

# PRE-GESTATIONAL DIABETES: PREGNANT WOMEN'S EXPERIENCE WITH DISEASE CONTROL\*

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**ABSTRACT:** A descriptive qualitative study, carried out in order to know how pregnant women with pre-existing diabetes deal with the illness. The informants were five women in a high risk prenatal clinic of a University Hospital. The data were collected in June and July 2010, through semi-structured interviews that were recorded, transcribed and analyzed for thematic content, conducted during clinic and prenatal consultations. Two categories emerged: changes encouraged by family members after pregnancy and recognizing the importance of professional monitoring and its guidelines, which show the implementation of significant changes in self-care, with pregnancy and professional guidelines cited as motivating factors. This shows that pregnancy, besides being a landmark in women's lives, also acts as a modifying factor in perception and self-care.

**DESCRIPTORS:** Diabetes mellitus type 2; Pregnant women; Self-care; Nursing care

## DIABETES PRÉ-GESTACIONAL: EXPERIÊNCIA DE GRÁVIDAS COM O CONTROLE DA DOENÇA

**RESUMO:** Estudo descritivo de natureza qualitativa, realizado com o objetivo de conhecer como gestantes com diabetes pré-existente vivenciam o cuidado com a doença. As informantes foram cinco mulheres acompanhadas no Ambulatório de Pré-natal de alto risco em um Hospital Universitário. Os dados foram coletados em junho e julho de 2010, por meio de entrevistas semi-estruturadas, realizadas no ambulatório, na consulta pré-natal que foram gravadas, transcritas integralmente e submetidas à análise de conteúdo, modalidade temática. Emergiram duas categorias: Mudanças a partir da gestação estimuladas pela família, e Reconhecendo a importância do acompanhamento profissional e suas orientações, as quais mostram a implementação de mudanças significativas no autocuidado sendo a gravidez e as orientações profissionais apontadas como fatores motivadores para as mesmas. Conclui-se que a gestação, além de constituir um marco na vida das mulheres, também atuou como fator modificador da percepção e adesão ao autocuidado.

**DESCRIPTORIOS:** Diabetes mellitus tipo 2; Gestantes; Autocuidado; Cuidados de enfermagem.

## DIABETES PREGESTACIONAL: EXPERIENCIA DE GRÁVIDAS CON EL CONTROL DE LA ENFERMEDAD

**RESUMEN:** Estudio descriptivo de naturaleza cualitativa, realizado con el objetivo de saber cómo gestantes con diabetes ya existente viven el cuidado con la enfermedad. Las participantes fueron cinco mujeres acompañadas en el Ambulatorio de Prenatal de alto riesgo en un Hospital Universitario. Los datos fueron obtenidos en junio y julio de 2010, por medio de entrevistas semiestructuradas, realizadas en el ambulatorio, en las consultas de prenatal que fueron grabadas, transcritas integralmente y sometidas al análisis de contenido, modalidad temática. Resultaron dos categorías: Cambios a partir de la gestación estimuladas por la familia, y Reconociendo la importancia del acompañamiento profesional y sus orientaciones, las cuales muestran la implementación de cambios significativos en el autocuidado, siendo la gravidez y las orientaciones profesionales apuntadas como factores motivadores para estas. Se concluye que la gestación, además de constituir un mojón en la vida de las mujeres, también ha actuado como factor modificador de la percepción y adhesión al autocuidado.

**DESCRIPTORIOS:** Diabetes mellitus tipo 2; Gestantes; Autocuidado; Cuidados de enfermería.

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\*Article derived from the course Systems of caring/Human care from the Graduate Nursing Program. Universidade Estadual de Maringá, 2011.

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**Received:** 27/09/2013

**Finished:** 17/07/2014

## INTRODUCTION

Diabetes Mellitus (DM) during pregnancy may have an impact on maternal, fetal and perinatal health. However, when it predates pregnancy, it is associated with adverse obstetric and perinatal outcomes<sup>(1-2)</sup>. The evaluation of the metabolic performance, as well as the efficient control since the period before pregnancy is crucial for a better obstetric prognosis. The inefficient metabolic control during the period of fetal organogenesis is associated with increased rates of spontaneous abortion and fetal malformations, increasing the risk of macrosomia and its associated comorbidities<sup>(3)</sup>.

