Journal of Nursing
Revista de Enfermagem
UFPE On Line
ISSN: 1981-8963

ORIGINAL ARTICLE

KNOWLEDGE AND FEELINGS OF DIABETIC PREGNANT WOMEN ABOUT GESTATIONAL *DIABETES MELLITUS* AND TREATMENT

CONHECIMENTOS E SENTIMENTOS DAS GESTANTES DIABÉTICAS SOBRE A DIABETES *MELLITUS* GESTACIONAL E TRATAMENTO

CONOCIMIENTOS Y SENTIMIENTOS DE LAS MUJERES EMBARAZADAS DIABÉTICAS SOBRE LA *DIABETES MELLITUS* GESTACIONAL Y TRATAMIENTO

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ABSTRACT

Objective: to evaluate the knowledge and feelings of diabetic pregnant women about the treatment and the Gestational *Diabetes Mellitus* disease. ***Method:*** exploratory, descriptive study, with a qualitative approach. The study was attended by nine pregnant women with *Diabetes Mellitus,* hospitalized in a reference hospital, at high risk pregnancy, in Salvador/BA. The data production occurred from March to May 2014, organized and analyzed by the Content Analysis Technique, in the thematic Analysis modality. ***Results:*** it was observed that the interviewed women had fragmented and incomplete knowledge about the disease concept, its treatment, its possible complications and showed difficulties at dealing with diabetes, especially at the glycaemia control. ***Conclusion:*** greater knowledge and concern with the baby were observed; negative feelings prevailed when dealing with the disease. ***Descriptors:*** Gestational *Diabetes Mellitus*; Whole Care of Women's Health/ Pregnant Women; Speech Perception and Self-Care.

RESUMO

Objetivo: avaliar o conhecimento e sentimentos das gestantes diabéticas quanto ao tratamento e doença Diabetes *Mellitus* Gestacional. ***Método***: estudo exploratório, descritivo, com abordagem qualitativa. Participaram nove gestantes com Diabetes *Mellitus* Gestacional internadas em um hospital referência em gestação de alto risco, em Salvador/BA. A produção de dados foi de março a maio de 2014, organizados e analisados pela Técnica de Análise de conteúdo, na modalidade Análise temática. ***Resultados***: observou-se que as entrevistadas tinham conhecimento fragmentado e incompleto sobre o conceito da doença, o tratamento, as possíveis complicações e apresentaram dificuldades no conviver com o diabetes principalmente no controle da glicemia. ***Conclusão***: foi observado maiores conhecimentos e preocupações com o bebê, prevaleceu sentimentos negativos ao conviver com a doença. ***Descritores***: Diabetes *Mellitus* Gestacional; Assistência Integral à Saúde da Mulher; Mulheres Grávidas; Percepção da Fala e Autocuidado.

RESUMEN

Objetivo: Evaluar el conocimiento y los sentimientos de las mujeres embarazadas diabéticas como el tratamiento y la enfermedad de la diabetes mellitus gestacional. ***Método:*** estudio exploratorio, descriptivo, con enfoque cualitativo. Asistido a nueve mujeres embarazadas con diabetes mellitus gestacional ingresados en un hospital de referencia para embarazos de alto riesgo, en Salvador/BA. La producción de los dados fue de marzo a mayo de 2014, organizados y analizados mediante la técnica de análisis de contenido, en modo de análisis temático. ***Resultados:*** Se observó que las entrevistadas tenían conocimiento fragmentado e incompleto sobre el concepto de la enfermedad, el tratamiento, las posibles complicaciones y tenían dificultades para vivir con diabetes, especialmente en el control glucémico. ***Conclusión:*** conocimiento y preocupaciones superiores con el bebé fueron observados, prevalecieron sentimientos negativos para vivir con la enfermedad. ***Descriptores:*** Diabetes mellitus gestacional; Asistencia Integral a la Salud de la Mujer; Mujeres embarazadas; La Percepción del Habla y Autocuidado.

