

Nursing Diagnoses and Interventions in Women with Hypertensive Disorders of Pregnancy: A Scoping Review

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Theme: Evidence-based practice.

Contribution to the subject: This study offers contributions to identifying diagnoses and interventions to formulate clinical indicators. However, it was possible to observe that the number of studies on the theme is still developing, which may indicate a probable devaluation in nurses' use of the Nursing Process. In addition, it is noted that the theme has been gradually implemented, and, with the findings, novel studies can promote care for women with pregnancy hypertensive disorders.

Abstract

Objective: To map the diverse scientific evidence on nursing diagnoses and interventions in women with pregnancy hypertensive disorders under Primary Health Care. **Materials and method:** A scoping review was conducted through nine stages in seven databases and the thesis and dissertation catalog of the Coordinating Office for Improving Higher Education Personnel. The search was performed from January to March 2021. **Results:** A total of 2,505 articles were retrieved, of which five were included in the final review. Nine primary diagnoses from the 2009-2011 version of NANDA-I were identified. Each diagnosis was classified according to physical, psychological, behavioral, and environmental characteristics. The interventions were related to controlling pain, anxiety, hemodynamic dysfunctions, self-esteem level, fluid replacement, patient/environment hygiene, and sleep-rest ratio. **Conclusions:** The nursing diagnoses and interventions presented in this study corroborate the clinical practice and aid nursing professionals' reasoning.

Keywords (Source: DeCS)

Pregnancy-induced hypertension; nursing diagnosis; standardized nursing terminology; primary health care; pregnant woman.

4 Diagnósticos e intervenciones de enfermería en mujeres con hipertensión inducida en el embarazo: revisión de alcance

Resumen

Objetivo: mapear las evidencias científicas acerca de los diagnósticos e intervenciones de enfermería en mujeres con hipertensión inducida en el embarazo en la atención primaria de salud. **Materiales y método:** *scoping review* en nueve etapas, en siete bases de datos y en el catálogo de tesis de la Coordinación de Perfeccionamiento de Nivel Superior de Brasil. Se realizó la búsqueda de enero a marzo de 2021. **Resultados:** se recopilaron 2505 artículos, de los cuales cinco se excluyeron en la revisión final. Nueve diagnósticos principales de la versión 2009-2011 de la NANDA-I. Se clasificó cada diagnóstico en cuanto a las características físicas, psicológicas, comportamentales y ambientales. Las intervenciones se relacionaron con el control del dolor, de la ansiedad, de las disfunciones hemodinámicas, del nivel de autoestima, de la reposición hídrica, de la higienización del paciente/ambiente y a la relación sueño-reposo. **Conclusiones:** los diagnósticos e intervenciones de enfermería presentados en el estudio corroboran la práctica clínica y auxilian en el razonamiento del profesional de enfermería.

Palabras clave (Fuente: DeCS)

Hipertensión inducida en el embarazo; diagnóstico de enfermería; terminología normalizada de enfermería; atención primaria de salud; mujeres embarazadas.

Diagnósticos e intervenções de enfermagem em mulheres com distúrbios hipertensivos da gravidez: revisão de escopo

Resumo

Objetivo: mapear as evidências científicas sobre os diagnósticos e intervenções de enfermagem em mulheres com distúrbios hipertensivos da gravidez na atenção primária à saúde. **Materiais e método:** *scoping review* em nove etapas, em sete bases de dados e no catálogo de teses e dissertações da Coordenação de Aperfeiçoamento de Nível Superior. Realizou-se a busca de janeiro a março de 2021. **Resultados:** 2505 artigos foram recuperados, dos quais cinco foram incluídos na revisão final. Nove diagnósticos principais da versão 2009-2011 da NANDA-I. Classificou-se cada diagnóstico quanto às características físicas, psicológicas, comportamentais e ambientais. As intervenções foram relacionadas ao controle da dor, da ansiedade, das disfunções hemodinâmicas, do nível de autoestima, da reposição hídrica, da limpeza do paciente/ambiente e à relação sono-repouso. **Conclusões:** os diagnósticos e intervenções de enfermagem apresentados neste estudo corroboram a prática clínica e auxiliam no raciocínio do profissional de enfermagem.