Complications associated with the disease, such as vasculopathy, also contribute to poor obstetric outcomes, such as increased risk of preterm delivery, fetal growth restriction, hypertensive disorders of pregnancy and perinatal morbidity and mortality<sup>(2-3)</sup>.

In healthcare practice, the impact of DM on the health of the population in general and the difficulty to comply with healthy behaviors that are part of disease control are observed<sup>(4)</sup>. Regardless of sex, age or time since diagnosis, the biggest challenge is to maintain blood glucose control within appropriate parameters, requiring changes in lifestyle, with a view to the correct use of antidiabetics, changing dietary habits, regular physical activity, as well as awareness of their health situation<sup>(5)</sup>.

Proper care as a means of controlling glucose levels in pregnant women with pre-existing diabetes becomes even more important, since this is a key therapeutic aspect to prevent complications and morbidities often associated with poorly controlled cases<sup>(4)</sup>. It is then necessary to know how the coexistence of these pregnant women with the disease is and how they care for themselves in order to improve the care provided by the health care team, so as to achieve greater success in the course of pregnancy, which in this case is considered a risky pregnancy<sup>(6)</sup>.

Given the importance of the issue for the prevention of pregnancy, birth and postpartum complications as well as for the qualification of clinical care practice, gestational DM has been widely discussed in its pathophysiological aspects<sup>(6-7)</sup>. Thus, the study aimed to understand how pregnant women with pre-gestational diabetes experience the disease and how they care for themselves.

## METHOD

Descriptive qualitative study, conducted in a city in Northwestern Paraná, with five pregnant women with type 2 diabetes at a Prenatal High Risk Clinic of a University Hospital. This clinic is a reference to 30 cities that make up the 15th Regional Health of Paraná, runs daily in the morning and afternoon with an average 20 risky pregnancy visits per day.

Data were collected during June and July 2010, through semi-structured interviews conducted before or after the consultations in a private room at the clinic itself. The request for participation in the study was made personally to each woman, after identifying pregnant women who had pre-existing diabetes, which was the criterion for inclusion. The interview consisted of two parts: one with questions related to socioeconomic and clinical data, and the other of the following guiding questions: For you, what is it like to live with diabetes? Tell me about how you manage the disease. Do you consider that pregnancy has changed anything? How and why?

After consent, the interviews were recorded with the use of an electronic device, which permitted greater interaction between interviewer/interviewee, and then transcribed and processed through thematic content analysis, consisting of three stages: pre-analysis, the exploration of material and data processing<sup>(8)</sup>. The pre-analysis is the process of organizing the documents for reading, the choice of the reports, the formulation of hypotheses and the development of indicators to support the interpretation. The exploration phase of the material is to find groups and associations who meet the study objectives, thus determining the categories. The result processing phase was the moment when inferences were made and the results were interpreted.

The development of the study complied with the recommendations of National Health Council Resolution 196/96, which regulates research involving human beings, being approved by the Standing Committee on Ethics in Human Research, State University of Maringá (Opinion n. 215/2010). All participants signed a consent form and are identified with names of flowers.

## RESULTS

Characterizing the five research participants was important because knowledge of family background and clinical history provided a better understanding of the meaning the DM self-care had in their lives.

Daisy was 24 years old, pregnant for the first time, was in the 31st gestational week and had developed hypertensive disorders of pregnancy (HDP). DM was diagnosed two years earlier and insulin was used daily (15U 1x/day). She was a housewife and had completed school with a family income of two to three minimum wages. Her family group consisted of Daisy, her husband and two stepdaughters.

Jasmine was 38 years old, pregnant for the first time, was in the 29th gestational week and had developed HDP. DM was diagnosed four years earlier and non-pharmacological treatment was performed. She was a physical education teacher and had a family income of three minimum wages. Her family group consisted of her and her husband.