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INTRODUCTION

The science explains that the embryo development process causes metabolic changes in the pregnant maternal body according to their nutritional supply. However, when such changes fail to be physiological, disorders such as insulin resistance associated with the action of anti-insulin placental hormones begins to occur, developing a Gestational Diabetes Mellitus condition (DMG)[1-2], and yet, epidemiological science shows that this disease affects about 7% of pregnant women every year in the United States[3-4]. The prevalence of this phenomenon in Brazilian women over 20 years old, users of the Unified Health System (SUS), is 7,6%, and 94% of cases show declining glucose tolerance, and only 6% of them attend the diagnostic criteria for diabetes prior to pregnancy[5]. It was observed that, after roughly 10 years, 23,6 to 44,8 % of women with GDM had the diagnosis of DM2 confirmed.[6]

In Brazil, half of the mothers followed properly their prenatal, totaling seven visits, although it was noticed greater need for attention, support and encouragement to prenatal care by health professionals. It is emphasized for greater understanding about the biopsychosocial and biological aspects of patients who are at high risk pregnancy. GDM is one of the diseases that put pregnant women at high risk pregnancies.[5-7]

Nursing is a science that is based on theories, as well as on the nursing process that directs the practices and assistance to patients, clients and family. Thus, the nurse who uses the theoretical basis enables excellent results and contributions to the multidisciplinary health team; however, even detaining the knowledge, the professionals, very often, face no legal and normative support to work on the improvement of the pregnant women's health. Thereby, nurses should position themselves presenting effective knowledge and actions to promote safe motherhood.[8]

Identifying the knowledge and feelings of pregnant women with GDM about the disease and its treatment may allow a more individualized work of the nurse in order to minimize the difficulties or to develop most appropriate strategies to face them[9], however, the knowledge can be acquired through science and lived experiences of the social environment and with the disease itself.

Assuming that this knowledge and these feelings of diabetic pregnant women are modifiable according to the historical context and the environment where they live, beyond their beliefs and opinions, researchers argue that in science, nothing is given, everything is built. For researches, the knowledge can renew, build and rebuild itself.[10]

Associated with this, common sense, knowledge, trivial knowledge, people's opinion, in general, are regarded as forms of false knowledge. But this false knowledge can become science from a break of epistemological concepts. Thereby, to build a new knowledge, it can start from the deconstruction of opinions, knowledge or perceptions of patients and get the renovation and reconstruction of this knowledge through health education or an individual look at each person and their particularities. However, this popular knowledge, basis of the daily conversations that people receive and is transmitted through traditions, education, and opinion transmission between groups, is studied by various researchers, being able to become a valid and rational knowledge.[10-1]

It is noticed that the people's knowledge about something is the social representation that they have about an object. In diabetic female patients' case, the social representations they have on the GDM reflect on how they are introduced in society as well as on the way the information about this disease is conveyed through these patients' environment. Thus, the social representations of individuals are referred as the worthwhile knowledge, beliefs and opinions that arise through the daily conversations and conveyed by means of communication.[12]

Diabetes, for instance, is a very widespread disease by society and is becoming common among Brazilian communities[5]; however, the diabetes that appears during pregnancy is still unknown by most of the population, which may possibly cause anguish feelings due to this lack of knowledge of this newly diagnosed disease and its treatment experienced by diabetic pregnant women.[14]

The objective of this research is, yet, to provoke awareness in readers in order to think over the common sense present in the speeches of the interviewed pregnant women and to compare them with scientific knowledge in an effort to promote change and social constructions.

From this analysis, it is important that the health professional raises the level of knowledge of the pregnant patients with this diagnosis of Gestational Diabetes Mellitus in order to answer questions about the GDM, to clarify that this disease can be controlled and that its complications can be prevented.

This can only occur with the effective participation of pregnant women in preventive, promoting and rehabilitative actions, and their adherence to self-care is only possible with the deconstruction and construction of knowledge, both trivial as scientific knowledge.[11]

The interest about this theme was given during the obstetric nursing care provided to diabetic women when one of the authors noticed that these women were unaware of the disease and had difficulties to understand, complicating the therapy segment and the coping with the disease. Female patients who are diagnosed with GDM showed anguish for not knowing the disease and the causes that it could provoke to her and her baby; however, this study aims to evaluate the knowledge and feelings of diabetic pregnant women about the treatment and the Gestational *Diabetes Mellitus* disease.