Palavras-chave (Fonte: DeCS)

Hipertensão induzida pela gravidez; diagnóstico de enfermagem; terminologia padronizada em enfermagem; atenção primária à saúde; gestantes.

Introduction

Global data reveal that Hypertensive Disorders of Pregnancy (HDPs) increased by 10.92% in 30 years, with their incidence rising from 16.30 million to 18.08 million cases and 27,830 deaths. In Latin America, the data on incidence and death are 3.29×10^4 and 0.42×10^3 million, respectively (1). In this sense, hypertensive disorders are significant pathologies that require specific care measures during pregnancy (1, 2).

HDPs constitute a group of clinical diseases that can interfere with the progression of pregnancy and, in some cases, lead to maternal and fetal death (3). The clinical spectra of these pathologies range from a chronic state, such as chronic arterial hypertension, to eclampsia, a cardioneural dysfunction with imminent seizures (4).

In treating HDPs and other conditions related to pregnancy, nurses play an essential role in prevention, identification, and health promotion activities, especially in primary prevention (5, 6). In the nurses' work process, the clinical and critical judgment stands out, highlighting human responses and culminating in formulating nursing diagnoses and interventions (7, 8).

Clinical judgment ability subsidized by standardized nursing languages applies. Standardized languages or taxonomies are forms of communication among nursing professionals worldwide by standardizing the professional language and assisting in writing and prescribing care. In the case of NANDA-I, in addition to standardization, there is the benefit of classifying human responses utilizing scientifically-validated diagnoses (8).

Systematizing care through diagnoses and interventions in clinical practice is related to the accuracy of health evidence, better patient quality of life, and reduced mortality (9). Therefore, efforts are implemented in the services and systems that provide care to the most different life cycle phases, especially during pregnancy, to consolidate terminological structures that assist nurses in health-related decisions (10).

A study that evaluated the difficulties nurses face in implementing the Systematization of Nursing Care revealed that the nursing diagnosis is one of the most challenging phases in the execution of the Nursing Process. However, it is the most used in professional practice, which is mainly related to a lack of time and the wrong reasoning that many nurses still have regarding human responses; in addition, it makes use of the limited diffusion of specialized language, a good nursing history, and excess of activities, which highlights the need to improve care quality (11).

However, even with the advances in standardized terminological languages and the use of international taxonomies, little has been produced about the care of pregnant women with hypertensive dis-

orders, which has become an essential scientific gap, especially for professionals dealing with this population segment.

It is through these health indicators, that is, nursing diagnoses, interventions, and records, that there is a possibility of scientific advancement in the profession with significant dissemination of knowledge, a wide crossing of data, and improvement of structures that promote the teaching, research, and propositional dialogic of critical judgment (9).

Thus, there is a need to unite nursing diagnoses and interventions as a complementary tool to the care practice, whose findings support nurses' critical and reflective judgment. From this perspective, scoping review studies analyze and identify knowledge gaps, becoming pertinent to the study. Consequently, the objective is to map the diverse scientific evidence about the nursing diagnoses and interventions in women with HDPs treated in Primary Health Care.

Materials and method

This scoping review is based on the guidelines proposed by the Joanna Briggs Institute and developed in nine stages: title; title and question development; introduction; inclusion criteria; research strategy; selection of the evidence sources; data extraction; analysis of the evidence, and presentation of the results (12).

The method follows the “PCC” acronym –Population, Concept, and Context– which assists in elaborating the research guiding question, comprising the topics listed below: Population – Hypertensive pregnant women; Concept – Nursing diagnoses and interventions; and Context – Primary care. Thus, the following guiding question was defined: “Which is the diverse scientific evidence about the nursing diagnoses and interventions in women with HDPs treated in Primary Care?”