Rose was 37 years old, pregnant for the first time, was in the 23rd gestational week. Hypertensive, DM had been diagnosed seven years earlier and she had been on oral antidiabetics (one tablet 12/12h). Housewife, she had completed high school with a family income of one minimum wage. Her family group consisted of Rose, her husband, mother and brother.

Forget-Me-Nots was 35 years old, pregnant for the first time, was in the 39th gestational week. Hypertensive, DM had been diagnosed four years earlier and non-pharmacological treatment was performed. Housewife, she had completed school with a monthly family income of two minimum wages. Her family group consisted of Forget-Me-Nots, her husband and stepdaughter.

Orchid was 44 years old, had been pregnant before and was in the 40th gestational week. DM had been diagnosed two years and six months earlier and non-pharmacological treatment was performed. She was a domestic worker and had not completed high school, with a family income of three minimum wages. Her family group consisted of Orchid, her husband and two children.

Through systematic analysis of the statements, two categories emerged as follows.

### Changes motivated by pregnancy and stimulated by the family

The disease and pregnancy resulted in significant changes in the relationship with her body and aspects of everyday life, such as glycemic control.

*I didn't control the DM in any way. I measured it only when I went to the GP and when he asked for exams. Oh, I only visited the GP every five months. Now I'm measuring it every day, twice a day, and things have greatly improved.* (Jasmine)

*Look, I was not going to the doctor and when I went, it was every three months, I did not worry about it much. I measured diabetes myself, I measured it only once in a while. Now I've changed, I go to the doctor every month and I'm measuring diabetes every day, I'm being more careful.* (Rosa)

*I'm doing the little finger exam [Capillary Blood Glucose] always, because before I only did it when I went to the doctor's office, every three months. Now I do it almost every day.* (Orchid)

Changes were also observed in eating habits, not only when the diagnosis of diabetes was reached, but with pregnancy as the main motivator.

*I woke up in the morning, drank coffee with milk and 2 loaves of bread. When I was hungry again, I had no lunch time, so I just ate lunch... one arab pizza, one drumstick, right? Ah! I changed 100%, I wake up in the morning, take half a cup of skim milk and coffee with sweetener and 3 crackers. At ten o'clock, I eat a fruit. At noon, I eat rice, vegetables and a piece of meat, preferably cooked.* (Daisy)

*I always preferred salty fried food for a change, right? Now it's different, I am not eating this stuff anymore, I am eating better food like salad every day, fruit, milk. I'm doing well now and it's good! We feel healthier.* (Jasmine)

In Rose's testimony, one sees the acknowledgement of inappropriate eating habits and also the difficulty in changing them.

*Oh, not much has changed because I made polenta some days ago, I ate two plates and you can't eat that much, right? And the ramen noodles? I eat them almost every day. I like bread, cake. There's not much I can do, I can't eat these things, but when I see it I am already eating it.* (Rose)

*Only one thing that I couldn't change much, the food, because I eat what we have. I know it is not right to eat bread and bologna every day, but it is what we have, so it is what I eat.* (Orchid)

Changes in physical activity were also identified, as seen in Jasmine and Daisy's testimony.

*I did not exercise because I had no time. I would leave my job, which was quite busy, walked home and thought that was enough. Now that I am no longer working, I go out walking twice a week.* (Rose)

*I really went out for walks. This month I cannot stand to do the same. I walk inside the house not to stay still, but I cannot do walks like before.* (Daisy)

It is perceived that pregnancy brings maternal responsibility and, thus, the concern with the wellbeing of the child is a milestone for the implementation of changes.

*I live for him [the son] and to see him grow. It is solely my responsibility. If I do not worry about him, who will? So I take care of myself, of what I eat, to live for him.* (Daisy)

*Life has changed, my mind has changed, everything has changed. And today I know that if I eat a lot of sweets, I will get nothing out of it other than harming myself and my son who needs me. So, this is what has changed. I need to take care of myself, because of him.* (Jasmine)

The women now have as a life goal, metabolic control, and consequently a better quality of life in order to keep themselves healthy for the child.

