on the National Health Insurance computer system. From that computer system, it looks like it's not a type B hospital or higher, it's automatically type D, C, or regional, which usually shows up on that system. Patients can jump if type C and D hospitals do not have the facilities we need, then patients can jump. For example, referring to... if the DM is poly, what's the name? For example, it is a sub-poly, if there is no one in the designated hospital, it is allowed, or it is already in the procedure".*

Health-focused policy strategies to improve pregnancy services for people with diabetes mellitus have been implemented by primary health centers through various government programs, such as counselling, Maternal and Child Health (MCH) books, Integrated ANC, Healthy Indonesia Program with Family Approach, and Integrated Caten. As stated in the Minister of Health Decree No. 585/MENKES/SK/V/2007, primary health centers have the responsibility to implement health promotion both inside and outside the building. Health promotion inside the building includes registration counters, clinics, and maternal and child health services provided through the KIA book, Integrated ANC, and Integrated Caten. The services also include

family planning programs, inpatient treatment rooms, laboratories, pharmacies, specialty clinics, health center areas, and use of waiting rooms. Meanwhile, health promotion outside the building is carried out through home visits which are part of the Healthy Indonesia Program with a Family Approach, as well as counselling carried out in the work area. In the Decree of the Minister of Health of the Republic of Indonesia No. 128/MENKES/SK/II/2004, a health center is defined as a technical implementation unit of the district/city health office that is responsible for the implementation of health development in its working area.

### CONCLUSION

The policy strategies described are relevant to the management of pregnant women with diabetes mellitus using dietary advice, blood glucose monitoring, and insulin therapy.

### SUGGESTION

These strategies conform to the basic principles of diabetes management involving physical activity, meal planning, medication planning, and education to improve pregnancy health status.

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