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REVIEW

Update on the theoretical and practical aspects of the evaluation of nursing care in patients with eclampsia and preeclampsia

Actualización de los aspectos teóricos y prácticos de la evaluación de la atención de enfermería en pacientes con eclampsia y preeclampsia

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ABSTRACT

Introduction: eclampsia is a serious complication of pregnancy characterized by seizures in women with preeclampsia. The quality of nursing care is crucial for the effective management of eclamptic patients, as it influences maternal and neonatal outcomes.
Objective: to update the theoretical framework and research background on the quality of nursing care in pregnant women with eclampsia and preeclampsia.
Method: a narrative review of the updated literature was conducted using recognized databases.
Development: the main nursing care is the constant evaluation and verification of signs of worsening of the disease. The fetus and the pregnant woman/newborn must be kept safe before, during, and after delivery. Nurses must assess respiratory rate and vital signs, respiratory sounds, oxygen saturation levels, deep tendon reflexes, intake and output, level of consciousness, and fetal status at frequent intervals.
Conclusions: staff training and compliance with protocols are essential to ensure safe and effective care. It is necessary to continue strengthening staff training and improving communication with patients to optimize results in the management of this critical condition.

Keywords: Eclampsia; Preeclampsia; Pregnant Woman; Level of Care.

RESUMEN

Introducción: la eclampsia es una complicación grave del embarazo que se caracteriza por convulsiones en mujeres con preeclampsia. La calidad del cuidado de enfermería es crucial para el manejo efectivo de las pacientes eclámpsicas, ya que influye en los resultados maternos y neonatales.
Objetivo: actualizar el marco teórico y antecedentes investigativos sobre la calidad del cuidado de enfermería en gestantes con eclampsia y preeclampsia.
Método: se realizó una revisión narrativa de la bibliografía atualizada utilizando bases de datos reconocidas.
Desarrollo: la principal atención de Enfermería es la constante evaluación y verificar los signos de empeoramiento de la enfermedad. Se debe tener seguros al feto y la gestante / recién nacido antes, durante y después del parto. Las enfermeras deben evaluar la frecuencia respiratoria y los signos vitales, ruidos respiratorios, niveles de saturación de oxígeno, reflejos tendinosos profundos, la ingesta y la salida, el nivel de conciencia y el estado fetal a intervalos frecuentes.
Conclusiones: la capacitación del personal y el cumplimiento de protocolos son fundamentales para garantizar una atención segura y efectiva. Es necesario continuar fortaleciendo la formación del personal y mejorar la comunicación con las pacientes para optimizar los resultados en el manejo de esta condición crítica.

Palabras clave: Eclampsia; Preeclampsia; Gestante; Nivel de Atención.

INTRODUCTION

Preeclampsia is a hypertensive disorder that occurs during pregnancy and manifests clinically after the first 20 weeks of pregnancy. More than twelve thousand years ago, lack of timely handling has been described as leading to eclampsia, but the cause remains unknown and is associated with significant maternal health problems. Preeclampsia and eclampsia manifest clinically with a variety of similar symptoms.[1]

Maternal and neonatal mortality represents, for developing countries, a major cause of death in women and the greatest burden of mortality in the infant population. This is considered a universal indicator of the quality of health care and living conditions, given that the greatest percentage of deaths are preventable. Maternal and neonatal deaths are indicators that measure the level of development of a country and show, in this case, the conditions in which women and their families live; a high or undetermined number of maternal and neonatal deaths shows the extent to which the state is fulfilling its obligation to guarantee the necessary conditions for women and their children to achieve full health.[2]

According to the World Health Organization, preeclampsia is the second leading cause of death in the world, with 14 %. Among the hypertensive disorders that complicate pregnancy, preeclampsia and eclampsia stand out as the main causes of maternal and perinatal morbidity and mortality and affect 2 to 8 % of all pregnancies. If left untreated, they can lead to maternal and fetal death.[3]

The state of gestation exposes the female population to a degree of vulnerability that was not present before pregnancy. Therefore, it is necessary to work on strategies to prevent preeclampsia. In Latin America, perinatal morbidity is from 8 to 45 % and mortality from 1 to 33 %, affecting 40 % of women, and also has a direct impact on the fetus that is in the process of formation with risk of prematurity. In Peru, preeclampsia is the second leading cause of death in pregnant women, accounting for 21 % of maternal deaths in this nation, because it affects several organs such as the placenta, kidneys, liver, brain, and other organs and blood systems of the mother.[4]

In Ecuador, the Ministry of Public Health in the 2020 bulletin states that the main causes of maternal deaths are hypertensive disorders with 41,93 %, also in the Regional Hospital Doctor Gustavo Domínguez Zambrano in the province of Santo Domingo de los Tsáchilas, preeclampsia with signs of severity is the third cause of morbidity in the maternal population, reaching figures of cesarean sections of 20,82 %.[5]

Due to its theoretical relevance, it allows the selection and systematization of information on the benefits of nursing care for pregnant eclamptic and preeclamptic women, in addition to showing some ways to prevent them in order to serve as a background for future research in the area of health, contributing to the improvement of knowledge about the risks of these to verify the levels of nursing care, since they will be responsible for preventing the risks of pregnant women by providing care and timely treatment of warm and humane service.

Due to its methodological relevance, the instrument "Level of nursing care in the care of pregnant women with preeclampsia and eclampsia" was reused to identify the levels if they are applied correctly to a patient with preeclampsia and eclampsia, obtaining results that can be used to reach the conclusions and recommendations of the research in progress correctly and honestly.