METHOD

This study comes from a project linked to the Nursing Study and Research Group about Public Health, Diabetes and Heart Diseases from a university school of Bahia's capital and it is entitled << *Gestational diabetes mellitus: difficulties faced by diabetic pregnant women as for the therapy and disease*>>.

It is descriptive, exploratory study with qualitative approach. The qualitative method was chosen because it studies the history of beliefs, perceptions and opinions that come from interpretations about how individuals live feel and think, investigating with the analysis of speeches and documents.[13-5]

The study participants were pregnant women with GDM. Only women with GDM were chosen because it is an unexpected event for them, unlike those who had Diabetes Mellitus Type 1 or Type 2 diagnosis, and it adds a risk factor during pregnancy. In addition, there was a high prevalence of pregnant women with this disease nowadays, as well as the significant increasing in new cases of GDM prediction in the next decades[1,2,5]. The studied population was 9 hospitalized diabetic pregnant women. The study participants had this unexpected diagnosis at the admission to the maternity hospital unit referred to in the study and not at the time of prenatal care as normally diagnosed.

The research was conducted in the Obstetrics and Gynaecology Unit of a large public hospital, in the city of Salvador, Bahia-Brazil. The study site was chosen because it is a reference in high-risk pregnancy in Bahia. To reach these patients, the researcher prepared a manuscript explaining the research information and gave a copy to the nursing coordinator responsible for the respective inpatient unit, where the pregnant women were, and another copy was delivered to the ethics committee and research of the hospital.

From there on, an approach to the nurses of the sector was done in order to create a bond during the survey period. It is noteworthy that one of the nurses is co-author and research participant. The approach to the interviewees occurred only at the time of the interview, since the interviews were often made at the day of admission to the inpatient unit, as the GDM is an unexpected event to pregnancy and can be diagnosed if the pregnant woman complaints of any signs or symptoms of this condition.

The inclusion criteria were all pregnant women who were diagnosed with GDM. Participants who had diabetes before the pregnancy were excluded. In order to preserve anonymity, the study participants were identified with the letter "G" of pregnant women ("grávidas" in Portuguese), followed by numbers.

A semi-structured questionnaire was used as interview for data collecting instrument, using an audio recorder and researching the medical records for patient identification and details of the clinical history. The limitation of 9 pregnant women was due to saturation theme for the study object.

The interviews were conducted at random days of the week and preferably at visiting hours in order not to disturb the progress of the service at the respective unit, for example, as well as discarding the lunch hours, since they were at a high risk inpatient unit and, because of this, it was important to keep the participants comfortable, since they already had the hassle of being sick and hospitalized (away from their respective homes) as patients.

The interviews lasted an average of 5 minutes and were conducted at an inpatient unit room to ensure the mother's privacy and prevent interruptions and noises. The interview was chosen as data collecting technique as a trial to understand the behavior of participants describing their own language, being the researcher responsible to interpret and explain the statements collected from the interviwees[15]. The data collecting instrument was a semi-structured interview script.

The Data collecting occurred from March to May 2014. The approach and the invitation to the interviews were made by the researcher herself in the inpatient unit by verbal contact. From the pregnant woman's acceptance, she took notice and signed the Free Agreement and Informed Term (FAIT) as stipulated in Resolution 466/2012. The study was approved by the Research Ethics Committee (REC) of the General Hospital Roberto Santos, as well as by the Research Ethics Committee of the Bahia Medicine and Public Health School, under CAAE 16951813.5.0000.554.

The data were organized according to the thematic content analysis reference. The organization method for thematic analysis consists in finding out the frequency and the presence of meaning centers that compounds a communication[16]. The frequency count of meaning units defines the character of the speech[15]. This analysis model unfolds in three stages: pre-analysis consisting of organizing the collected material to be analyzed and floating and comprehensive reading; material exploration in order to find meaningful categories and subcategories to organize the content of the speeches; and processing and interpretation of the results, and, at this stage, the researcher proposes inferences and conducts interpretations. Thus, the categories construction occurred after grouping and regrouping the statements.