*After I give birth, I plan to slim down a lot so that I can spend more time with him.* (Daisy)

*It's different now, I have her [the daughter] now, right? I have to control my eating habits even more, go for walks more often, take care of myself so that I can take care of her, because she only has me. I am her mother.* (Forget-Me-Nots)

However, one of the main tools to change eating habits is family participation, support and encouragement though.

*My life and that of my husband changed. He eats like I do (referring to adherence to healthy eating habits). Because, before this, he brought chocolate cake, bagels and nowadays he doesn't anymore. He says it is not good for me and the baby.* (Daisy)

*My cousin, when I slip up on my diet and eat a small piece of bread, she complains and says: Stop it, you can't eat that. My husband also controls my diet, no more sweets at home. Everyone is together in this fight.* (Jasmim)

When the change in eating habits does not encompass the entire family, it can negatively impact the adherence of the mother to healthy eating habits.

*I try not to eat, but I cook for them [the family] and I'm too lazy to do something for me afterwards, so I eat the same food they do. Fried beef and potatoes, stuff like that. I know I can't eat that, but they do, and feel like eating it too.* (Rose)

## Professional support and guidance

It was identified that the relationship between the health professional and the client is critical in the implementation and guidance of health care practices.

*Before, I did not routinely go to the nutritionist, endocrinologist, the doctor was not talking all the time and telling me how I had to do it. I always talk with the nurse. And every time we get to talking, she tells me: - Calm down, It's not like that. You can have a normal life. (Daisy)*

*At the clinic I was going to before to consult about the diabetes, it was already good, you know? Because the nurses told me about the things I had to do. But here, with the girls here, with the way they talk, it seems to have been better, I can control it better. (Orchid)*

Nevertheless, the way it is taught may be insufficient for them to associate their health care with their daily activities.

*The guidelines were also good. Because before, as I was not going to the doctor, and I didn't try to find out what I had to do and what I had to eat or how I had to treat myself. I lived the way I wanted. Today, I know how I need to live to live well. I have the girls here [nurses], I befriended them. So one comes around and asks: - So, is everything under control? Are you controlling it? (Jasmine)*

*Here, with the assistance they give me, it seems that I feel more cared for, they care about us, they are always asking how we are and if we do not come in for a consultation, they call us at home to know what happened. Now it seems easier to understand the disease, because they talk to me in a way that I understand. (Forget-Me-Nots)*

## DISCUSSION

After discovering themselves pregnant and receiving guidance on care related to diabetes and the complications that it can cause to the fetus, it was noticed that all the women reported changes in behavior. This reality is also perceived in other studies, which claim that the shared guidelines change not only the level of knowledge the patients possess on DM and care, but go beyond, changing their daily practices, that is, theoretical knowledge is transformed into practical care<sup>(9-10)</sup>.

It is known that adherence to healthy eating habits is an essential tool for glycemic control, bringing benefits to maternal and fetal health and, when they are accepted more naturally, they tend to be taken more calmly<sup>(11)</sup>. In the testimonies of Daisy and Jasmine, it was found that this acceptance was motivated by pregnancy. However, awareness of the need to control food not only during pregnancy is necessary, since DM is a chronic condition that, if not controlled, can trigger complications<sup>(2,12)</sup>.

The effective management of diabetes in pregnancy depends on the adherence of women to the care plan, which aims to keep blood glucose controlled. This management is not something easily achieved though, because eating habits are formed throughout life and are therefore difficult to change.

It is very important to understand the risks of maintaining an improper diet, considering this was the first step towards a change of habits; but it is not sufficient. In such cases, it is believed that health professionals should attempt to recognize the difficulties pregnant women experience to adopt healthy practices, favoring better glycemic control through changes in habits, consciously and as practical as possible<sup>(13)</sup>. Note also that pregnancy is a unique moment in a woman's life, with new future plans being formulated, and should therefore be seized as an opportunity for preventive health maintenance and, thus, for health education<sup>(14)</sup>.

