

## GESTATIONAL DIABETES MELLITUS AND THE DIFFICULTIES FOR THE SELF-CARE

DIABETES MELLITUS GESTACIONAL E AS DIFICULDADES PARA O AUTOCUIDADO  
DIABETES MELLITUS GESTACIONAL Y LAS DIFICULTADES PARA EL AUTOCUIDADO

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### ABSTRACT

**Objective:** to understand how diabetic pregnant women experience difficulties in self-care  
**Method:** This is a descriptive and exploratory qualitative study carried out with five pregnant women diagnosed with gestational diabetes mellitus. The data were collected through an interview recorded at a Women's Clinic, located in the city of Guarapuava, in the center-west of Paraná and submitted to Minayo's thematic analysis. **Results:** there were four categories emerged from the discourse analysis: 1) Control of diet with gestational diabetes mellitus, 2) Changes in the pattern of sleep and rest, 3) Difficulty in the practice of physical activity and leisure, and 4) Changes in the activities of daily life. **Final considerations:** the relevance of the implementation of strategies that guide the diabetic pregnant woman to understand the importance of self-care through daily actions adopted by health professionals, with the objective of controlling the disease, as well as favoring the healthy evolution of pregnancy and childbirth are highlighted.

**Descriptors:** Pregnancy, High-Risk; Diabetes, Gestational; Self Care; Nursing Theory; Nursing Care.

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## RESUMO

**Objetivo:** compreender como gestantes diabéticas vivenciam as dificuldades no autocuidado. **Método:** pesquisa qualitativa, de caráter descritivo e exploratório, realizada junto a cinco gestantes com o diagnóstico de diabetes *mellitus* gestacional. Os dados foram coletados por meio de entrevista gravada em uma Clínica da Mulher, localizada no município de Guarapuava, centro-oeste do Paraná e submetidos à análise temática de Minayo. **Resultados:** quatro categorias emergiram a partir da análise dos discursos: 1) O controle da alimentação com o diabetes *mellitus* gestacional, 2) Alterações no padrão do sono e repouso, 3) Dificuldade na prática de atividade física e lazer e 4) As mudanças nas atividades de vida diária. **Considerações finais:** destaca-se a relevância da implementação de estratégias que norteiem a gestante diabética para a compreensão da importância do autocuidado por meio de ações diárias adotadas pelos profissionais de saúde, com o objetivo de controlar a doença, bem como favorecer a evolução saudável da gravidez e do parto. **Descritores:** Gravidez de Alto Risco; Diabetes Gestacional; Autocuidado; Teoria de Enfermagem; Cuidados de Enfermagem.

## RESUMEN

**Objetivo:** comprender como mujeres embarazadas diabéticas vivencian las dificultades en el autocuidado. **Método:** investigación cualitativa, de carácter descriptivo y exploratorio, realizada con cinco mujeres embarazadas con el diagnóstico de diabetes *mellitus* gestacional. Los datos fueron recogidos a través de entrevista grabada en una Clínica de Atención a Mujeres, ubicada en el municipio de Guarapuava, centro-oeste del Paraná y sometidos al análisis temático de Minayo. **Resultados:** cuatro categorías emergieron a partir del análisis de los discursos: 1) El control de la alimentación con el diabetes *mellitus* durante el embarazo, 2) Cambios en el patrón del sueño y reposo, 3) Dificultad en la práctica de actividad física y ocio y 4) Los cambios en las actividades de vida diaria. **Consideraciones finales:** se destaca la relevancia de la implementación de estrategias que norteen la mujer embarazada diabética para la comprensión de la importancia del autocuidado a partir de acciones diarias adoptadas por los profesionales sanitarios, con el objetivo de controlar la enfermedad, así como favorecer la evolución saludable del embarazo y del parto. **Descritores:** Embarazo de Alto Riesgo; Diabetes Gestacional; Autocuidado; Teoría de Enfermería; Atención de Enfermería.