The research was conducted in the following databases: Medical Literature Analysis and Retrieval System (MEDLINE) via PubMed, Web of Science (WoS), *Banco de Dados da Enfermagem* (BDEnf), *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS), and Cumulative Index to Nursing and Allied Health Literature (CINAHL) through access to the Journals portal of the Coordinating Office for Improving Higher Education Personnel (*Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*, CAPES). In addition, the search was extended to the CAPES thesis and dissertation catalog, including the gray literature. Data collection was conducted between January and March 2021. The articles were searched and analyzed by two different researchers, with a third being invited when there was disagreement regarding the inclusion of studies.

Descriptors from the Medical Subject Headings (MeSH) of the PubMed portal combined with the AND and OR operators were used for the MEDLINE and WoS databases. The Descriptors in Health Sciences (*Descritores en Ciências da Saúde*, DeCS) were used for the LILACS and BDeF databases, and the CINAHL titles were applied to the CINAHL database. For the CAPES database, the “nursing diagnosis” and “pregnancy-induced hypertension” descriptors were combined with the AND operator. Table 1 presents the search terms with the crossings used.

Table 1. Search strategy in the databases. Brazil, 2021

Database	Search strategy
MEDLINE	Descriptors (MeSH) [title/abstract]: “pregnant women” OR “hypertension, pregnancy-induced” OR “hypertensive pregnant women” AND “nursing diagnosis” OR “standardized nursing terminology” OR “classification of nursing interventions” OR “international classification for nursing practice” OR “NANDA-I” OR “CIPE terminology” OR “terminology in nursing” AND “primary care nursing” “primary health care”; “prenatal care.”
CINAHL	Descriptors (MeSH): “pregnant women” OR “hypertension, pregnancy-induced” OR “hypertensive pregnant women” AND “nursing diagnosis” OR “standardized nursing terminology” OR “classification of nursing interventions” OR “international classification for nursing practice” OR “NANDA-I” OR “CIPE terminology” OR “terminology in nursing” AND “primary care nursing”; “primary health care”; “prenatal care.”
WoS	Descriptors (MeSH): “pregnant women” OR “hypertension, pregnancy-induced” OR “hypertensive pregnant women” AND “nursing diagnosis” OR “standardized nursing terminology” OR “classification of nursing interventions” OR “international classification for nursing practice” OR “NANDA-I” OR “CIPE terminology” OR “terminology in nursing” AND “primary care nursing”; “primary health care”; “prenatal care.”
LILACS	Descriptors (DeCS): “pregnant women” OR “hypertension, pregnancy-induced” OR “hypertensive pregnant women” AND “nursing diagnosis” OR “standardized nursing terminology” OR “classification of nursing interventions” OR “international classification for nursing practice” OR “NANDA-I” OR “CIPE terminology” OR “terminology in nursing” AND “primary care nursing”; “primary health care”; “prenatal care.”
BDeF	Descriptors (DeCS): “pregnant women” OR “hypertension, pregnancy-induced” OR “hypertensive pregnant women” and “nursing diagnosis” OR “standardized nursing terminology” OR “classification of nursing interventions” OR “international classification for nursing practice” OR “NANDA-I” OR “CIPE terminology” OR “terminology in nursing” AND “primary care nursing”; “primary health care”; “prenatal care.”

Source: Own elaboration.

The inclusion criteria were established: complete studies available through CAPES electronic access, qualitative and quantitative empirical studies, literature reviews, and theoretical-reflective studies in Portuguese, English, or Spanish, which answered the guiding question. Duplicate studies were counted only once. However, studies related to the HDP care measures performed by other health team members were excluded, as well as those not that were not associated with primary care.

Initially, duplicate studies were removed after two researchers independently read the titles and abstracts; subsequently, those that did not meet the inclusion criteria were discarded. The researchers then independently reviewed the full texts. A third reviewer was called upon in case of disagreements. After applying the criteria, the articles selected were read in full, evaluated, and selected following the analysis of their references through the Mendeley manager in search of potential studies that could be incorporated. No period was predefined to find the highest possible number of articles related to the topic.

