

## The assistance provided by the nurse to the patient with the onset of preeclampsia and preeclampsia: Literature review

## A assistência prestada pelo enfermeiro ao paciente com início de pré-eclâmpsia e eclâmpsia: Revisão de literature

## La asistencia brindada por el enfermero a la paciente con inicio de preeclampsia y preeclampsia: revisión de la literatura

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**Abstract**— Family Health Strategies (ESFs) play an important role in nursing and aim to expand, define and consolidate primary health care. The nurse must integrate the FHS team and work continuously in the chronic disease control program. The objective of this study was to

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**Palavras chaves -** Hipertensão. Diabetes Mellitus. Cuidados de enfermagem.

*describe the role of nurses in the care of patients with diabetes and arterial hypertension in primary care. The method was a narrative review of the literature with an exploratory, observational and retrospective research approach, searching for 20 articles in the literature between 2010 and 2020. RESULTS: When evaluating the nursing effects cited by nurses, nursing was predominant in relation to food and humidity, followed by glycemic control, blood pressure and breastfeeding weight. On the other hand, the nursing process is a technology that can humanize care in a systematic and dynamic way, with positive and low-cost results. It was concluded that the role of the nurse as an educator is fundamental for both the patient and the family, and must follow their guidelines to understand and be aware of the importance of treatment and activities to improve quality of life.*

**Resumo—** As Estratégias de Saúde da Família (ESFs) desempenham um papel importante na enfermagem e visam ampliar, definir e consolidar a atenção primária à saúde. O enfermeiro deve integrar a equipe da ESF e atuar continuamente no programa de controle de doenças crônicas. O objetivo deste estudo foi descrever a atuação do enfermeiro no cuidado ao paciente com diabetes e hipertensão arterial na atenção primária. O método foi um estudo de revisão narrativa da literatura com abordagem de pesquisa exploratória, observacional e retrospectiva, buscando 20 artigos na literatura entre 2010 e 2020. RESULTADOS: Ao avaliar os efeitos de enfermagem citados pelos enfermeiros, a enfermagem foi predominante em relação à alimentação e umidade, seguida do controle glicêmico, pressão arterial e peso da amamentação. Por outro lado, o processo de enfermagem é uma tecnologia que pode humanizar o cuidado de forma sistemática e dinâmica, com resultados positivos e de baixo custo. Concluiu-se que o papel do enfermeiro como educador é fundamental tanto para o paciente quanto para a família, devendo seguir suas orientações para compreender e ter consciência da importância do tratamento e das atividades para melhorar a qualidade de vida.

**Resumen —** Las Estrategias de Salud de la Familia (ESF) juegan un papel importante en la enfermería y tienen como objetivo ampliar, definir y consolidar la atención primaria de salud. El enfermero debe integrar el equipo de la ESF y actuar continuamente en el programa de control de enfermedades crónicas. El objetivo de este estudio fue describir el papel de los enfermeros en el cuidado de pacientes con diabetes e hipertensión arterial en la atención primaria. El método fue un estudio de revisión narrativa de la literatura con enfoque de investigación exploratorio, observacional y retrospectivo, buscando 20 artículos en la literatura entre 2010 y 2020. RESULTADOS: Al evaluar los efectos de enfermería citados por las enfermeras, la enfermería predominó en relación con la alimentación y la humedad, seguido del control glucémico, presión arterial y peso al amamantar. Por otro lado, el proceso de enfermería es una tecnología que puede humanizar el cuidado de forma sistemática y dinámica, con resultados positivos y de bajo costo. Se concluyó que el papel del enfermero como educador es fundamental tanto para el paciente como para la familia, debiendo seguir sus orientaciones para comprender y ser consciente de la importancia del tratamiento y las actividades para mejorar la calidad de vida.

## I. INTRODUCTION

Preeclampsia or (PE) is a significant health problem for pregnant women worldwide. About 1% of PE cases are considered extreme and about 10% of severe PE cases are considered extreme. More than 50,000 women die from health every year worldwide due to complications related to PE, which is a major public health problem in developed countries. In fact, the earlier PE occurs in pregnancy, the greater the risk of maternal and infant mortality among carriers (WHO, 2013; SANTOS & BATISTA, 2018).

The World Health Organization states that the disease progresses without visual signs. However, some signs may be present; these include swelling around the face, hands and eyes, weight gain, nausea, vomiting and epigastric pain. Other signs include changes in vision – blurred and impaired vision – headache, hyperreflexia, anxiety and shortness of breath (WHO, 2013).