The health situation faced by a pregnant woman with preeclampsia does not affect her only from the physiological point of view but also influences the psychological aspect since the hypertensive disorder is the cause of various complications in pregnant women. Therefore, the nursing professional must assess the manifestations presented by pregnant patients, considering that nursing care can transcend everything that surrounds the patients.

DEVELOPMENT

Self-care theory

Virginia Henderson's theory states that the person is the individual who needs medical assistance to preserve his or her health or, in turn, to die. The nurse is the main helper of the sick person, and she must contribute with her knowledge to the patient's care. Henderson considered that nursing would change according to the times; he also incorporated physiological and psychopathological principles into his definition of nursing and explained the importance of nursing independence. In addition, the legal regulations related to the study indicate the articles of the Constitution of the Republic, the Organic Law of Health, and the National Plan of Good Living 2017 - 2021, where the priorities of vulnerable groups are established.[4]

Nursing role

The nursing role promotes "the management of care; the execution of actions derived from medical diagnosis and treatment; and the duty to ensure the best administration of resources for patient care," and for this reason, it is relevant to study the theories of the nursing role to obtain a better understanding of the

subject, about the research.[6,7,8,9]

Nursing has been called the oldest of the arts and the youngest of the professions. It has gone through numerous stages and has been part of social movements; this discipline and profession has as its subject of care man, the family, and the community. Its role and healthcare trends are and have been influenced by political, social, cultural, and scientific changes, as well as by the community's health problems.[10]

By role, it is understood that it is a function that a person performs in a task or activity; on the other hand, nursing is an art and science that is responsible for helping the healthy or sick human being regain health, and when this is not possible, it is to help to die well.[11] About the role of nursing, it is defined as the health care system responsible for providing health care services to individuals, families, and communities through universal access to health systems in order to solve medical problems by meeting the needs of the population through health systems strategies applied by nurses such as education, promotion of healthy lifestyles, maternal and child care, vaccination and promotion of disease prevention.[12]

Roles of nurses

The World Health Organization used the Delphi research technique. To identify the essential functions, i.e., those that prevent epidemics and the spread of disease, those that protect the population against environmental hazards, those that prevent injury, and those that promote health-promoting behavior and respond to disasters, the World Health Organization used the Delphi research technique.

According to the Pan American Health Organization, the key categories of essential functions that were considered necessary to meet this standard are as follows:

- Monitoring of the health situation (morbidity and mortality, determinants of health, and efficiency of public health functions).
- Environmental protection (drinking water, food quality and safety, provision of drainage, sewerage and waste disposal, control of hazardous substances).
- Health promotion (community participation in health, health information and education, and quality of life improvement).
- Prevention, surveillance, and control of communicable diseases (vaccination, epidemic control, disease surveillance).
- Public health legislation and regulation.
- Occupational health.
- Public health services (school health, emergency disaster services, laboratory services).
- Public health management (health policy, planning and management, use of scientific evidence, research, international collaboration).

Evidence-based nursing care for the management of preeclampsia

The main nursing care is the constant evaluation and checking for signs of disease worsening. The fetus and the pregnant woman/newborn should be kept safe before, during, and after delivery. Nurses should assess respiratory rate and vital signs, breath sounds, oxygen saturation levels, deep tendon reflexes, intake and output, level of consciousness, and fetal status at frequent intervals.[13]

Nursing care process

The nursing care process (NCP) is a process that is carried out in a systematic and organized manner for the application of the scientific method in the daily practice of the nursing professional. It is characterized by promoting organized and reflective care, continuous and individualized care, rationalization of time, and developing critical thinking in nursing professionals.[14]

Stages that constitute the nursing care process

According to INEPEO, National Institute of Continuing Education in Nursing and Gynecology and Obstetrics,[15] "Assessment is the basis for the following and can be considered the cornerstone of the PAE. It makes it possible to gather the necessary information that will make it possible to formulate the problem (Diagnosis), and from this to propose (Planning) and carry out the interventions aimed at achieving (Objective), and then proceed to the Evaluation".

Assessment: It is the first phase of the nursing process, defined as an organized and systematic process of obtaining, organizing, validating, and recording data on the patient's state of health.

According to Piray,[16] there are four different types of valuations:

- Initial Assessment. - Nursing assessment on admission.
- Focused Assessment. - Hourly Assessment of fluid intake and diuresis of the preeclamptic patient.
- Urgent Assessment. - Rapid Assessment of airway, respiratory, and circulatory status.
- Reassessment after some time. - reassessment of functional status in an outpatient setting.

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Diagnosis: This is the second phase of the Nursing Process. The clinical judgment about individual, family, or community responses to actual or potential life-threatening health problems requires nursing intervention to resolve or ameliorate. A Nursing Diagnosis provides the basis for choosing nursing interventions to achieve the outcomes for which the nurse is responsible.[15]

Types of nursing diagnoses

Nursing diagnoses can be:

- Actual nursing diagnosis: "Describes a patient problem at the time of the nursing assessment. It is supported by defining characteristics, objective data, and subjective data."
- Risk nursing diagnosis: is a clinical judgment that a problem does not exist, but the presence of risk factors indicates that a problem is likely to occur unless the nursing professional intervenes.
- Wellness diagnosis: describes human responses to levels of well-being in an individual, family, or community that have a disposition to improve.
- Nursing diagnosis possible. - Is a diagnosis in which the evidence of a health problem is unclear or insufficient.
- Syndrome Diagnosis. - Is a diagnosis that is associated with a group of other diagnoses.[16]

Planning: This phase aims to establish and carry out the nursing care that will lead the user to prevent, reduce, or eliminate the problems detected."