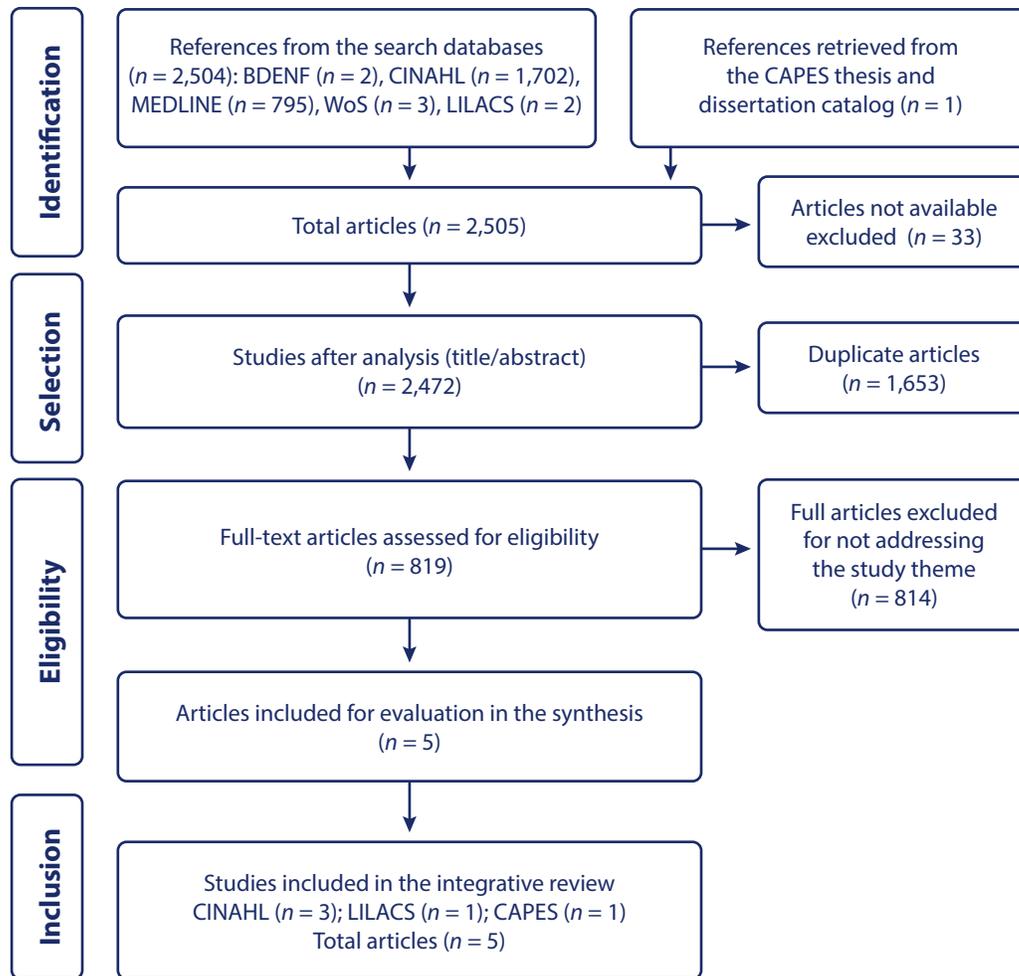
For analysis purposes, the NANDA-I diagnosis titles found in the studies were linked to the respective updates of the 2021-2023 version. Consequently, five articles were included in this review after the analysis.

The data were extracted into a Microsoft Excel® spreadsheet and later organized into tables: authors, year of publication, database, journal, country, design, sample, level of evidence, delivery type, gestational age, nursing judgment, and outcomes. Each article was described and analyzed narratively according to the pertinent literature. The diverse evidence was classified into seven levels: I – Evidence from systematic reviews or meta-analysis of clinical trials; II – Evidence from at least one well-designed controlled randomized clinical trial; III – Clinical trial studies without randomization; IV – Cohort and case-control studies with a detailed design; V – Systematic review of descriptive or qualitative studies; VI – Including at least one qualitative study; and VII – Opinion of authorities or experts' reports (13).