To further study understanding, the description of the resulting categories that emerged from the subjects' statements was conducted. According to the collected data, their information and the patient's identification are confidential, and only the research members can access them.

RESULTS

In total, 9 pregnant women with GDM were interviewed. Among them, the majority answered that they completed High School and College, they were from Salvador/BA, single, and they were between 21 and 43 years old, composing a group of adults.

In order to identify the understanding and experience of pregnant women with GDM about the disease and its treatment, two themes were fixed: the first one "Understanding of the pregnant women with GDM about the disease and its treatment", and its categories "Defining gestational *Diabetes* Mellitus" and "Understanding about the GDM complications for the pregnant woman and the baby". The second theme was entitled "Living with Gestational *Diabetes* Mellitus" and its categories "Negative feelings related to the disease" and "Difficulties in continuing the treatment and in the disease control".

In the first theme, as well as in the first category, it was observed that the knowledge about the pathology by pregnant women is still incipient, according to the following statements, in which three pregnant women said they knew, incompletely, about GDM:

> *I know I have diabetes. I caught it during pregnancy, but it's high sugar (level), isn't it?! I don't know why pregnant women catch it! G3*
>
> *It's a (type of) diabetes that exists when the woman is pregnant, isn't it? G6*
>
> *It happens during pregnancy. And you can't eat too much candy. G9*

It can be noticed when interviewing pregnant women that they showed insecurity about the understanding of their own disease. They demonstrated, in their statements, concern with the control of candy food. The fact that G3 reported "I caught it during pregnancy" gives an idea that this disease is transmitted from one person to another, which is not true. The fact that they were hospitalized at a hospital during days and, from hours on hours, they had to go through procedures like capillary glucose, which punches the fingers, make these pregnant women more vulnerable to suffering.

In the second category from the first theme, it is noticed, from the reports of the interviewed pregnant women, recognition of some complications of the disease for her and her baby:

> *The doctor told me that, in Ceasarean surgery, it's harder for the section to heal, the pregnancy may be interrupted. The child can have a high birth weight [...]. G2*
>
> *An abortion with the baby can happen if you don't take care. G4*

It was noticed during the statements analysis that pregnant women were guided by the doctor who attended them. The doctor on duty, who admitted the patient and gave her the diagnosis, possibly gave her proper explanation. It was not seen in any interview the nurse's positioning guiding about the condition that developed during her pregnancy. This shows that the nursing professionals, during the assistance, are little concerned about giving the necessary guidance on whatever problem the patient has at the time of the approach. Thus, it is noticed a detachment of nurses for the health education of these hospitalized women. In this context, other pregnant women confusingly named the complications:

> *[...] the baby can be born with low or high sugar (level). G1*

I know it just [pause] if it rises too much we can go into a coma [pause] the baby may be born with diabetes. G3

I know it just [pause] if it rises too much we can go into a coma [pause] the baby may be born with diabetes. G6

What I know is that it gets difficult. The healing takes longer. Regarding the baby, this is my fear, she may be born with diabetes. [...].G7

Although pregnant women know some complications (the baby may have high birth wegiht, hypoglycemia clinical condition, it may occur abortion, the pregnancy can be interrupted), most of them just mentioned complications for their babies. Regarding maternal repercussions, besides G2 (pregnant woman 2) having reported that pregnancy may be interrupted, diabetes is associated with also other complications incidence.

Regarding fetal repercussions, pregnant women (G2 and G4) were right when affirming that their babies can have high birth weight or low blood sugar. However, there was a misunderstanding at the statements of other women (G1, G3, G6 and G7). According to their reports, the baby may be born with diabetes or low blood sugar.