As well as the need to change eating habits, women with diabetes without obstetric and clinical complications should be encouraged to start or continue a moderate exercise program as part of treatment and prevention of complications of the disease. These cause increased tissue sensitivity to insulin, improves glycemic control, has a diuretic effect and contributes to greater self-esteem<sup>(15)</sup>.

The conception of health and how each person faces disease are developed from personal experiences and these are directly related to beliefs and values, which are formed along a person's life. There are some factors and events that positively influence coping and behavior change though. It has been observed in the statements of Daisy and Jasmine that pregnancy was able to motivate adherence to sound health practices, to a greater or lesser extent, and some

planning for the future, having the child as a justification for attitude changes that benefit their health, considering their motherly responsibilities.

Despite experiencing difficulties to adapt to a disease like diabetes, the birth of a healthy baby and a desire to be present in an active and healthy manner during their growth is always a concern pregnant women voice<sup>(6)</sup>.

Changes in care practices, especially with regard to eating habits, are determined in family and social life, and it is important that everyone works together to make the lifestyle and eating habits of pregnant women appropriate, in the easiest way possible<sup>(7)</sup>. The changes in diet and the proposed formulation of new eating habits should respect the preferences of individuals, their culture and the environment they live in.

It is noticed in the testimonies that, to strengthen disease control and thus achieve a better life, family support is critical. This occurs through the modification of habits of all members, supporting the pregnant women and improving the health of the whole family<sup>(16)</sup>. Health professionals should value the potential of family participation in the care of the disease in order to improve the disease prognosis, using both as a fundamental tool in the management and maintenance of the disease<sup>(17)</sup>.

In contrast, when family support by changing eating habits does not occur, the pregnant women need to adopt a differentiated diet, requiring one meal to be prepared for the family and another for her. This can be a barrier in adherence to nutritional therapy because, in the face of this situation, it is not uncommon for women with diabetes not to feel motivated to eat properly, i.e. differently from others, and therefore not follow the recommendations necessary for their treatment, as evidenced in the testimony of Rose.

For some authors, the family is in charge of important activities, such as caring for its members, household cleaning, selection and preparation of food, in short, aspects involved in supporting health<sup>(18)</sup>. In the presence of diseases like DM, the family acts primarily as caregivers. The actual connections can be established, thus providing conditions to achieve metabolic control.

Therefore, the health care professional is the best person to advise on care and can assist in the effectiveness of treatment adherence, when their practices are associated with actions based

on scientific knowledge, but they must also value the patients' beliefs, needs and specificities<sup>(7,19)</sup>.

It is observed in Daisy's testimony that changes made by receiving information constitute an emotional bond between patients and professionals, enabling better adherence and disease control. Thus, professional guidelines for care to people with diabetes become even more important when that person is pregnant, due to all risks arising from non-compliance with the therapeutic plan<sup>(9)</sup>.

Diabetic women should have regular prenatal care, with the effective participation of the healthcare team. Professionals need to establish agreements with patients, promote a relationship of accountability and transparency between them, so that each advance is part of a deal closed between them both.

They should also feel free to express their difficulties, their dissatisfactions and to truthfully report the steps taken and the events, be they positive or negative, so that the health professional always has a clear and true view of what happens to the woman. Individuals' way of living and thinking significantly influences their adherence to any treatment<sup>(19)</sup>.

## CONCLUSIONS

When coupled with a chronic illness like diabetes, pregnancy becomes more important in women's lives, as they need to remain healthy not only for themselves, but also for the child. The study results allowed us to verify that the pregnancy is considered a milestone in a woman's life and served as a motivator for better care with the disease, favoring changes in lifestyle, especially regarding nutrition and physical activity.

It was also found that the family plays a fundamental role in this change, working collaboratively on day-to-day changes, especially eating habits, improving the health of the pregnant women. Guidelines and health care were also cited as fundamental to the changes.

We know that living with diabetes is something to be faced every day since the diagnosis. When aware of the importance of the changes, supported by family, the health professionals who accompany them, and moved by motherhood, they become stronger and more confident to perform self-care.

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