According to Ferreira et al (2016), the rate of preeclampsia in primiparous women reaches approximately 10%. It is important to recognize the signs and symptoms so that health teams can act in providing quality care. The severity of complications does not affect the lives of more pregnant women or even their children.

When a pregnant woman suffers from eclampsia, she experiences seizures. However, a pregnant woman suffering from preeclampsia has no other differential diagnoses, such as meningitis, sepsis, or epilepsy. Gold standard medical care is understood to be all care provided by the nursing team based on rigorous scientific methods (EDWARD & MILLS, 2013). This approach can improve patient outcomes, provide better quality of care, minimize costs due to reduced morbidity, mortality, and iatrogenic costs, and raise standards of safety and reliability in healthcare settings.

Caring for women during pregnancy is very important for them, as this type of assistance becomes the ideal choice for nurses to practice their technical and scientific knowledge, as it can promote continuous care for pregnant women. The objective is to determine health needs, determine prioritize, plan, implement and evaluate appropriate care actions to improve the quality and effectiveness of care (AGUIAR, 2010).

The nursing team has an important role to play in prenatal care, in order to correctly and early determine which patients are most likely to have an unfavorable course of the disease, and the woman is welcome from the beginning of pregnancy. . One of the most important treatment methods is to instruct these pregnant women to eat healthily, practice light physical exercise and conduct adequate prenatal counseling (SANTANA et al., 2010).

The theme justifies the importance of nurses in prenatal care (PN) is the monitoring of pregnant women by qualified professionals able to receive the pregnant woman and provide comprehensive and quality care. From the first day of pregnancy to delivery, in order to provide a better quality of life for pregnant women and children. Therefore, professionals who treat pregnant women must understand physical factors, various emotions, economics and family factors, because these factors will affect women's adherence to PN counseling, thus affecting the quality of follow-up (PEIXOTO, 2011).

During pregnancy, some complications can threaten the life of the mother and/or baby, constituting an emergency that requires immediate intervention. The physiological and anatomical changes of pregnancy can interfere with the evaluation of the pregnant woman, and it is necessary that health professionals understand this knowledge so that they can carry out the correct assessment and provide adequate care (QUEROZ, 2012).

Therefore, among the professionals who received training for prenatal care for adequate care, nursing stands out, with a focus on nursing, so that they do things for the human being that they cannot do on their own, that is, provide help or assistance in situations where parts of it cannot be done. Self-care, guide or teach, supervise or recommend other professionals. It should be noted that the treatment of these patients largely depends on care, that is, patients with preeclampsia need quality care that meets their needs (SANTOS, 2018).

Thus, the general objective of the work is to analyze the role of nurses in the reception and care of patients with preeclampsia.

## II. MATERIALS AND METHODS

This study is a comprehensive review that focuses on the investigation, description and analysis of scientific results published in the main nursing journals on the theme of the nurse's role in the reception and care of patients with preeclampsia, from which 20 articles were selected.

The selection of articles was carried out through the online electronic scientific library (SciELO), Google Scholar and the virtual health library database, using the health sciences descriptor (DeCS): Nursing, Hypertension and Pregnancy . For its selection, the following inclusion criteria were followed: language of publication (Portuguese, Spanish and English), established deadline, 2010 to 2022.

The bibliographic search also uses official documents such as laws, reports, technical manuals and book chapters related to the subject available on the Ministry of Health website.

Bibliographic works without complete texts and those that do not allow a deep reflection of the nursing area on the subject in question are excluded. Data analysis is performed through the description of research and information, analysis of results, compilation of results and evaluation of results on the proposed themes.

### III. LITERATURE REVIEW

#### Pregnancy

Pregnancy represents a transition that is part of the normal developmental process, involving a change of identity and a new role definition. In the case of the primiparous, in addition to being a daughter and wife, she also assumes the role of mother (PIO & CAPEL, 2015). This is a moment of crisis, through which there are conflicting points of decision and emotional growth, determinants of the health of the woman and the family or mental illness. It also mentions that motherhood touches the core of the female bonding matrix and significantly alters the pattern of interaction with the family of origin. Such events are considered essential and, in addition to preparing the baby's arrival, they are often conducive to the transformation brought about by pregnancy and the fulfillment of the role of 'being' of adaptation" (CAMACHO et al., 2010).

The feelings and desires that arise during pregnancy, including expectations and plans after childbirth, can influence the next 12 months of a child, especially in relation to their relationship with the mother (SABROZA, LEAL, SOUZA & NOGUEIRA, 2011). At the moment of birth, when the expectations of the first phase are exhausted, other sensations begin, influenced by the connections made during pregnancy. Babies are actually considered new members of the family and are no longer fictitious (CAMACHO et al., 2010). According to the authors above, the basis of the mother-baby relationship, after birth, can begin with pregnancy, being influenced by the expectations and emotions that occur in most primiparous women during this turbulent period, especially for multiparous ones (CAMACHO et al., 2010).