When analyzing the experiences of pregnant women about the second theme that reports negative feelings about the disease, it is noticed the arising of the negative feelings of fear, insecurity, dissatisfaction of the disease because of its symptoms and deprivation of eating like other non-diabetic pregnant women, as well as discomfort for being hospitalized or for the baby being too big, as statements:

Oh, too bad! We get kind of [pause] kind of insecure, right? Because diabetes [pause] is said to kill! But it's there, right? [pause] in God's hand!"[laughs]. The person gets scared, right? Because when it's high, it's dangerous, when it's low, it's also dangerous [...] G1

Terrible! I feel sick too much sick! Dizziness, headache [...] G2

It's horrible! Because when we're fine, we already feel like eating stuff. Sometimes I feel like eating a candy, but I can't. I, huh! [I am afraid] of a son of mine being born with diabetes, because it's said to have this possibility, right? Of diabetes, in pregnancy, transferring to the baby. It's such a bad disease for adult people; imagine a child, a baby being born with it [...] G3

Very bad! The worst feeling in my life. Being hospitalized for many days because of it and I've got so weakened! I've lost weight! I've got so weak, my legs were weak, little will to do things, I feel bad all the time. My fear is to keep it after giving birth. G5

For me, it's difficult because I've never been through this [pause]. I've never used sweetener. [pause] I felt this thirst that I found strange at the beginning, but the doctor said that this thirst is because of the saliva [pause] the lips gets dry [pause] I drink a lot of water and eat light food, vegetables, no salt, I wasn't used to this feeding that healthy. The difficulty is in feeding but I'm eating because I'm thinking of the baby and of myself because of any problem with the baby. G7

It's no good. Because getting the finger punched, it's complicated! G8

This whole process of anxiety is a common response to emotional conflicts and socio-economic restraints experienced by pregnant women. The diagnosis of GDM during pregnancy can be a stressful factor for all, since significant changes occur during pregnancy. There is great need for family support at this stage, given the difficulties faced by them in fulfilling the monitoring and treatment routines in health institutions. However, these events, along with other unexpected environmental and emotional factors, can interfere with disease control and with the mother's and baby's welfare.

Thus, the family support during this process is of great importance in order to minimize the effects that can influence the health quality of the mother with GDM. Still, the nurse with directed training aimed to the holistic care of people, and biopsychosocial model, can calm down the patients by centralizing their look at the feelings, difficulties, doubts about the procedures, drugs and on their own pathology. The fact that the patients are pregnant women and it's also an unexpected illness of pregnancy becomes a distressing factor for them.

In the last category, of the second theme, which identifies the difficulty at following the treatment and controlling the disease, it is observed that the difficulty to control glycaemia was a constant in the pregnant women's statements, as well as the fear of dying, having hypoglycemia, difficulty in feeding, disease progress and needing exogenous insulin, as the following statements:

Sometimes I'm afraid to take insulin and it's too low [...] now, it isn't under control, it's low, now [...] and reset for once [pause] and I'm afraid to die, right? G1

[...] it's difficult to control the sugar. And I'm afraid, I don't know, of my sugar blood level uprising for once, I go into a coma, become blind, I don't know! G3

My fear is not coming down; it takes too long to control the glycaemia. G5

Only with the punches because [...] there are people that think I'm [...] withi all the ignorance and brutality [pause] the most brutal way [pause] my finger turn purple,I have cramps in my figersand people don't understand, they think it's mourning because they don't understand the punch amount, alternation [pause] in the morning, in the afternoon and at evenings, punches, so, I mean, we have to have patience! That's all! [pause] of the needle and also people's courtesy with the patients. G6

Difficulty at feeding, but I'm eating because I'm thinking of the baby and of myself. Because of any problem with the baby. Now, to go for a walk. G7

Advancing. G8

There is need of developing a process of training, education and permanent qualification for the nurses working at obstetric areas, aiming the improvement of the women's health care quality.

