GESTATIONAL DIABETES MELLITUS AND THE IMPLICATIONS FOR THE NURSING CARE IN THE PRENATAL PERIOD

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ABSTRACT: This integrative literature review aims to identify the nursing care provided to women with gestational diabetes mellitus during the prenatal care, evidenced in the scientific literature, between 2004 and 2013. Data collection was undertaken in the LILACS AND BDENF databases, using the descriptors "gestational diabetes", "prenatal care", and "nursing". Seven publications were selected. Evidence was found for the existence of gaps in the care given to women with gestational diabetes, and the importance of the role performed by the nurse in the context of care for the pregnant woman, promoting the practice of self-care. The restricted number of publications on this issue points to the need for investment in production focusing on this population segment.
DESCRIPTORS: Gestational diabetes; High risk pregnancy; Prenatal care; Nursing.

DIABETES MELITO GESTACIONAL E AS IMPLICAÇÕES PARA O CUIDADO DE ENFERMAGEM NO PRÉ-NATAL

RESUMO: Trata-se de uma revisão integrativa da literatura que objetivou identificar os cuidados de enfermagem prestados às mulheres com diabetes melito gestacional durante a atenção pré-natal, evidenciados na literatura científica, entre os anos de 2004 e 2013. A coleta de dados foi realizada nas bases de dados LILACS e BDENF, utilizando os descritores "diabetes gestacional", "cuidado pré-natal" e "enfermagem". Foram selecionadas sete publicações. Evidenciou-se a existência de lacunas na atenção prestada às mulheres com diabetes gestacional e a importância do papel desempenhando pelo enfermeiro no contexto de cuidado da gestante, favorecendo a prática do autocuidado. O número restrito de publicações sobre a temática indica a necessidade de investimento em produções voltadas para esse segmento populacional.
DESCRITORES: Diabetes gestacional; Gravidez de alto risco; Cuidado pré-natal; Enfermagem.

DIABETES MELITO GESTACIONAL Y LAS IMPLICACIONES PARA EL CUIDADO DE ENFERMERÍA EN EL PRENATAL

RESUMEN: Es una revisión integrativa de la literatura cuya finalidad fue identificar los cuidados de enfermería prestados a las mujeres con diabetes melito gestacional durante la atención prenatal, evidenciados en la literatura científica, entre los años de 2004 y 2013. Los datos fueron obtenidos en las bases LILACS y BDENF, utilizando los descriptores "diabetes gestacional", "cuidado prenatal" y "enfermería". Fueron seleccionadas siete publicaciones. Se evidenció la existencia de huecos en la atención prestada a las mujeres con diabetes gestacional y la importancia del papel desempeñado por el enfermero en el contexto de cuidado de la gestante, favoreciendo la práctica del autocuidado. El número restricto de publicaciones sobre la temática apunta la necesidad de inversiones en producciones referentes a ese segmento de población.
DESCRIPTORES: Diabetes gestacional; Gravidez de gran riesgo; Cuidado prenatal; Enfermería.

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INTRODUCTION

Diabetes mellitus (DM) is a group of metabolic diseases of multiple etiology[1-2] which, sometimes, coincide with pregnancy. This pathology is classified as DM type I and DM type II, as well as other specific types of gestational diabetes mellitus (GDM)[1,3], this last classification being the focus of the present article.

The nursing care provided to women with GDM is being increasingly emphasized during the prenatal care, as this is an illness with high rates of prevalence. Approximately 7% of all pregnancies worldwide are complicated by diabetes which occurs during pregnancy, resulting in more than 200,000 cases per year, and representing 90% of the cases of this illness. Prevalence can vary from 1 to 14%, depending on the population studied and the diagnostic tests employed[4].

In Brazil, in 2010, the prevalence of GDM in women aged over 20 years old attended in the Unified Health System (SUS) was 7.6%[5]. One study for determining the prevalence of GDM in pregnancies attended in Primary Healthcare Centers in the city of Vitória in the Brazilian state of Espírito Santo (ES) concluded that this rate was 5.8%, in a sample of 396 pregnant women[6]. A separate study undertaken in Pelotas in the Brazilian state of Río Grande do Sul (RS), which investigated the factors associated with the occurrence of GDM in 4243 puerperas, concluded that the prevalence of this pathology was of 2.95%[7].