## INTRODUCTION

Gestation is a physiological phenomenon usually without interurrences. However, in some situations, a certain proportion of women may be affected by some condition, characterizing high-risk pregnancy. High-risk pregnancy is defined as any disorder threatening the health of the mother and/or fetus. Such occurrence may be exclusive of gestation or due to some preexisting condition of the woman<sup>(1)</sup>.

In this context, Gestational Diabetes Mellitus (GDM) is inserted, characterized by any level of carbohydrate intolerance, resulting in hyperglycemia of variable intensity and identified for the first time during the gestation<sup>(2)</sup>. Its incidence has

been increasing throughout the years, considered as one of the most frequent complications during pregnancy. In Brazil, a prevalence of 2.4% to 7.2% in high-risk pregnancies is estimated. If undiagnosed and treated early and adequately, this condition can lead to a considerable increase in perinatal risks<sup>(3)</sup>.

Therefore, it is imperative to highlight the relevance of the self-care of women with diabetes during the gestational period to avoid possible complications. Self-care is understood as the individual's ability to take care of himself, performing activities for his own benefit to maintain their life, health, and well-being<sup>(4)</sup>. However, self-care may present deficits, which are focuses of the General Theory of Self-care, proposed by Dorothea Orem<sup>(5)</sup>.

According to this theory, it is necessary that the person establishes indispensable and reliable actions to maintain the control of the conditions detrimental for the development and regulation of the human body, assisted and guided by prepared health professionals. Thus, the professionals need to delegate functions to the patient, so their health needs are satisfactorily met<sup>(5)</sup>.

To assist in the care of pregnant women with GDM, all health professionals, especially nurses - because in most cases they are the main link between the community and primary health services - they must be able to reduce self-care deficits, guiding, accompanying and planning the care, with the objective of acting effectively in the nursing care provided to diabetic pregnant women<sup>(6)</sup>.

The pregnant women with GDM should perform self-care during gestation with regard to dietary patterns and sleep-rest, physical activity, physiological eliminations and the need for pharmacotherapy<sup>(7)</sup>. However, little is known about the difficulties they experience during this process. Therefore, it is expected that this study allows improvements in the nursing care provided to pregnant women with diabetes, as their main difficulties in self-care are better known. The importance of health education is highlighted since the commitment of diabetic pregnant women to self-care has been little reported in the literature, which increases the risks of complications related to the pathology.

Thus, this study aimed to understand how diabetic pregnant women experience difficulties in self-care.

## METHODS

This is a descriptive and exploratory study with a qualitative approach, based on the theoretical reference of the General Theory of Self-care proposed by Dorothea Orem. The research was carried out in a Women's Clinic unit, located in the city of Guarapuava, central-west of the state of Paraná. This unit is a reference in the prenatal care of high-risk pregnant women in the municipality.

The study included women randomly selected, who met the following inclusion criteria: being pregnant, independent of the gestational trimester, awaiting care in the referred institution; be 18 years old or more; and to present a confirmed clinical diagnosis of GDM. On the other hand, there were no exclusion criteria for the participants. The number of respondents was not predetermined but defined from the data saturation<sup>(8)</sup>.

Data collection was in September 2014, after approval by the Research Ethics Committee of the State University of the Midwest, under CAAE Number 31609514.0.0000.0106.

The apprehensive approach was carried out after the nursing consultation, starting with the clarification of the research, followed by the signing of the Informed Consent Term, in two ways of equal content. The interviews took place in the health unit, in a place reserved for its accomplishment. The anonymity and secrecy of the identity of each participant were preserved by replacing their names with codenames of precious stones because they have great value due to their beauty and brightness, which coincides with the gestational period.

For the semi-structured interview, open and closed questions were used. The open questions were based on the following guiding question: *What are your difficulties in caring for diabetes?* The closed questions were intended to characterize the study participants. Under the participant's permission, the interviews were recorded on audio and lasted, on average, 40 minutes.

Then, the speeches were heard and transcribed integrally. Subsequently, the statements were submitted to Minayo's thematic analysis for the organization of thematic categories<sup>(9)</sup>. This type of analysis consists of identifying the nuclei of meaning that make up a communication whose presence means something to the analytical object to be achieved. Operationally, the thematic analysis unfolds in three stages: pre-analysis, exploration of the material and treatment of the obtained results, and, finally, the interpretation<sup>(9)</sup>.