Execution: Execution involves the following nursing activities: Continuing with data collection and assessment, Performing nursing activities, Record nursing care, Giving verbal nursing reports, Keep the care plan updated; the nursing professional has all the responsibility in the execution of the plan, but includes the patient and family, as well as other members of the team.

In this phase, all nursing interventions aimed at problem-solving (nursing diagnoses and interdependent problems) and the care needs of each person being treated are carried out.

Evaluation: Evaluation is defined as the planned and systematized comparison between the patient's state of health and the expected results; when we refer to evaluate, it is to make a judgment about an object, action, work, situation, or person, comparing it with one or more criteria. In this sense, the two most important criteria that nursing evaluates are the efficacy and effectiveness of the actions.

Nursing Interventions (NIC)

According to Casanova,[17] the Nursing Intervention Classification (NIC) is a list of nursing professionals' interventions or care according to the problem posed (independent problems, collaborative problems, and substitute situations). Thus, this clinical research tool provides the basis of knowledge for the nursing curriculum and practice, conveys the nature of nursing, and facilitates the appropriate selection and documentation of nursing interventions.[18,19,20]

The NICs act by the nursing diagnosis appropriate to the patient's expected outcome and include the actions to achieve that end. The NIC uses standardized, global language to describe the treatments performed by nursing professionals because the use of standardized language does not inhibit practice; rather, it serves to communicate the essence of nursing care to others and helps improve practice through research.[17]

Nursing Outcomes Classification (NOC)

According to Rosado (2018), the NOC is intended to systematically organize outcomes into groups or categories based on similarities, differences, and relationships between outcomes. Each outcome represents a concept that can be used to assess the variable state, condition, or perception of a patient, family caregiver, family, or community to evaluate the effects of nursing interventions throughout the patient care process to NOC attempts to provide nursing with a validated system and language of its own to identify, name, and measure the outcomes that result from its practice.

Preeclampsia

Preeclampsia is one of the neurohypertensive disorders of pregnancy, characterized by the presence of proteinuria and arterial hypertension during pregnancy. It is associated with high maternal and fetal morbidity and mortality. Some risk factors predispose to this disorder, and therefore, an adequate clinical assessment should be established for each patient to use preventive measures obtained through studies to minimize the incidence of preeclampsia and reduce its negative impact on the final perinatal outcome.[21,22]

Definition of preeclampsia

According to Herrera,[23] preeclampsia is a multisystemic syndrome of variable severity, specific to pregnancy, characterized by a reduction in systemic perfusion generated by vasospasm and activation of the coagulation

systems. It occurs after the 20th week of gestation, during delivery, or two weeks after delivery. *Preeclampsia* is a disease that some women may have during the second half of gestation.

Preeclampsia (also known as toxemia or gestosis) is one of the most serious conditions of pregnancy, as the health of both mother and child can be severely compromised. Preeclampsia is a pathology that occurs during gestation and involves different physiological disorders that should be observed by health personnel for proper management and control of the condition in order to improve the patient's quality of life and avoid complications such as eclampsia premature delivery, among others.[23]

Etiology

According to Herrera,[23] many pathological mechanisms have been described for the onset of preeclampsia, but the etiology is still unclear. The main mechanism described to explain it is abnormal trophoblastic invasion of uterine vessels. Immune intolerance between maternal and fetal placental tissues, maladaptation of the mother to inflammatory and cardiovascular changes of normal pregnancy, and genetic influences have also been described.

According to Pacheco, four complex pathophysiologic pathways and mechanisms associated with genetic and immunologic factors have been described in preeclampsia. These are closely intertwined and appear to be triggered by the presence of placental tissue. Women with hydatidiform moles present with preeclampsia in the absence of a fetus. Studies of the placenta consistently demonstrate utero-vascular development of the placental bed. There is failure of trophoblast invasion of the myometrium, and the spiral arteries respond to vasoactive substances. The systemic inflammatory reaction and activation of leukocytes and platelets further increase inflammation, release free radicals, and cause endothelial damage and vascular dysfunction. Vascular endothelial dysfunction in preeclampsia is associated with loss of the angiogenic protein vascular endothelial growth factor (VEGF), mediated by elevated levels of the anti-angiogenic tyrosine kinase fms-like tyrosine 1 (sFlt-1), a potent inhibitor of VEGF, and endoglin.[24]

Pathophysiology

From a pathophysiological perspective, preeclampsia is characterized by abnormally superficial cytotrophoblast invasion of the spiral arteries during placentation, resulting in preservation of the elastic muscle tissue of these arteries and their responsiveness to different vasopressor agents concerning preeclampsia, complex pathophysiological pathways, and mechanisms have been described in association with genetic and immunological factors. These are closely intertwined and appear to be triggered by the presence of placental tissue. Women with hydatidiform moles present with preeclampsia in the absence of the fetus. Studies of the placenta consistently show aberrant utero-vascular development of the placental bed.[24]

Currently, the pathophysiology of PE has been structured in two stages. The first stage occurs during the first 20 weeks of gestation. Defects in trophoblast invasion of the spiral arteries occur, causing failure to replace endothelial layers and loss of wall elasticity and vasomotor control. This finally leads to a decrease in placental perfusion, producing hypoxia. The second stage occurs after the 20th week of gestation. Due to hypoxia and oxidative stress, anti-angiogenic factors are released that cause the alteration of endothelial function.[24]

Epidemiology

According to Castillo and Morales[13], preeclampsia is a public health problem because it is one of the main causes of maternal and fetal morbidity and mortality, prematurity, and intrauterine growth retardation, causing more than 50,000 deaths per year worldwide.