Such data demonstrate the relevance of GDM, due both to its being a complication acquired during the course of pregnancy, and to its being a public health problem. Furthermore, to the contrary of what happens with women who have diabetes prior to the pregnancy (DM type I or II), those who find they have diabetes during the course of the current pregnancy have the addition of a condition of risk which goes beyond the specific characteristics inherent to any low risk pregnancy.

In the light of the above, and considering what is added to the diagnosis of the illness, which tends to be made at the end of the second or in the beginning of the third trimester of the pregnancy, when resistance to insulin increases[8], it is essential that the care given to the woman with GDM should be rigorous, bearing in mind all the complications and adverse effects which the pathology can entail for mother-child health.

Following the diagnosis, frequent assessments by the professional who undertakes the prenatal care aim to identify any changes, and must be extended throughout the monitoring of the pregnancy, only being finalized after the birth. This care, besides minimizing the risks related to the illness, also aims to promote a better prognosis for the mother-baby binomial. In the same way, the nursing care aims to minimize the risks and complications related to GDM, through guidance and work undertaken in conjunction with the pregnant woman.

As a result, so as to contribute to improving the prenatal care and the nursing care provided to women with GDM, the present study aimed to identify the nursing care provided to women with GDM during the prenatal care, evidenced in the scientific literature between 2004 and 2013.

METHOD

This is an integrative literature review, which is a method which brings together the results obtained from primary studies on a single issue, aiming to summarize and analyze the data, so as to develop a broader explanation of a specified phenomenon[9] and to provide support for improving healthcare[10]. In order to undertake the review, the following stages were defined: identification of the theme and selection of the research question, establishment of criteria for inclusion and exclusion of studies, definition of the information extracted from the studies selected, assessment of the studies included, analysis and interpretation of the results, and presentation of the review[10].

The first stage covered the elaboration of the study's guiding question: What is the nursing care provided to women with GDM during the prenatal care? The data collection was undertaken through consulting two databases of the Virtual Health Library (VHL): the Latin American and Caribbean Center on Health Sciences Information (LILACS) and the Brazilian Bibliographic Database Specialized in Nursing (BDENF).

The surveying of the studies took place in April 2014. In order to make the selection, the following Health Sciences Descriptors (DeCS)

were used: "gestational diabetes", "prenatal care" and "nursing", these being combined in the following way: gestational diabetes and nursing; gestational diabetes and prenatal care; nursing and prenatal care; and, gestational diabetes and nursing and prenatal care.

Studies which met the following criteria were included: original research articles, published between 2004 and 2013; which addressed GDM and nursing care; and which were available in full online, and written in the Portuguese, Spanish or English languages. Studies which were repeated, which did not have an abstract in the database, or which were incomplete, were excluded.

As a result of searching the databases, 61 articles were found. Of these, 18 were repeated, five were Master's degree dissertations, two were health manuals, six were literature reviews, one was an experience report, nine had been published prior to 2004, and two were not available online. Therefore, only 18 articles met the inclusion criteria and were preselected for reading in full. Following that, 11 articles were excluded for not responding to this study's guiding question. As a result, this integrative review was made up of a total of seven articles. The development of the study can be seen in Figure 1.

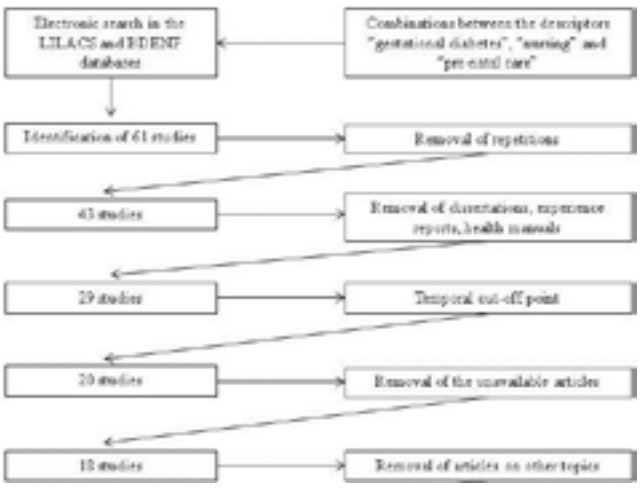

Figure 1 – Structure of the development of the review study. Chapecó, SC, Brazil, 2014

Following the reading of the studies selected, so as to organize the analysis of the same, a summary table was organized, which covered the following information: code, year of publication, descriptors, method, level of evidence[11], results and conclusions.