The study's methodological quality was ensured by the *Preferred Reporting Items for Systematic Review and Meta-Analyses Extension for Scoping Review – Prisma-ScR* checklist [14]. The PRISMA recommendations and a flowchart arranged in four phases were observed for selecting the studies (15), as described in Figure 1.

The study follows Resolution 510/2016 issued by the National Health Council, which waives approval by a Research Ethics Committee for review studies. However, the method, authorship, and fidelity of the data obtained are preserved.

Figure 1. Flowchart of the process of identification, selection, and inclusion of the studies according to the PRIS-MA recommendation. Brazil, 2021



Source: Own elaboration.

Results

The final sample comprised five studies published between 2004 and 2011, all from Brazil. Regarding the research design, all the studies are of the descriptive type. Concerning the sample, the studies included 71, 15, 10, 3, and 1 pregnant woman. The population of the studies corresponded to women with HDP diagnoses. The characterization of the studies is described in Table 2.

The diverse evidence was categorized according to the nursing judgment, represented by diagnoses or interventions. Portuguese, English, and Spanish publications on the theme investigated are scarce.

As for the nursing diagnoses, all the studies used different editions of the NANDA-I taxonomy, considering the 2009-2011 version (80 %) and one (20 %), the 1999-2000 version. The most frequent nursing diagnoses in women with HDPs are acute pain (00132), excess fluid volume (00026), and anxiety (00146). The primary diagnoses were listed in Table 3, and their characteristics were presented according to the literature.

Table 2. Characterization of the studies included in the review. Brazil, 2021

Author (year)	Country	Study design	Sample	Nursing judgment	Results	Level of evidence
Herculano, Maria, Sousa, Emille, Galvão, Caetano, <i>et al.</i> (2011) (16)	Brazil	Descriptive	Pregnant women (n = 1) Delivery type: C-section	Diagnoses and interventions	Six nursing diagnoses were identified: acute pain, anxiety, the risk of activity intolerance, readiness for enhanced self-care, the risk of disturbed maternal-fetal dyad, and impaired comfort	VI
Aguiar, Freire, Cruz, Linard, Chaves, Rolim (2010) (17)	Brazil	Descriptive	Pregnant women (n = 15) GA* = 24-40 weeks	Diagnoses and interventions	Eleven nursing diagnoses were found. The most frequent were: risk of infection, acute pain, low situational self-esteem, excess fluid volume, nausea, sleep deprivation, and risk of impaired liver function. Prescription of the care measures was performed based on the Nursing Intervention Classification.	VI
Reiners, Dióz, Teixeira, Gonçalves (2009) (18)	Brazil	Descriptive	Pregnant women (n = 10)	Diagnoses	Thirteen nursing diagnoses were identified, of which insufficient knowledge of their health problem, ineffective health maintenance, ineffective control of the therapeutic regime, anxiety, disturbed sleep pattern, disturbed self-image, disturbed sexuality patterns, and excess fluid volume were the most frequent.	VI
Santos, Silva, Silva, Aragão (2007) (19)	Brazil	Descriptive	Pregnant women (n = 3)	Diagnoses	In addition to insufficient knowledge, 15 diagnoses were related to the physiological changes inherent to pregnancy. Other diagnoses were related to the pathologies inherent to pregnancy, fatigue, sleep deprivation, and sleep pattern diagnoses.	VI
Gouveia, Lopes (2004) (20)	Brazil	Descriptive	Pregnant women (n = 71) Delivery type: forty-five vaginal deliveries and 30 C-sections	Diagnoses	The nursing diagnoses were determined according to the North American Nursing Diagnosis Association taxonomy. The nursing diagnoses found in 50 % or more of the pregnant women were a risk of infection, impaired health maintenance, impaired comfort, the risk of ineffective breastfeeding, disturbed sexuality patterns, fear, and pain.	VI

*GA: Gestational Age.