Most illnesses that develop during pregnancy result in hospitalization. It is known that hospitalization can be a stressful factor for pregnancy due to several environmental factors, such as distance from the home environment, loss of privacy, labeling the pregnant woman as "sick" when reading a pregnancy at risk. In the hospital, many doubts can arise and during medical consultations, when women are interested in knowing about their condition. Unfortunately, most of the time, these moments are not properly valued, increasing your anxiety levels, which can make the situation worse. The cited authors also emphasize

the need for a good doctor-patient or nurse-patient relationship, as research shows that when a health professional and abstains from exchanging information, it only reduces trust between the two parties (PIO & CAPEL, 2015).

#### Pathophysiology of preeclampsia

The cause of preeclampsia is unknown. In 1916, Zwiefeld had already described it as a "theoretical disease". Many theories and factors have been proposed to explain its cause, but most have not been proven. More than 60 years ago, Page coined the concept of preeclampsia, a reduction in placental perfusion. Currently, the immunological, genetic aspects and failure of placental invasion are unanimously accepted. Evidence of endothelial damage associated with increased inflammatory response and stress is the latest theory for the development of preeclampsia (VERLOHREN et al., 2015; KAHHALE et al., 2018).

Vasoreactivity, permeability and activation of coagulation are increased, mainly damaging vascular endothelium, kidneys, central nervous system, liver and placenta; thus, patients may have multiple organ involvement of varying severity (VERLOHREN et al., 2015; KAHHALE et al., 2018).

In our opinion, it seems well established that preeclampsia occurs in the presence of placental tissue, a multifactorial pathological entity influenced by environmental and immunological factors, as well as the genetic makeup of the mother. The onset of placental hypoxia leads to oxidative stress and the release of trophoblastic products and excess antiangiogenic factors, such as soluble endoglycan and the Flt-1 (sFlt-1) receptor called "fms-like tyrosine kinase-1". identified early in pregnancy. Due to insufficient trophoblast invasion, insufficiently perfused trophoblasts produce toxic substances that damage endothelial cells, leading to the clinical syndrome of preeclampsia (VERLOHREN et al., 2015).

#### Pre eclampsia

Preeclampsia is defined as the development of hypertension with proteinuria and/or swelling of the hands. Occurs after the 20th week of gestation, or earlier in gestational trophoblastic disease. Preeclampsia is primarily a condition in primiparous women (KAHHALE et al., 2018).

More recently, preeclampsia was defined as the appearance of hypertension with proteinuria, that is, the resolution of the edema was recommended as a diagnostic criterion and the mandatory presence of proteinuria. For research protocols, this concept may be valid, as there will be a greater chance of including patients with true

preeclampsia. Systemic edema that does not resolve with rest should be considered a very important clinical symptom, and experience has shown that the classic concept of hypertension with proteinuria and/or development of edema of the hands or face is correct. Therefore, waiting for the clinical manifestation of proteinuria in preeclampsia can have serious clinical implications, delaying treatment or preventing maternal-fetal complications. Exacerbations in people with preeclampsia can occur at very different rates. Some people stabilize before the pregnancy ends, some get progressively worse over a few weeks, and some show severe signs within days or even hours. Therefore, it is common to care for pregnant women with severe preeclampsia, HELLP syndrome or even eclampsia without proteinuria (KAHHALE et al., 2018). In a new publication 25 years later, ACOG published its recommendations in late 2013, referencing 1972 concepts and classifications, but with some differences. Therefore, preeclampsia is diagnosed when SBP > or equal to 140 or DBP > or equal to 90 mmHg and 24-hour urine proteinuria greater than or equal to 300 mg. In the absence of proteinuria, consider hypertension associated with one of the following: thrombocytopenia, renal failure, liver damage, pulmonary edema, and neurological or visual symptoms. Although significant clinical edema or rapid weight gain, or both, increases the clinical suspicion of preeclampsia, edema is not considered a diagnostic criterion.

It is also worth mentioning that when preeclampsia appears at an earlier gestational age (below 34 weeks), that is, well before term, it should always be considered a severe form and has a higher recurrence rate in subsequent pregnancies.