Approximately 12-25 % of intrauterine growth retardation and 15-20 % of preterm births are attributable to EP, causing increased risk of neonatal morbidity and mortality. PE affects 2-8 % of pregnancies worldwide; according to WHO, the incidence is seven times higher in developing countries than in developed countries, probably because in underdeveloped countries, socioeconomic and social factors hinder access to health systems, causing a delay in diagnosis.[13]

Classification of preeclampsia

Mild preeclampsia

Systolic blood pressure (top number) of 140 mmHg or higher, or diastolic blood pressure (bottom number) of 90 mmHg or higher.

Urine with 0,3 or more grams of protein in a 24-hour sample (collection of every drop of urine for 24 hours.

Severe pre-eclampsia

Systolic pressure greater than 160 mm/Hg and elevation to 30 mm/Hg. Diastolic pressure greater than or equal to 110 mm/Hg. Proteinuria greater than 5 g in 24-hour urine and edema. Oliguria of less than 500 ml in 24 hours. Visual and cerebral disorders generating edema.

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The imminence of eclampsia

Systolic pressure greater than or equal to 185 mm/Hg, diastolic pressure greater than 115 mm/Hg. Proteinuria greater than 10 g in urine, stupor, partial loss of vision, and epigastric pain should be managed as eclampsia.

Risk factors

Preeclampsia often affects young and nulliparous women, while older patients are at higher risk of chronic hypertension with added preeclampsia. In addition, the incidence is largely dependent on race, ethnicity, and genetic disposition. Other factors include environmental, socioeconomic, and even seasonal influences.[25]

Maternal age: For some authors, extreme age (under 20 and over 35) is a major risk factor for preeclampsia, and individuals claim that the risk of preeclampsia doubles in these cases. Much speculation has attempted to explain this increased risk. It has been suggested that women over 35 years of age suffer from chronic vascular disease more frequently, which promotes the development of preeclampsia. In very young patients, the abnormal placenta is said to form more frequently. This applies to the hypothesis that placental insufficiency is the cause of preeclampsia.

Residency: According to a survey on this subject, mothers living in both rural and urban areas are unable to contribute to the healthy development of the fetus during pregnancy due to a lack of knowledge of the care that they should have, such as pregnancy control, medications during pregnancy and another is because of the culture that some women hold and that does not allow them to have health care thus increasing the risk of early diagnosis of complications.[26]

Prenatal care: This study reflects that most pregnant women have not had continuous and followed controls, knowing that the ideal control is at least five visits, without considering the last few before delivery.[26]

Preeclampsia in a previous pregnancy: A personal or family history of preeclampsia significantly increases the risk of having complications in pregnancy.[26]

Pregnancy termination: The only way to reliably treat both preeclampsia and preeclampsia and prevent complications is to induce labor. However, the decision to have a delivery or cesarean section is primarily made for women. In general, it is probably best to initiate a cesarean section during cesarean section. This may result in a longer elimination chain in the maternal abdominal cavity.[26]

Presence of some chronic diseases: arterial hypertension, obesity, diabetes mellitus, insulin resistance, renal disease, neurofibromatosis, primary antiphospholipid syndrome (antiphospholipid antibodies), and other autoimmune diseases (secondary antiphospholipid syndrome), thrombophilias and dyslipidemia.[26]

Signs and Symptoms

According to Villagómez and Rojas,[26] the signs and symptoms of preeclampsia that may occur include plateletopenia, renal failure, hepatic dysfunction, acute pulmonary edema, central nervous system alterations, epigastralgia, or right hypochondria. Possible maternal complications include seizures, stroke, HELLP syndrome, normal placental abruption, acute pulmonary edema, acute renal failure, liver failure, compromised fetal well-being, and even intrauterine fetal death or maternal death. Fetal or neonatal impairment is the result of placental insufficiency and probable premature delivery, which would have to be done by maternal gravity to reduce morbidity and mortality.[26]

Preeclampsia is a serious condition of pregnancy and represents a major danger because many of its signs are not obvious. At the same time, some symptoms appear to be the normal effects of pregnancy on the body. Many women with preeclampsia do not feel sick and sometimes react with surprise or frustration when they are ordered to bed rest or are hospitalized, even when they feel well. On the other hand, high blood pressure is an important sign of preeclampsia. The disease is sometimes referred to as a silent killer because most people cannot "feel" the rise in blood pressure.[26]

Some common signs and symptoms include:

- Excess protein in the urine (proteinuria) or other signs of kidney problems.
- Severe headaches.
- Vision changes, including temporary loss of vision, blurred vision, or sensitivity to light.
- Upper abdominal pain, usually below the ribs and on the right side.
- Nausea or vomiting.
- Decreased urine output.
- Lower blood platelet levels (thrombocytopenia).
- Impaired liver function.
- Shortness of breath, due to the presence of fluid in the lungs.

Treatment

Mild preeclampsia

Patients with mild preeclampsia are hospitalized to confirm the diagnosis and perform additional studies.

They should receive a regular unrestricted diet and expectant management on an outpatient basis. When selecting the ideal patient for outpatient treatment, the patient should be reliable, without signs or symptoms of severe disease, and whose fetal surveillance tests are reassuring. Ambulatory management involves rest at home, daily assessment of blood pressure, qualitative dipstick calculation of proteinuria, and counting of active fetal movements.[26] Immediate delivery will be indicated in cases where:

- Cervical status is favorable with gestational age of 37 weeks or more.
- Gestational age is 40 weeks or more.
- Aggravation of preeclampsia.
- Abnormal fetal tests.