Source: Prepared by the authors.

Table 3. Primary diagnoses shown in the literature according to NANDA-I, Crato, Ceará, Brazil, 2021

Title	Acute pain
Domain	Domain 12 – Comfort
Class/Code	Physical comfort/00132
Characteristics	Physical: Headache (17), epigastralgia (17), pain in the right hypochondrium (17), pain in the lower abdomen (17), pain in the left lateral decubitus position (17), harmful biological agent (16), uterine contractions (18), spasms of lower back muscles (18)
Title	Excess fluid volume
Domain	Domain 2 – Nutrition
Class/Code	Hydration/00026
Characteristics	Physical: Urinary retention (17) and venous compression by gravid uterus (18)
Title	Anxiety
Domain	Domain 9 – Coping/Stress tolerance
Class/Code	Coping responses/00146
Characteristics	Psychological: Concern with a clear threat to maternal-fetal state (16), problems in the family with an actual threat to the fetus (18) Behavioral: Sleep pattern (16), eating habits (16) Environmental: Infant's health status (18) Physical: Physiological eliminations (17), delivery (18)
Title	Impaired comfort
Domain	Domain 12 – Comfort
Class/Code	Physical comfort/00214
Characteristics	Psychological: Anxiety (16-18), fear (16-18) Behavioral: Lack of control over the situation (17, 18) Physical: Feeling uncomfortable (16, 18), increased volume due to pregnancy (16, 18)
Title	Ineffective health maintenance
Domain	Domain 1 – Health promotion
Class/Code	Health management/00099
Characteristics	Psychological: Anxiety, motivation (18) Behavioral: Lack of time, number of household chores (18) Environmental: Lack of time (18) Physical: Barrier due to secondary understanding (18)
Title	Fear
Domain	Domain 9 – Coping/Stress tolerance
Class/Code	Coping responses/00148
Characteristics	Psychological: Delivery time (18)
Title	Risk of infection
Domain	Domain 11 – Safety/Protection
Class/Code	Infection/00004
Characteristics	Physical: Invasive procedures with peripheral accesses and indwelling bladder catheterization (17)

Title	Disturbed sleep pattern
Domain	Domain 4 – Activity/Rest
Class/Code	Sleep/Rest/00198
Characteristics	Psychological: Anxiety (16-18) Environmental: Change of environment (16-18) Behavioral: Stress (16-18) Physical: Physical discomfort in the positions in bed (16-18)
Title	Constipation and risk of constipation
Domain	Domain 3 – Elimination and exchange
Class/Code	Gastrointestinal function/00011 and 00015
Characteristics	Environmental: Changes in diet (18) Behavioral: Low intake of fibers and liquids (17) Physical: Decreased peristalsis in the face of pregnancy (18); irregular bowel movements (17); impaired physical mobility (19)

Source: Own elaboration.

Other less representative nursing diagnoses were the following: nausea associated with increased progesterone (17); ineffective sexuality pattern due to enlargement of the pregnant abdomen; dysfunction of urinary elimination and psychological problems (18); the risk of activity intolerance due to the presence of circulatory issues and clinical conditions such as pre-eclampsia and eclampsia (16), and fatigue (19, 20).

Less frequent diagnoses were low situational self-esteem (00153 [17]), insufficient knowledge (00126 [18]), ineffective health management (00078 [18]), bathing self-care deficit (00108 [20]), impaired dentition (00048 [20]), willingness to improve self-care (00182 [16]), disturbed body image (00118 [18]), impaired skin integrity (00046 [20]), impaired physical mobility (00085 [19]), disrupted family processes (00060 [18]), the risk of disturbed mother-fetus dyad (00209 [16]), the risk of impaired liver function (00178 [17]), ineffective breastfeeding (00104 [20]), and the chance for impaired fatherhood or motherhood (00057 [20]).