#### Diagnosis

Preeclampsia is characterized by a symptomatic triad: edema, hypertension and proteinuria. Hypertension is a "necessary condition" and must be accompanied by edema or proteinuria or both. The presence of these findings, especially in primiparous women, or worsening of the hypertensive condition, suggests the diagnosis after the 20th week. Gradually, as the condition develops and intensifies, a wide variety of conditions can develop and the components of the syndrome can be expressed in different ways. Complete blood count, platelet count, tape and/or 24-hour proteinuria, urea and creatinine, type I urine, uric acid, hemolysis profile (DHL), liver enzymes (TGO and TGP), and total and partial bilirubin (KAHHALE et al., 2018).

Preeclampsia is a multisystem disorder that affects pregnant women and can develop with marked deterioration of Organs affected organs. Eclampsia and HELLP syndrome are more likely to have complications such as: disseminated intravascular coagulation; acute renal failure;

acute pulmonary edema; intracranial hemorrhage and hepatic rupture. At this stage of the disease, patients are prioritized for multidisciplinary care in the intensive care unit (KAHHALE et al., 2018).

#### Pharmacological Treatment

For a long time, researchers have sought therapy for the prevention of preeclampsia. In the last three decades, numerous studies with large numbers of patients have been published in an attempt to reduce the incidence or severity of preeclampsia. Recent systematic reviews from the Cochrane library have evaluated the results of calcium supplementation, magnesium supplementation, protein intake, salt intake, prostaglandin precursors such as fish oil, and more recently antioxidants such as vitamins C and E, but no results can be found. show real benefit from these interventions.

Most randomized trials for the prevention of preeclampsia, including more than 37,000 patients, used low-dose aspirin. Recognition of the imbalance in the prostacyclin/thromboxane ratio as a key in the pathophysiology of the disease resulted in the application of low doses of aspirin, which selectively inhibit thromboxane synthesis in platelets, without affecting the production of prostacyclin in the vessels (ASKIE et al., 2007 apud). KAHHALE et al., 2018). A total of 32,217 pregnant women participated in a study and concluded that antiplatelet therapy produces a moderate but consistent reduction in preeclampsia and its consequences, especially birth before the 34th week. All these data suggest that the preventive effect of aspirin is greater in high-risk pregnant women, at a dose of 100mg daily at night, used early (before the sixteenth week). This therapy is safe for the fetus, even in the first trimester.

The analysis of the most recent works in the literature allows us to continue using the protocol of the Obstetric Clinic of the Faculty of Medicine of the University of São Paulo, already published and in use for the last thirty years<sup>4</sup>. We indicate in the high-risk group, that is, in pregnant women with a previous history of eclampsia and Hellp syndrome, recurrent preeclampsia, chronic arterial history with perinatal death, pregnant women with nephropathies and collagen diseases, kidney transplant recipients and those with antiphospholipid antibody syndrome. (KAHHALE et al., 2018).

#### Clinical Treatment

The goal of preeclampsia treatment is to prevent maternal-fetal complications such as placental abruption, stroke, acute pulmonary edema, renal failure, clinical worsening of severe preeclampsia, Hellp syndrome and eclampsia; fetal side, preterm delivery and neonatal respiratory distress. Once preeclampsia is diagnosed, the

pregnant woman should be hospitalized and kept in a relatively rested left lateral position to facilitate venous return, increase cardiac output and increase renal plasma sodium excretion, improving hypertension and uteroplacental perfusion. A low-sodium diet containing 2 to 3 grams of salt and high in protein is essential (BRASIL, 2013).

Sedation is important to reduce mood vascular instability; for this, we take an antipsychotic (levomepromazine) 3 mg (3 drops) orally every 8 hours. This therapy, by blocking alpha receptors, causes a slight drop in blood pressure. Benzodiazepines are used in doses of 5 to 10 mg every 8 or 12 hours (KAHHALE et al., 2018).

Mild cases of preeclampsia can be treated on an outpatient basis for socioeconomic reasons and/or lack of hospital beds. The patient is instructed to remain in bed most of the time, on the left side. In addition, she was advised to seek medical attention at any time and immediately report symptoms such as headache, epigastric pain, visual disturbance, rapid onset of generalized edema, and significantly reduced urine output. It is evaluated weekly, followed by clinical examination, proteinuria, and fetal viability testing. After the observation of any severe symptoms or change in fetal viability, the patient was hospitalized for more adequate supervision (SARMENTO et al., 2020).