DISCUSSION

Pregnant women over 35 years old are considered by the Ministry of Health (MS) as a population at risk for pregnancy[17]. Other authors enhance that age over 25 years old is a risk factor for GDM.[18]

The knowledge by diabetics about their own disease is the basis for proper self-care and to prevent complications[19]. Regarding the knowledge of pregnant women with GDM and its control, it is clear the need to inform clearly the patients about the disease, and guide them to collaborate with the health team during their treatment.[5]

From the statements, it's noticed the need for better health education for pregnant women with gestational diabetes, and this role is especially for the nurse professional, since he/she keeps greater contact with the pregnant woman and her companions, and should guide and educate them about the difficulties regarding the disease and its treatment[20]. This pregnancy process characterized by deprivation of food and distaste of the disease has also been reported by other pregnant women with GDM in other studies.[21]

Fear is a feeling of great concern shown by diabetic women, in view of the notion of a real or imaginary danger, a threat, fright, dread, fear, terror, that the disease can lead to possible consequences for their baby. Pregnant women get very fearful about what might happen to their life and baby.[5]

Every woman, when pregnant, faces a conflict that, at the same time, is a challenge for her, to adapt the physiological, emotional and daily changes due to the generation of another being. And when a disease is added up to this pregnancy, which in this case is the GDM, this emotional conflict in the laboring woman increases, and, with their lack of knowledge about the pathology, constitutes a delicate psychological situation.[22]

Regarding maternal repercussions, besides G2 (pregnant 2) having reported that pregnancy can be interrupted, diabetes is associated to other complications incidence, such as urinary tract infections, pyelonephritis, toxemia, polyhydramnios, high blood pressure, premature delivery, periodontal disease, pre-eclampsia and C-section.[23]

Regarding fetal repercussions, pregnant women (G2 and G4) were right when affirming that their babies can be born overweight or with low glycaemia, but can also die, present respiratory distress syndrome and malformations[22]. However, the reports of other pregnant women (G1, G3, G6 and G7) were confusing. According to their reports, the baby may be born with diabetes or low glycaemia. However, the information contained in these statements contradict what scientific studies and clinical practice say, since diabetic pregnant women's son are usually born hypoglycemic.[24-5]

Some diabetic pregnant women face pregnancy as something uncomfortable, since it forces them to follow a difficult treatment, mainly due to the need to control the feeding.[21]

Health professionals, at the time of GDM diagnosis, regardless of their professional category, should be able to promote self-care.[26] Health education objectifies to increase the commitment to self-care, adhering to therapeutic and preventive schemes, optimizing them, consequently managing a better quality of life.[27]

Some health education actions should be put into practice by health professionals to better guide the health of the pregnant woman and her baby. Informing about the disease, its complications and how to best follow the treatment for glycaemia controlling. The GDM treatment starts with nutritional guidance that allows weight and blood sugar control.[17]

FINAL REMARKS

It is noticed that, despite the pregnant women having some knowledge about the disease and its complications, these were fragmented and incomplete. In their

statements, it was noticed greater knowledge and concerns about risks to the baby.

Negative feelings when living with the disease were identified. Thus, the understanding of the multidisciplinary and interdisciplinary health team about the feelings confronted by pregnant women with GDM becomes important. As well as acting in an ethical and professional manner to give special attention to these patients, always alert in order to guide them in overcoming their obstacles, providing them with guidelines for self-care. It is important the teamwork and encouragement for the family and partner participation. The nurse has a crucial role at this point since he is the link of professional-patient relationship.

There still are gaps in the service of prenatal of these women, since the diagnosis of GDM of these patients should have been done during the prenatal and not at the hospitalization at a large hospital unit. At that time, the nurse could propose interventions for these patients, such as participation in high-risk prenatal specialized medical appointment, since it is done only by doctors. The nurse can act at the same unit with his intervention proposal such as the creation of a care plan for health promotion and disease prevention for these women. Thus, it becomes possible to fulfill the gaps of nursing attendance during high-risk prenatal, as well as deficits in nursing interventions in gynecological and obstetric wards.

The implementation of a program of group activities for pregnant women with GDM is an important means for the exchange of knowledge and so that they can express their feelings, experiences and provide mutual support. With this, nursing is gaining more space at high-risk pregnancy assistance, as well as greater visibility and recognition. Thus, it is necessary to search for the knowledge updating routinely. In this context, health education and good communication between the nurse and the mother can promote quality in health, focusing on the emotional and psychological aspects during the maternal hospital phase and attendance.

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Submission: 2015/11/18
Accepted: 2016/02/26
Published: 2016/04/15

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