In general, diagnoses such as low self-esteem, disturbed body image, and interrupted family processes are related to the partner's absence in the hospitalization process, changes in the body, and departure of the partner from the house, respectively (17, 18). In addition, insufficient knowledge and ineffective health management are related to a lack of access to information, a lack of time, anxiety, and the number of tasks to manage (18).

Regarding fetal and maternal vitality, there is a risk of the mother-fetus dyad being disturbed due to pregnancy and the chance of impaired liver function related to complications during pregnancy, such as increased liver enzymes (TGO and TGP), in addition to a reduction in oxygen flow. Readiness for self-care is manifested in the search for independence in health maintenance (16). The nursing interventions are presented in Figure 2.

Figure 2. Primary nursing interventions implemented in women with HDPs. Ceará, Brazil, 2021

Nursing interventions
Monitoring hemodynamic dysfunctions (16, 17)
<ul style="list-style-type: none"> • Assessing the signs and symptoms of hepatic complications, instructing on low sodium and low protein diet, when necessary • Catheterization to improve urinary elimination, if necessary • Monitoring waste and taking down the characteristics • Assessing constipation • Elimination pattern • Hydro-air sounds
Patient or environment hygiene (16, 17)
<ul style="list-style-type: none"> • Handwashing • Monitoring closed drainage system and changing it every 15 days • Watching urine characteristics • Exchanging intravenous access every 72 hours • Aseptically managing infection-prone sites to ease the hygiene measures
Fluid replacement (16, 17)
<ul style="list-style-type: none"> • Assessing edema/anasarca • Assessing intake-elimination • Assessing hydration • Administering antiemetics • Intervals between fluids and food • Monitoring the vital signs and plasma and liver serum values
Anxiety management (16, 17)
<ul style="list-style-type: none"> • Early identification of the problem • Calming the patient down • Offering reliable information • Favoring the family's comfort • Promoting empathy and qualified listening • Controlling environmental stimuli
Sleep/Rest ratio (16, 17)
<ul style="list-style-type: none"> • Use of analgesics • Controlling environmental stimuli • Adapting the circadian rhythm • Recording the sleep pattern
Pain management (16, 17)
<ul style="list-style-type: none"> • Observing the systematic evaluation of local pain • Administering analgesics • Monitoring side effects • Monitoring lochia
Self-esteem level (16, 17)
<ul style="list-style-type: none"> • Maintaining self-esteem with an affirmation of positive points related to the pregnancy process; personal values are found, and new meanings are elaborated.

Source: Own elaboration.

The nursing interventions were related to the hemodynamic care of patients with HDPs. Thus, the care directed to hemodynamic issues with the characteristics of the disorders that affect the liver, kidneys, gastrointestinal and respiratory systems, both weakened by HDPs, stands out. In addition, fluid replacement and anxiety and pain control are essential to improve pregnant women's quality of life. Environmental cleaning and sleep and rest preservation are included in this type of care, in addition to better self-esteem levels.

Discussion

Monitoring pregnant women during the prenatal, delivery and postpartum periods is one of the nursing team's duties, especially for nurses who identify needs that can become health problems, such as HDPs (21, 22).

HDPs have four clinical spectra, namely: chronic hypertension, chronic hypertension with superimposed pre-eclampsia, pre-eclampsia, and gestational hypertension (4). They all require substantial clinical knowledge to identify the needs inherent to human responses and determine the best diagnoses, with a view to interventions and results aligned and accurate to each condition.

The Systematization of Nursing Care is the framework used in the nursing care organizational process; however, these activities can only be supported by the Nursing Process, which marks five well-defined, interrelated, interdependent, and recurrent stages; that is, it employs an operational tool to strengthen the essence of the professional nursing practice (23). However, the studies showed the diagnoses and interventions as stages included in the Nursing Process.