In the case of severe preeclampsia, when the pregnant woman presents for the first time with hypertensive manifestations at term or close to term, especially if the cervix is favorable for inducing labor, the procedure is straightforward and performed without difficulty. However, there is a subset of women with severe hypertension in early pregnancy who require early delivery, which increases the risk of neonatal preterm delivery and may require prolonged hospitalization in the treatment unit. Neonatal Intensive Care (KAHHALE et al., 2018). When the mother's life is at risk, there is no doubt that childbirth is the right decision. However, this is rare. The choice of expectant management requires access to a tertiary hospital, well-trained staff, facilities to assess the clinical status of the mother, laboratory tests, adequate assessment of fetal motility, and a decision to prolong the pregnancy on a daily basis.

The nurse's role in preventing preeclampsia

The nurse's role in the care of pregnant women is to monitor prenatal care and take preventive and/or therapeutic measures to minimize complications. As such, it is shown to be a positive factor in the care of pregnant women during prenatal care and even during pregnancy, during family planning consultations to look for risk factors and diseases that cause certain complications during pregnancy,

especially in the most vulnerable populations. vulnerable (BRASIL, 2013).

Special care for women with preeclampsia and/or eclampsia can reduce complications, morbidity and mortality. The care described in this review mainly includes a complete physical examination; early identification of signs of preeclampsia/eclampsia; monitoring of laboratory tests; fetal assessment; professional training, including the need for continuing education; instrument-based care standardization; use of cuffs around the arm measure blood pressure; slow mercury deflation rates ( $\leq 2$  mmHg); need to standardize blood pressure measurement techniques; early identification and treatment of hypertensive crises through institutional protocols; and case review and workflow (SARMENTO et al., 2020).

The daily development and adoption of nursing protocols based on scientific evidence in the clinical practice of nurses help guide the decision-making process and ensure the provision of quality and safe care (FERREIRA et al., 2016).

Understanding the role of care in the management of preeclampsia is important to ensure the quality of care provided. Many pregnant women only discover their morbidity when they are hospitalized, causing them countless emotional discomforts, with hormonal changes having an even greater impact on how they feel. This ignorance of the disease can be avoided through effective prenatal care and continuous monitoring, as care based on guidelines during pregnancy and the correction of concerns engage pregnant women in the self-care process to provide a healthy pregnancy (SANTANA et al., 2019).

Nursing consultations in primary health care are carried out according to a script prepared by the Ministry of Health. This guideline provides adequate guidelines and favors an adequate approach to meet the specific needs of women with whom professionals interact in prenatal counseling, in essential health units that should be reference portals for pregnant women (BRASIL, 2013; SARMENTO et al., 2020).

High-risk pregnancies require care based on a scientific approach, making patient health the gold standard of care (SANTANA et al., 2019). The use of an adequate and humane approach, where the patient is the main focus of care, will lead to better results, as it will provide greater care capacity, reducing costs due to the reduction of morbidity and mortality; in addition to promoting trust in standard health and safety institutions (BARBOSA et al., 2011).

It was also highlighted that, by being more involved in the care provided to mothers and newborns, nurses are able to provide the continuous surveillance necessary for this

complex and challenging public health disease (FERREIRA et al., 2019).

More effective practices of nurses in the face of preeclampsia

Nurses' responsibilities include assisting users in pregnancy planning, diagnosis, routine and first prenatal consultations, planning return consultations, frequency of consultations, immunizations, educational activities, home visits, referrals and referrals, always aiming to provide subsidies. aimed at care and communication, an indispensable resource in the health area, aims to build trust and connect users with professionals (SARMENTO et al., 2020).

Regardless of the complexity of care, professional nurses have a responsibility to participate in the process of evaluating "nursing work" in order to contribute to the assistance provided by health services (EDWARD & MILLS, 2013).

While nursing treatment is characterized by the nurse's performance, direction, supervision, assistance or guidance to the patient, it is also evidenced through specific educational actions that there is prevention. Several factors are important in treatment decisions, such as the type of hypertensive syndrome, the severity of the disease, the period of gestation in which the disease occurs, and the maintenance of maternal-fetal homeostasis. The table below shows some treatments for women with this disorder (NORONHA et al., 2010).

The goal of treatment is to prevent maternal-fetal complications such as placental abruption, stroke, renal failure, acute pulmonary edema, severe preeclampsia, HELLP syndrome, and increased clinical manifestations of eclampsia. In the case of the fetus, it prevents premature birth and respiratory distress in the neonate (KAHHALE et al., 2018).

#### IV. FINAL CONSIDERATIONS

The nurse's humanitarian action seeks special help because it passionately protects the patient's life, in addition to providing effective assistance to maternal health, it also includes assessing the viability of the fetus through procedures such as examinations.

The nurse's role is, therefore, an important tool to reduce the complications of preeclampsia, improve care through changes in clinical practice and carry out actions aimed at preventing complications during pregnancy and reducing morbidity and mortality.

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