This exhaustive analytical process resulted in the identification of four categories: "The control of diet with

gestational diabetes mellitus”, “Changes in sleep and rest patterns”, “Difficulty in the practice of physical activity and leisure” and “Changes in activities of daily living.”

## RESULTS

### Characterization of participants

There were five pregnant women who were between 24 and 35 years old participating in the study. Three pregnant women were married and had low family income, and four pregnant women were multiparous. As for the gestational trimester of DMG discovery, four pregnant women were found in the first trimester of pregnancy and only one in the second trimester of pregnancy.

### Control of feeding with gestational diabetes mellitus

After the analysis of the reports, despite having an understanding about the need for an adequate diet, some pregnant women had difficulties to maintain a balanced diet, mainly due to the difficulties of abandoning preferred foods, as well as the control the time and type of food consumed, as can be seen in the following statements:

*I like to eat a lot of sweet food and bread. Hence now in pregnancy, I have to stop, even more having diabetes (Rubi).*

*I know I have to take care of what I eat, but it's bad to stay up all the time taking care of the schedule and what I have to eat... with diabetes, I can hardly eat much (Jade).*

On the other hand, some participants who were also sensitized about the need for food control reported easier to organize the diet. One of the reasons that favored this larger organization was the possibility of leaving work activities, allowing the pregnant woman to better control feeding schedules.

*I have a little notebook, I write down all that I have to eat and the schedule, I do it very well (Amethyst).*

*The nutritionist gave me what I could eat and what I could not eat [...] as I stayed at home,*

*I could better control the food and the schedules (Emerald).*

### Changes in sleep pattern and rest

The participants reported difficulties in having a quiet night sleep. Some of them reported difficulties in initiating and/or maintaining sleep adequately due to increased belly and intrauterine fetal movements.

*The belly bothers me, so the baby keeps stirring, my legs throbbing. It takes time to get some sleep (Jade).*

*The baby moves too much, hence the belly troubles. I cannot sleep right, my biggest difficulty is this (Pearl).*

Besides to dyspnea reported by one of the participants in this study, another difficulty for pregnant women to maintain adequate sleep and rest patterns during the night was the complications of GDM. For example, two participants attributed difficulty sleeping to nocturia.

*I sleep little on average, five hours a night [...] I feel suffocated, there is nowhere for me to adjust it... I get up every hour to go to the bathroom (Emerald).*

*I think that because I have diabetes, it seems that I'm going even more in the bathroom than normal, I need to pee (Amethyst).*

### Difficulty in the practice of physical activity and leisure

The third category joints the speeches of the participants, allowing to understand the difficulties observed to practice physical activities and to experience moments of leisure. Regarding to physical activity, for example, the pregnant women report difficulties to maintain the periodicity of the exercises.

*From time to time I walk, but not every day. Hence when I walk is usually around an hour (Pearl).*

*Sometimes I try to go for a walk in the morning, but I cannot do it every day. But it's just the walk, nothing else (Ruby).*

On the other hand, it was verified that leisure activities were also hampered by the discomfort by the gestation, according to the following statements:

*I do not leave the house [...] I just want to sleep, I do not feel like going anywhere (Jade). After I got pregnant, I did not travel anymore because I feel very bad, the car makes me very sick (Amethyst).*

Besides to the physiological changes in the pregnancy, one of the participants mentioned that the difficulty of leaving home to perform leisure activities is linked to GDM and dietary restrictions that involve self-care.

*As I cannot eat everything, as my diet is different, I do not even want to leave the house anymore... I stay at home, that's better, I do not have to be 'willing' to eat something other than I can (Emerald).*

### **Changes in activities of daily living**

It is noted that the diabetic pregnant women interviewed reported difficulties in doing their work activities and daily household routine. Some of them were able to leave work, while others had to stay at work due to financial difficulties, even facing health problems.