Severe preeclampsia

When a woman has severe preeclampsia, the doctor will probably want the baby to be delivered as soon as possible. If the pregnancy is already 34 weeks, delivery is usually recommended. If your baby is less than 34 weeks, your doctor will probably prescribe corticosteroids to help speed lung maturation.

In some cases, your doctor may prescribe a premature delivery, which may result in possible complications for the baby due to the risk of serious complications for the mother. Symptoms of preeclampsia usually disappear within 6 weeks after delivery.

Hospitalization is always necessary, and delivery is indicated if:

- Gestational age is more than 34 weeks.
- Pulmonary maturity is confirmed.
- Maternal or fetal impairment appears.

Chronic arterial hypertension

A blood pressure of 140/90 mm Hg or higher before pregnancy or at 20 weeks is considered. Hypertension was diagnosed after 20 weeks but persisted for 12 weeks after delivery and was also classified as chronic arterial hypertension.

4,7 in the first and second trimester, blood pressure drops ten mmHg, although for some experts, systolic blood pressure drops 10-15 mmHg and diastolic blood pressure drops 20 mmHg in the first trimester; the figures are the same as before pregnancy. Which many interpret as preeclampsia. Seven blood pressure data of 120/80 mmHg in the first trimester do not confirm the diagnosis of chronic hypertension, but they do identify the risk of its occurrence and define a strict follow-up.[24]

- Following a heart-healthy diet with less salt.
- Getting regular physical activity.
- Maintaining a healthy weight or losing weight, if you are overweight or obese.
- Limiting the amount of alcohol you drink.

Pharmacological treatment

The goal is to avoid a hypertensive crisis and continue the pregnancy until fetal maturity. Early treatment does not prevent the development of superimposed preeclampsia. Therefore, it should be initiated when indicated. Previously administered medications should be adjusted to the pregnant woman's doses, indications, and contraindications.[26]

Prevention of preeclampsia

Several ways to assess or modify the severity of preeclampsia have been evaluated.[27]

- Dietary control. - low-salt diet, calcium supplementation, fish oil supplementation.
- Cardiovascular drugs. - diuretics, and antihypertensive drugs.
- Antioxidants. - Ascorbic acid (vitamin C), tocopherol (vitamin E).

International background

According to Cadillac 2, the study's objective was to identify the nursing interns' knowledge level about hypertensive disorders of pregnancy at the Instituto Nacional Materno Perinatal Lima - 2017. The research method used was quantitative, descriptive, prospective, and cross-sectional, whose population consisted of nursing interns who rotated through the emergency department of the institution; 56,3 % (34) have medium-level knowledge, while 31,7 % (19) have low knowledge, and only 12 % (7) have high knowledge.

According to Garcia,[28] preeclampsia is a multisystemic disorder whose clinical criteria have not changed in the last decade. According to the WHO, the incidence of preeclampsia ranges between 2 and 10 % of all pregnancies, and its prevalence is seven times higher in developing countries than in developed countries. In a retrospective cross-sectional descriptive study, 20 clinical records of patients between 13 and 45 years of age, with pregnancy ≥ 20 weeks of gestation in the adult intensive care unit, with a confirmed diagnosis of

preeclampsia, were included.

According to Checya et al.[11] the objective of the research was to identify the predisposing factors of severe preeclampsia; the study was retrospective, observational, analytical, and case-control, carried out in patients attended, from January to December 2017, in the Contingency Hospitals Hermilio Valdizan and Tingo Maria in the region of Huanuco, Peru. Factors associated with preeclampsia were considered: preconception, maternal, and environmental. A multivariate analysis was performed using the logistic regression model for the association between variables, and the odds ratio and 95 %CI were calculated. The results obtained were 136 cases (severe preeclampsia) and 272 controls. Among the predisposing factors of severe preeclampsia, the following were found as essential data in the research: history of preeclampsia, pregnant women older than 35 years, and obesity in patients, being these the factors that will help in the onset of preeclampsia in the first weeks of pregnancy. In conclusion, a history of preeclampsia, maternal age over 35 years, obesity, pregnancy with a different sexual partner, and twin pregnancy were risk factors for severe preeclampsia in the study group.

According to Huarcaya,[29] the objective of his research was to determine the protocol for the care of preeclampsia; the method used in this research was descriptive, retro- and cross-sectional, and the results obtained were that 100 % and 60 % of the pregnant women seen in the hospital were diagnosed with mild preeclampsia and 34 % with severe cases. In addition, 64 % (64) of the pregnant women complied with the maternal self-monitoring orientation record, and 3 % (02) did not; 53 % (35) recorded the stress test in the clinical history, and 47 % (31) did not; 48,5 % (32) recorded the ultrasound in the clinical history, and 51,5 % (34) did not; 48,5 % (32) recorded the ultrasound in the clinical history, and 51,5 % (34) did not.

National background

In the study conducted by Carmen, Baque, & Pincay,[30] the main objective of the research is to evaluate the management of preeclampsia/eclampsia in the emergency area of the Verdi Cevallos Balda Hospital, identifying personal and family risk factors. The study was prospective and consisted of 3400 pregnant women admitted to the gynecological area from July 2016 to June 2017; the work was carried out based on Hospital statistics. According to the results among 3400 pregnant women, 125 cases of Preeclampsia/eclampsia were reported in women aged between 21 to 30 years, homemakers, of marital status free union, from urban areas, of primary education, and few prenatal controls were performed, The degree of preeclampsia most frequently presented was mild between 37 and 46 weeks of gestation, with signs of arterial hypertension, edema, headache, the Management of the pathology was done with magnesium sulfate, most pregnancies ended with cesarean section and premature infants.