In the analysis and interpretation of the data, allied with the theoretical knowledge, the results were compared, based on the critical evaluation resulting from the studies which were included. Also identified in the article selected were factors which may contribute to the prenatal care for women with GDM and factors which hinder the undertaking of the care. Later, the researchers proceeded to the identification of conclusions and implications resulting in the nursing care provided to women with GDM. It is emphasized that the ethical aspects of the study were respected, as the authors consulted were appropriately referenced, in accordance with the Copyright Law, N. 9,610[12].

RESULTS

Seven articles which met the inclusion criteria were analyzed in the present integrative review. Four were written in Portuguese, one in Spanish, and two in English. Table 1, below, presents the references for the articles selected in full, with their respective codes, in accordance with the order in which they appeared in the searches.

In the articles selected, one can see a concentration of studies undertaken in Brazil (71.42%), followed by other countries, namely: Cuba (14.28%), and Venezuela (14.28%). Regarding the areas of Brazil, the Southeast region predominated, with three studies (60%), followed by the South region (20%) and the Northeast (20%), each with one study. In relation to the years of publication, the years of 2006 (28.57%) and 2012 (28.57%) stood out, followed by the years 2013 (14.28%), 2011 (14.28%) and 2008 (14.28%).

In relation to the study setting, the Primary Healthcare Centers (UBS) (28.57%) and hospitals (28.57%) predominated. A lower number of studies was found undertaken in a specialized service (14.28%), in two settings (hospital/home) (14.28%) – and in one (14.28%) of the studies, the setting was not mentioned. In relation to the subjects, the majority of the studies (85.71%) was undertaken with pregnant women and one

study (14.28%) was undertaken with women with histories of GDM. Regarding the level of evidence, level six predominated (57.14%), followed by level four (42.85%).

So as to respond to this review's guiding question, the studies were read in their entirety, seeking to identify the nursing care provided to the women with GDM during the prenatal care.

As a result, among the actions undertaken related to the care activities, the following stand out: taking the patient's nursing history, identifying risk factors, signs, and previous events (A1; A4; A6); the checking of blood pressure, measuring of weight, calculation of body mass index (BMI), gestational age, fundal height, and fetal heart rate auscultation (A1); checking blood sugar levels (A2) in the first consultation (A4); rigorous glycemic control (A3); monitoring of glycemia at home (A3); guidance regarding the need for undertaking the Oral Glucose Tolerance Test, in pregnant women with altered fasting blood glucose test results(A5); intensified monitoring of women with a history of GDM (A6); maintenance of appropriate nutritional standards (A6); maintenance of healthy body weight (A6); periodic assessment of the patient (A6); and identification of knowledge in relation to the use of medicinal plants as part of the treatment of pregnant women at home, discouraging the use of those for which the hypoglycemia effects are unknown (A7).

Actions were also undertaken which worked with health education, such as: addressing the issue of diabetes during pregnancy (A1); encouraging the pregnant woman to undertake self-care (A3; A6; A7); daily physical exercise after birth (A6); behavioral changes (A6); empowerment of the service user (A6); health education (A7) through, for example, educational groups (A6); and planning, negotiation and adjustment in relation to the pregnant woman's eating preferences (A7).

Activities related to the health team involved: raising the awareness of the prenatal women in relation to the detection of diabetes in pregnancy (A2); the need to refer the pregnant woman to a higher level of complexity of care (A2), when necessary; and the implantation of an information/dissemination system on the strategies for promoting, preventing and controlling the disease (A6).

Many articles sought to highlight the importance of: the standardized and individualized assessment of each pregnant woman (A4); the valuing of the service user's knowledge, or participation in the care, as well as her life context (A6); raising the awareness of the population in relation to measures for promoting, preventing and controlling the disease (A6); valuing the cultural context (A6; A7); valuing family support (A6; A7), as well as the involvement of the family in the health education actions (A7); knowledge referent to the pregnant women's beliefs, values, habits and behavioral standards (A7); respect for religious beliefs (A7); offering spiritual support as part of the attendance for the women (A7); and of understanding the service user's uniqueness and specific characteristics (A7).

Furthermore, it is also possible to identify, in one study (A6), practices or aspects which hinder the nursing care, including: the patient's nonadherence to the treatment; failing to appear at the clinical follow-up consultation 60 days after the birth; variety of roles linked to the service user's life (responsible for housework and care for the children, among others); difficulty in accessing the primary healthcare services so as to undertake periodic glycemic control; unawareness on the part of professionals who work in the primary healthcare network in relation to the women's previous history, and health professionals' doubts relating to the appropriate clinical monitoring of women with a history of GDM.