*I had to stop working when I was three months old, I could not stand for a long time (Emerald).*

*I could not stop working because you have to help in the house. I'm having a lot of pain and fatigue but I have to stay until the end (Jade).*

Another obstacle to the self-care of pregnant women is the difficulty of being able to go away from work to perform examinations and medical consultations. Although it seems that for employers there are no problems with the need to do prenatal care, there is a self-recovery of pregnant women by staying in the workplace, performing their duties.

*I have to stay out of work to do medical appointments and exams [...] I know it's important, the people from your job do not care, but it's too bad to be leaving work so many times [...] (Pearl).*

Another activity of the daily life of the women impacted by the gestation and especially by the presence of the GDM was related to the domestic tasks, which were not realized in the frequency and the way they wanted.

*Because of being pregnant and having Diabetes, the activities of the house were also modified, I ended up doing nothing. I cannot lift weight, I have no disposition to do anything (Ruby).*

## **DISCUSSION**

Through the results shown, it was possible to identify that there are different difficulties for the execution and maintenance of self-care in diabetic pregnant women. Some difficulties are related to GDM and others to the gestation itself, with deficits in meeting basic human needs, including food, sleep and rest, physical activity and leisure and activities of daily living.

The difficulties in diet self-care were common in diabetic pregnant women since dietary modification is a key factor for the control of glycemic levels during the course of GDM<sup>(10,11)</sup>. Despite this difficulty in adapting the menu, the pregnant women were sensitized about the importance of seeking glycemic control and, therefore, maintaining an adapted and restricted diet.

Glycemic control performed from the diet has a direct link with maternal well-being, fetal development, and neonatal nutrition. Some authors point out that the mother's diet brings vitality to the newborn, and may avoid possible later complications<sup>(12)</sup>. In this context, the purpose of the guidance towards a balanced and correct diet is to provide the pregnant woman with a rich diet with all the nutrients properly. It is recommended to perform six meals per day, but with the restriction of carbohydrates<sup>(10)</sup>.

On the other hand, the feeding of the pregnant woman with GDM can interfere significantly in their social life. When it comes to social interaction, special attention should be directed to the diabetic pregnant woman, since one of the factors that may cause her to withdraw from social activities is related to the dietary restrictions imposed by the diet. For this, the nurse's negotiation with the pregnant woman is shown as a strategy that can avoid losses in the social life of women with GDM<sup>(11)</sup>.



Another self-care deficit identified in this study was the sleep and rest patterns. Because of the difficulty of the pregnant woman to initiate and maintain a restful sleep, some of them pointed out difficulties in resting/sleeping, which can increase the level of irritability. Rest is a process related to relax and restoration of the normal condition of the human organism. Therefore, it is important that the person knows his metabolism to maintain his homeostatic balance, respecting his personal capacities<sup>(13)</sup>. In this way, a quiet night sleep is necessary for pregnant women to feel well and relaxed.

The pattern of altered/impaired sleep and rest has already been mentioned in another study as one of the basic human needs, most easily modified by the pregnancy<sup>(10)</sup>. Therefore, during this change, the pregnant woman may present with a lack of concentration and mood changes<sup>(10)</sup>. It is necessary to consider this by the nurse in the nursing consultation, which should guide the woman about these changes and their reflexes in daily life.

Also, vertigo and voiding urgency seem to have a significant influence on the sleep pattern among pregnant women with diabetes. This is because many women with GDM reported experiencing this situation. Besides to impacting on sleep and rest patterns, it is important to stress that these urinary changes can be important risk factors for the development of urinary tract infections<sup>(14,15)</sup>.

In sleep deprivation, the literature states that there is an increase in glucose levels, due to the reduction of the individual's metabolism and elevated levels of cortisol<sup>(16)</sup>. That is, the difficulty in maintaining the sleep pattern for diabetic pregnant women can mean more than fatigue on the following day, since it interferes significantly in the metabolic control, in the production of glucocorticoids and in the appearance of insulin resistance<sup>(17)</sup>.