Ramirez and Elizabeth,[31] conducted the following study. The following research aims to describe nursing care and its influence on the recovery of patients with preeclampsia attending the Hospital of Dr. Rafael Serrano Lopez in 2021. The methodological design has a qualitative and descriptive approach, where direct information was obtained from 16 nursing graduates and 36 patients with preeclampsia through surveys and an observation guide, which allowed us to obtain the results. It was determined that women 35 years of age and older have incomplete schooling, multiparity, poor prenatal controls, and several sexual partners, showing that sociocultural, demographic, and gynecological-obstetric factors are the main causes of the development of preeclampsia. In addition, 80 % of the nursing graduates provide specific care to the patients, professional attitudes towards the integrity of the users, and education to the families and pregnant women about their diagnosis and treatment. Seventy-five percent of the patients felt that they received comprehensive care from the nurses aimed at their physical, mental, and spiritual well-being.

According to Figueroa et al.[32] in their research, the general objective was to determine the role of nursing and its influence on the administration of magnesium sulfate in hospitalized preeclampsia patients at the Dr. Rafael Serrano López Basic Hospital, La Libertad 2020. The methodology used in this research was quantitative, qualitative, documentary, and descriptive with descriptive design, where the information was obtained through the application of instruments validated by professionals of the career, which were as much as the survey, applied both to the nursing staff and to the patients with a diagnosis of preeclampsia. The study population consisted of 14 nursing professionals and 16 patients who were surveyed about the processes of nursing care, which reflected the most relevant data for our research, especially considering the training given to the nursing staff, who are the ones who provide care to the patients, 58 % of the nursing personnel know the proper use and side effects of sulfate in pregnant women. Finally, it was observed that some medical personnel do not know about the administration of magnesium sulfate in the services that can provide better care in obstetric emergencies and emergencies such as preeclampsia; as a remarkable fact, 79 % of the nursing staff use the protocols implemented by the Ministry of Public Health of Ecuador and the clinical practice guidelines, so it is necessary to have continuous training and self-preparation, as well as to take postgraduate courses related to the care of pregnant women, childbirth and postpartum to ensure holistic care with warmth and quality in the mother-child binomial and avoid maternal and fetal deaths that are often caused by preeclampsia, which is

one of the leading causes of death.

According to Fariño & Peña,[33] the objective of the research allowed the identification of nursing interventions in modifiable factors for the control of hypertensive diseases of pregnancy in the General Hospital Dr. Liborio Panchana Sotomayor from July to August 2019 in the city of Santa Elena. The study universe was represented by 34 pregnant women diagnosed with some hypertensive disease. In comparison, the sample comprised 34 pregnant women between 15 and 40 years of age who attended the gynecological emergency area of the health institution. The deductive method was used because it begins with the theory, and from it, logical expressions called hypotheses are derived and tested by the researcher; the study variables were age, multiparity, history of preeclampsia, overweight, and obesity. As a result, we obtained that preeclampsia is the main obstetric complication, with an incidence of 52 %. Chronic hypertension and overweight are risk factors, where multiparity reached 30 %, while young age represented 42 % of the study sample. We can conclude that preeclampsia is the complication with the highest incidence and the prevalence of modifiable risk factors. Hence, health education on adherence to prenatal checkups in pregnant women guarantees quality care, where the professional nurse intervenes directly in this stage of gestation.

According to Ruiz & Santos,[16] the main objective was to determine nursing interventions in pregnant women with preeclampsia. Hospital León Becerra Camacho - Milagro 2017.The sample considered is forty-two: 12 Nursing Graduates, 26 Nursing interns, and four obstetric assistants who work at the Hospital Dr. León Becerra Camacho in obstetric emergencies, maternity, outpatient, and childbirth. The type of research is quantitative, descriptive, and cross-sectional. A direct interview was conducted with the teaching leader and area leaders, and a survey of the nursing professionals was conducted to obtain data. The following conclusions were reached through the research: The nursing staff working in the areas that have direct contact with pregnant women with preeclampsia have a deficient level of knowledge regarding the pathology; it is evident and identified that the care provided by the nursing staff pregnant women during the beginning of the research is focused on the pathogenic and psychological part in 15 % and after the activities carried out comprehensive care is provided in the baseline is reflected in 70 % and increased to 100 % through the talk plan provided by the students conducting the research. The Ministry of Public Health established deficiencies in applying these protocols because 60 % of the personnel applied them.

REFERENCES

1. Vargas H VM, Acosta A G, Moreno E MA. La preeclampsia un problema de salud pública mundial. Revista chilena de obstetricia y ginecología [homepage on the Internet] 2012 [cited 2024 Sep 19];77(6):471–476. Available from: http://www.scielo.cl/scielo.php?script=sci_abstract&pid=S0717-75262012000600013&lng=es&nrm=iso&tlng=es

2. Ministerio de Salud Pública del Ecuador. Trastornos hipertensivos del embarazo. Guía de Práctica Clínica [Homepage on the Internet]. 2016 [cited 2024 Sep 19];Available from: https://www.salud.gob.ec/wp-content/uploads/2017/03/MSP_Trastornos-hipertensivos-del-embarazo-con-portada-3.pdf