Table 1 – Articles selected in the integrative review. Chapecó, SC, Brazil, 2014

Code	Reference
A1	Valente MMQP, Freitas NQ de, Áfio ACE, Sousa CSP de, Evangelista DR, Moura ERF. Assistência pré-natal: um olhar sobre a qualidade. Rev. RENE;14(2):280-89,2013.
A2	Bonilha AL de L, Gonçalves A de C, Moretto VL, Lipinski JM, Schmalfuss JM, Teles, JM. Avaliação da atenção pré-natal após capacitação participativa de pré-natalistas: pesquisa tipo antes e depois. Online braz. j. nurs. (Online);11(3),2012.
A3	Cavassini ACM, Lima SAM, Calderon IMP, Rudge MVC. Cost-benefit of hospitalization compared with outpatient care for pregnant women with pregestational and gestational diabetes or with mild hyperglycemia, in Brazil. São Paulo med. j;130(1):17-26,2012.
A4	Rehder PM, Pereira BG, Silva JLP. Resultados gestacionais e neonatais em mulheres com rastreamento positivo para diabetes mellitus e teste oral de tolerância à glicose - 100g normal. Rev. bras. ginecol. obstet;33(2):81-86,2011.
A5	Valdés LA, Bacallao OS, Anzardo BR, Prieto JL, Santurio AG, Guillén AM. Repercusión materna y perinatal de la glucemia en ayunas alterada (GAA). Rev. centroam. obstet. ginecol;13(3):101-3,2008.
A6	Soares SM, Santos DB dos, Salomon IMM. Prevenção do diabetes mellitus tipo 2 em mulheres com história de diabetes mellitus gestacional. Online braz. j. nurs. (Online);5(3),2006.
A7	Castillo CAG de, Vásquez ML. El cuidado de sí de la embarazada diabética como una via para asegurar un hijo. Texto & contexto enferm;15(1):74-81,2006.

DISCUSSION

In relation to the nursing care addressed in the articles, it was observed that the same were consistent in relation to the positive role performed by the nurse in the atten'dance provided to the diabetic pregnant woman. Emphasis was placed on the importance which this professional exercises in relation to the practice of health education, in her work routine, so as to promote the self-care of the woman with GDM.

In this ambit, it stands out that the pregnant woman must be proactive in her care for the treatment to be successful and to have a satisfactory experience of the pregnancy, thus facilitating the coexistence with the condition of risk imposed by the GDM. For this, she needs to be informed about the care which she needs to take of herself, as well as being aware of the consequences which neglecting the treatment can cause[13].

GDM is a disease which is associated with high levels of maternal and perinatal morbidity and mortality[14]. Moreover, frequently, complications are observed such as hypoglycemia, hyperglycemia, ketoacidosis, retinopathy, nephropathy, pregnancy-induced hypertension, polyhydramnios, early labor, cesarean birth due to shoulder dystocia, congenital anomalies (cardiac, renal, neurological and gastrointestinal), reduction of brain growth, fetal macrosomia, fracture of the clavicle, brachial plexus injury, hyperglycemia and neonatal jaundice, hyaline membrane disease and antenatal corticosteroid therapy[2,3,15-16].

As a result, as well as performing an important role in the nursing care provided to the woman with GDM, the nurse also acts as a mediator in relation to the success of the treatment for the pregnant woman who has this pathology, being one of those responsible for the success of the gestational outcome.

Nevertheless, for this to be achieved successfully, it is necessary to establish an interpersonal relationship between the professional and service user[17], through professional practice undertaken with love, goodwill, serenity and sensitivity. It stands out that, besides incorporating this practice into her day-to-day work, the nurse must be alert to the strong influence that the link of trust created with the pregnant woman can mean for her self-care[18].

In this regard, valuing the interaction between professional and patient is an essential aspect of nursing care, and is configured as an important step for the success of the relationship between the two, as it is a fundamental instrument for establishing a relationship of care and of help which matches each pregnant woman's needs. Perceiving each woman with GDM as a

unique being, with her own experience of life, fears, anxieties and dreams can be a means of establishing this interaction[19], facilitating the establishment of the link and consequently of an efficacious relationship of care.