The difficulties related to the practice of physical and leisure activities also seem to compromise the aspects of self-care of the diabetic pregnant woman. The speeches showed that intolerance to physical activity was quite common. During high-risk gestation with the

diagnosis of GDM, low-intensity physical activity is recommended, since it helps in glycemic control, with a diuretic effect and improvement of self-esteem. Therefore, the woman should be instructed to practice physical activities with a maximum period of 30 minutes, with a frequency of three to five times a week<sup>(10, 18)</sup>.

However, some precautions are necessary for the practice of physical activities in a safe way, in the condition of GDM, such as to make an adequate capillary glycemic control before and after exercise, to have carbohydrate of rapid absorption in case of hypoglycemia during the activity, to avoid exercise during the insulin peak and to perform exercise after meals, when there is still a greater availability of circulating glucose<sup>(19)</sup>. These guidelines should be given to women by health professionals during prenatal care.

Specifically, on leisure activities, they may be related to the quality of life of pregnant women, since they have important benefits, such as satisfaction with life and feelings of well-being<sup>(20)</sup>. Therefore, it is important the daily incentive to participate in leisure activities, with the goal of feelings of acceptance and relief from the situation in which they are.

As for daily life activities, whether related to work or housework, diabetic pregnant women mentioned important self-care difficulties. A study carried out in São Paulo, together with 66 diabetic pregnant women, revealed that the physical domain of an individual's quality of life includes aspects related to fatigue as well as the ability to work. This feature may be compromised with complicated pregnancy by GDM, which reinforces the priority by a holistic approach to contribute to the quality improvement in the protocols of conduct before the risk pregnancies<sup>(21)</sup>.

Given the several difficulties by pregnant women with GDM in self-care, the nurse, as a professional within the health team prepared to work on health education issues, must assume her role in the integral follow-up of these women. Their work should involve the elaboration of a proposal of a plan of care that aims at the promotion of health and the prevention of injuries. Good health

education practice and efficient communication between nurses and pregnant women can promote quality of life and health, focusing on emotional and psychological aspects during the development of their pregnancy<sup>(22)</sup>.

Also, it should be emphasized that guidance to pregnant women should be easy to understand and with an accessible language, becoming a measure to promote good health education. This situation enables a better quality of life and health conditions appropriate to the person with GDM<sup>(23)</sup>.

Therefore, the need for qualified professionals to attend this population still in the primary care is emphasized, where women with GDM usually perform the follow-up of high-risk gestation. An option that can be incorporated into the units includes the training of professionals for high-risk prenatal care, which would facilitate the early detection of cases that would require more complex care.

There is a need for the professional to clarify to the woman that the pathology can be controlled, as well as its complications avoided, as long as they are involved and committed to self-care attitudes. Thus, the more nursing care and consultations that the patients has available, the greater their clarification for self-care.

## FINAL CONSIDERATIONS

From this study, some difficulties that the pregnant women present for their self-care were observed, mainly to food, sleep and rest, physical and leisure activities and changes in daily life activities.

Therefore, the relevance of the implementation of strategies that guide

the diabetic pregnant woman to understand the importance of self-care through daily actions adopted by health professionals are highlighted, with the objective of controlling the disease, as well as favoring a healthy evolution of the pregnancy and baby birth.

Thus, the nurse must emphatically use the practice of health education, addressing the signs and symptoms of GDM, its complications, the risks of possible hypoglycemia, actions that allow better self-care, among others. However, it is important for this professional to ensure that the guidelines are understood through an empathic host to ensure good glycemic control and adherence to the proposed treatment.

It is necessary to consider that the low number of participants, due to the small number of pregnant women with GDM during data collection may constitute an important limitation of this study. However, it is believed that the results found contributed significantly to the deepening of the topic, generating an important knowledge of the difficulties found by pregnant women with diabetes in the pregnancy period. Such information represents a valuable knowledge to meet the health needs of this population in an integral and humanized way.

Finally, it is suggested that new studies involving the work and daily activities of high-risk pregnancies should be developed. Also, it is necessary to increase research that investigates the self-care of high-risk pregnant women due to other social and/or pathological conditions, since self-care deficits in high-risk pregnancies may arise more frequently, hindering to perform the daily activities of pregnant women.

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