3. OMS. Recomendaciones de la OMS para la prevención y el tratamiento de la preeclampsia y la eclampsia [Homepage on the Internet]. 2014 [cited 2024 Sep 19];Available from: https://www.who.int/es/publications/i/item/9789241548335

4. Naranjo Hernández Y, Rodríguez Larrinaga M, Concepción Pacheco JA. Reflexiones conceptuales sobre algunas teorías de enfermería y su validez en la práctica cubana. Revista Cubana de Enfermería [homepage on the Internet] 2016 [cited 2024 Sep 20];32(4):0–0. Available from: http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S0864-03192016000400021&lng=es&nrm=iso&tlng=es

5. Tacuri-Alcívar A, Cuadro-Ayala M, Rodríguez-Gómez K, Ramírez-Morán E. Factores clínicos y quirúrgicos que influyen en la indicación de cesórea en paciente con preeclampsia con signos de severidad | Dominio de las Ciencias. Dominio De Las Ciencias [homepage on the Internet] 2022 [cited 2024 Sep 19];8(2):1600–1616. Available from: https://dominiodelasciencias.com/ojs/index.php/es/article/view/2751

6. Mena V. MB. Rol de la enfermera en el programa de salud escolar en la escuela Jesús María Yépez de la comunidad urbano-marginal de Luluncoto. 1997;

7. Voz T. Día de la enfermería: ¿Cuál es el verdadero rol de este profesional en la comunidad? [Homepage on the Internet]. BioBioChile - La Red de Prensa Más Grande de Chile. 2015 [cited 2024 Sep 20];Available from: http://www.biobiochile.cl/noticias/2015/05/12/dia-de-la-enfermeria-cual-es-el-verdadero-rol-de-este-profesional-en-la-comunidad.shtml

8. Bueno-Huaman RN, Villanueva-Sanchez C, Vivanco-Hilario SD, Morales-García WC. Nursing care in threatened preterm labor in the Obstetrics and Gynecology Department of a hospital. Multidisciplinar (Montevideo) [homepage on the Internet] 2024 [cited 2024 Sep 21];2:100. Available from: https://multidisciplinar.ageditor.uy/index.php/multidisciplinar/article/view/100

9. Gutiérrez Carlos E, Castro Paucar E. Role of the nurse in post cesarean section patient with hellp syndrome in the obstetrics and gynecology service of a National Hospital. AG Salud [homepage on the Internet] 2024 [cited 2024 Sep 21];2:37. Available from: https://salud.journalageditor.org/index.php/salud/article/view/37

10. Ponti LE, Castillo Benites RT, Vignatti RA, Monaco ME, Nuñez JE. Conocimientos y dificultades del proceso de atención de enfermería en la práctica. Educación Médica Superior [homepage on the Internet] 2017 [cited 2024 Sep 20];31(4):1–12. Available from: http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S0864-21412017000400007&lng=es&nrm=iso&tlng=en

11. Checya-Segura J, Moquillaza-Alcántara VH, Checya-Segura J, Moquillaza-Alcántara VH. Factores asociados con preeclampsia severa en pacientes atendidas en dos hospitales de Huánuco, Perú. Ginecología y obstetricia de México [homepage on the Internet] 2019 [cited 2024 Sep 19];87(5):295–301. Available from: http://www.scielo.org.mx/scielo.php?script=sci_abstract&pid=S0300-90412019000500295&lng=es&nrm=iso&tlng=es

12. García Naranjo JL, Martín Sánchez OM, Chávez Reyes MT, Conill Linares E. Gestión del cuidado en Enfermería y su aporte a la economíaen hospital de Cabinda. Revista de Ciencias Médicas de Pinar del Río [homepage on the Internet] 2018 [cited 2024 Sep 20];22(5):96–104. Available from: http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S1561-31942018000500014&lng=es&nrm=iso&tlng=es

13. Gaona Castillo J, Mesa-Cano I. Manejo de Enfermería en Pacientes con Preeclampsia: Revisión Sistemática. Ocronos - Editorial Científico-Técnica [homepage on the Internet] 2021 [cited 2024 Sep 19];4(3):164. Available from: https://revistamedica.com/manejo-enfermeria-preeclampsia/

14. Jara-Sanabria F, Lizano-Pérez A. Aplicación del proceso de atención de enfermería por estudiantes, un estudio desde la experiencia vivida. Enfermería universitaria [homepage on the Internet] 2016 [cited 2024 Sep 20];13(4):208–215. Available from: http://www.scielo.org.mx/scielo.php?script=sci_abstract&pid=S1665-70632016000400208&lng=es&nrm=iso&tlng=es

15. Instituto Nacional de Educación Permanente en Enfermería y Obstetricia (INEPEO). Proceso de Atención de Enfermería (PAE). Rev Salud Pública Parag [homepage on the Internet] 2013 [cited 2024 Sep 20];3(1):41–48. Available from: https://docs.bvsalud.org/biblioref/2018/11/964686/41-48.pdf

16. Ruíz Chávez JK, Santos Yagual DDC. Intervenciones de enfermería en gestantes con preeclampsia. Hospital León Becerra Camacho - Milagro 2017. [Homepage on the Internet]. 2018 [cited 2024 Sep 20];Available from: https://repositorio.upse.edu.ec/handle/46000/4335

17. Casanova A, Asensio A, Calvo D, et al. INTERVENCIONES DE ENFERMERÍA NIC DE UTILIDAD EN LA ATENCIÓN EXTRAHOSPITALARIA. 2015;