Another aspect to be highlighted refers to the importance of the insertion of the family and the context of the care of the diabetic pregnant woman. It is known that, during the pregnancy, important changes occur in the family nucleus. Because of this, it is essential for the pregnant woman's family also to receive support and guidance, so it is better to deal with this woman's risk condition, and to promote the support that the same needs[18,20]. This care is justified by the complex, dynamic, subjective and varied way in which the high risk pregnancies experienced by the woman with GDM extends to her family, her partner, and society[20].

In addition, another fundamental point in the treatment of this illness involves the pregnant woman's diet. In relation to this aspect, it is noteworthy that the nutritional guidance must be given by a nutritionist, who must indicate the appropriate calorie values for the pregnant woman to consume. In general, the calorie needs calculated are between 1800 and 2220 total daily calories[21]. However, the possibility of the pregnant woman failing to adopt the food plan is a common fear manifested by them. Therefore, as mentioned by one of the studies (A7), it is essential for the nurse to plan, negotiate and adjust the treatment in accordance with the pregnant woman's food preferences.

In this perspective, it stands out that eating can interfere in the pregnant woman's social life. Regarding social interaction, special attention must be given to the diabetic pregnant woman, as one of the factors which can cause the same to withdraw from social activities is associated with the eating restrictions imposed by the diet. For this, the nurse's negotiation with the pregnant woman is shown to be a strategy which can avoid harm to the social life of the woman with GDM.

Corroborating this, one study[22] which analyzed the knowledge of 25 diabetic pregnant women regarding the disease, as well as their coexistence with this condition, concluded that the obstacle of ingesting foods advised against in the diet resulted in important harm in the leisure time of many pregnant women, resulting in their withdrawal from various social activities.

Regarding the practicing of physical activities, it is important that the pregnant woman should be encouraged by the nurse to adopt this habit regularly, as in addition to assisting in the well-being of the mother and the baby, it can also be maintained after the pregnancy(23). Added to this, it is also indispensable to emphasize the association existing between the practicing of physical exercise and the reduction of risk for preeclampsia and of GDM in pregnant women[24-25]. Care with the pregnant woman's sleep and rest must also be encouraged, so as to avoid the same suffering decompensation as a result of impaired or insufficient rest.

Finally, another nursing care measure raised by one of the articles analyzed (A7) refers to the practices of care adopted by the diabetic pregnant women. It was observed that the same guide their care based on beliefs, values, habits and behavioral standards, and it is advised that the nurse should identify the situations in which these influences may be maintained (use of amulets and devotional medals, among others); negotiated (false beliefs regarding the disease and the use of home remedies) or restructured, through health education (distancing from stressful situations).

As the beliefs, values, habits and behavioral standards exercise a strong influence on the care of the woman with GDM, it is fundamental to maintain constant attention on the care practiced for the same. Due to this, the professional undertaking the prenatal monitoring of the diabetic pregnant woman needs to be prepared to accept something which, for him, may appear strange, and also must intervene, when necessary.

CONCLUSIONS

The restricted number of articles found on the issue addressed in this integrative review demonstrates that there are gaps in the care given to women with GDM. In addition, the high levels of women with this pathology reinforce the need to undertake works involving this population group.

The nursing care given to women with GDM deserves to be emphasized, given its relevancy in prenatal care. As seen, the nurse performs a fundamental role in the care for the subjects, collaborating in the control of the pathology and

the gestational outcome without complications and satisfactorily, as well as the birth of a healthy baby without neonatal complications.

As a result, the advice provided during the prenatal monitoring for the diabetic pregnant woman must cover aspects related to the pregnancy and to the illness. Furthermore, the nurse needs to ascertain whether the information is being transmitted simply and clearly, with accessible language, with a view to contributing to the treatment of women with GDM, and to facilitating better coexistence of these with the condition in which they find themselves.

Thus, during the monitoring of this type of at-risk pregnancy, as well as offering support and emotional support, it is essential for the nurse to guide diabetic pregnant women in relation to the food plan, glycemic control, the signs and symptoms of hypo- and hyperglycemia, the correct use of insulin, the importance of frequent monitoring of the fetus, and undertaking physical exercise, among other care measures.

Finally, it is considered that each pregnant woman experiences pregnancy and the diagnosis of GDM in her own way. Thus, it is necessary to promote a care which is consistent with each pregnant woman's context and culture, paying attention to her difficulties and needs.

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