18. Bejarano D. Intervenciones de enfermería en gestantes con preeclampsia. 2018;

19. Ccorahua-Torres CV, Solis-Quispe CA, Vivanco-Hilario SD, Cabanillas-Chávez MT, Morales-García WC. Nursing care of a post-partum patient with severe preeclampsia in the obstetrics service of a national hospital. Multidisciplinar (Montevideo) [homepage on the Internet] 2023 [cited 2024 Sep 21];1:41. Available from: https://multidisciplinar.ageditor.uy/index.php/multidisciplinar/article/view/41

20. Espiritu-Gozar N, Heredia-Garay FM, Cabanillas-Chavez MT, Morales-García WC. Nursing care in patients with severe preeclampsia. SCT Proceedings in Interdisciplinary Insights and Innovations [homepage on the Internet] 2024 [cited 2024 Sep 21];2:214. Available from: https://proceedings.ageditor.ar/index.php/piii/article/view/195

21. Gómez Carbajal L. Actualización en la fisiopatología de la preeclampsia: update. Rev peru ginecol obstet [homepage on the Internet] 2014 [cited 2024 Sep 19];60(4). Available from: http://www.scielo.org.pe/scielo.php?pid=S2304-51322014000400008&script=sci_arttext&tlng=en

22. Pereira Calvo J, Pereira Rodríguez Y, Quirós Figueroa L. Actualización en preeclampsia. Revista Médica Sinergia [homepage on the Internet] 2020 [cited 2024 Sep 20];5(1):11. Available from: https://dialnet.unirioja.es/servlet/articulo?codigo=7399387

23. Correa Lascano LF, Herrera Moya P. Describir los cuidados de enfermería en gestantes hospitalizadas con preeclampsia [Homepage on the Internet]. Repositorio de la Universidad Estatal de Milagro. 2019 [cited 2024 Sep 19];Available from: https://repositorio.unemi.edu.ec/xmlui/handle/123456789/4532

24. Nápoles Méndez D. Actualización sobre las bases fisiopatológicas de la preeclampsia. MEDISAN [homepage on the Internet] 2015 [cited 2024 Sep 20];19(8):1020-1042. Available from: http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S1029-30192015000800012&lng=es&nrm=iso&tlng=es

25. Cruz Hernández J, Hernández García P, Yanes Quesada M, Isla Valdés A. Factores de riesgo de preeclampsia: enfoque inmunoendocrino. Parte I. Revista Cubana de Medicina General Integral [homepage on the Internet] 2007 [cited 2024 Sep 19];23(4):0-0. Available from: http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S0864-21252007000400012&lng=es&nrm=iso&tlng=es

26. Rojas L, Rojas L, Villagómez M, Rojas A, Rojas A. Preeclampsia - eclampsia diagnóstico y tratamiento. Revista Eugenio Espejo [homepage on the Internet] 2019 [cited 2024 Sep 19];13(2):79-91. Available from: https://www.redalyc.org/journal/5728/572861392011/html/

27. Sánchez Martínez AC. Proceso de atención de enfermería para paciente con eclampsia [Homepage on the Internet]. 2016 [cited 2024 Sep 19];Available from: https://repositorioinstitucional.uaslp.mx/xmlui/handle/i/4630

28. García L, Centurión O. Medidas preventivas y manejo diagnóstico y terapéutico de la hipertensión arterial y las crisis hipertensivas. Rev salud publica Parag [homepage on the Internet] 2020;10(2):59-66. Available from: http://scielo.iics.una.py/scielo.php?script=sci_arttext&pid=S2307-33492020000200059&lng=en

29. Huarcaya-Gutierrez R, Cerda-Sanchez M, Barja-Ore J. Factores de riesgo asociados al parto pretérmino en madres jóvenes atendidas en un hospital de Perú. MEDISAN [homepage on the Internet] 2021 [cited 2024 Sep 20];25(2):346-356. Available from: https://medisan.sld.cu/index.php/san/article/view/3097

30. Condo Baque CA, Barreto Pincay GM, Montaño Parrales GM, Borbor Sánchez LX, Manrique Regalado GL, García Sigcha AJ. Preeclampsia y eclampsia en pacientes atendidas en el área de emergencia del Hospital Verdi Cevallos Balda julio 2016 - junio del 2017. Dominio de las Ciencias [homepage on the Internet] 2018 [cited 2024 Sep 19];4(3):278-293. Available from: https://dialnet.unirioja.es/servlet/articulo?codigo=6560181

31. Pezo Ramírez EB. Cuidados de enfermería en gestantes con preeclampsia atendidas en el Hospital Básico Dr Rafael Serrano López, La Libertad 2021 [Homepage on the Internet]. 2021 [cited 2024 Sep 19];Available from: https://repositorio.upse.edu.ec/handle/46000/6437

32. Figueroa Calderón I, Saavedra Moredo D, Torres Sieres Y de la, Sánchez Lueiro M. Eficacia del sulfato de magnesio en el tratamiento de la preeclampsia. Revista Cubana de Obstetricia y Ginecología [homepage on the Internet] 2012 [cited 2024 Sep 20];38(4):458-466. Available from: http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S0138-600X2012000400003&lng=es&nrm=iso&tlng=es

33. Peñarreta-Quezada SX, Yanza-Freire JA, Bejarano-Muñoz FV, Peñarreta-Quezada SX, Yanza-Freire JA, Bejarano-Muñoz FV. Actualización sobre las principales guías clínicas de manejo en trastornos hipertensivos del embarazo. Revista Información Científica [homepage on the Internet] 2023 [cited 2024 Sep 20];102. Available from: http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S1028-99332023000100064&lng=es&nrm=iso&tlng=es

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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