To support this practice, not only in the obstetrics area but also in all specialties, nursing has expanded the specialized terminologies and classification systems, with the NANDA International Taxonomy, the International Classification for Nursing Practice, and Classifications for Nursing Outcomes and Interventions as some of their representatives (24, 25). In this case, this research revealed NANDA-I as the most often used taxonomy among nursing professionals.

In this study, nurses have dedicated part of the nursing diagnoses directed to women with HDPs to the pain, fluid volume, and anxiety responses. A survey of 1,000 medical records of pregnant women in the pre-delivery and delivery rooms found that the pain diagnosis was the most frequent, related to uterine contractions (26).

Several studies relate anxiety and psychological problems in pregnant women to not having control over childbirth, dealing with premature, medicalized, and unexpected deliveries, and fearing for their life and their child's life (27, 28).

Regarding the excess fluid volume diagnosis, a study (29) proved the physiological factors that lead to the decrease in glomerular perfusion due to the increase in pressure as proposals for reducing the fluid volume; however, sodium intake and changes in the hormonal system can precipitate water retention. In pregnancies marked by hypertension, as in the studies found for the review, cardiography tests can reveal extracellular and cardiac output changes, which are different from pregnant women without complications due to increases in these parameters since the first gestational weeks (30).

Other diagnoses in the study were impaired comfort, ineffective health maintenance, fear, and risk of infection. The same diagnoses were noticed in a study conducted with parturient women in an obstetric center from Bahia, Brazil, in which all 152 women investigated had diagnoses of impaired comfort related to anxiety, fear, sleep deprivation, and others; risk of infection related to inadequate primary defenses; and fear related to increased tension. However, ineffective health management was only present in 40 % of pregnant women (31).

The feeling of fear, even with the delivery moment approaching, is an integral part of the maternal feelings, as it reflects a moment of vulnerability and anxiety, which may or may not alter psychological and emotional well-being (32). In the risk of infection, it is vital to highlight the complications related to urinary tract infection during pregnancy, anesthesia, and the professional actions themselves, in addition to invasive devices (33).

The constipation diagnosis was found in three studies included in this review. Constipation is related to bad eating habits, such as low fiber and water intake, and a low or nonexistent relationship with physical activity (34). In turn, a research study (35) showed that a sedentary lifestyle and a Body Mass Index greater than 24 influence intestinal transit, leading to constipation in pregnancy.

Nausea was another diagnosis found in this review. In this case, hyperemesis gravidarum is a major complication of nausea and vomiting in pregnancy. Medications such as ondansetron and metoclopramide proved good for symptom remissions (36).

The “ineffective sexuality pattern” and “risk of activity intolerance” diagnoses, cited in studies conducted with women with HDPs, were also made in most pregnant women. The sexuality pattern is intertwined with positive and negative changes related to the discomforts of pregnancy and psychological changes, making it extremely necessary to change the sexual practices, as required by the pregnant woman, often linked to the fear of “touching the infant” (37). Activity intolerance is based on the premise that weight interferes with exercise, a fact refuted by different studies showing that moderate to light physical activities have positive impacts both on the fetus and the mother, improving growth and development, even in activities of daily living (38, 39).

Fatigue was the last diagnosis most often quoted in the studies, reaching 40 %. A study conducted with 582 pregnant women in Iran showed that this symptomatology is associated with low quality in the marital relationship and with little or no support from the husband in the puerperal-pregnancy process (40). Other 5,079 pregnant women reported frequent fatigue at the beginning of their pregnancies, affecting sleep quality (41).

Other diagnoses were rarely mentioned by the authors of the studies included in the review: risk of impaired fatherhood or motherhood, ineffective health management, insufficient knowledge, interrupted family processes, the risk of disturbed mother-fetus dyad, and the risk of constipation. These diagnoses align with a review on high-risk pregnancies (42) and the concept of the mother-fetus dyad (43).

This review also found low situational self-esteem, bathing self-care deficit, impaired skin integrity, disturbed body image, and ineffective breastfeeding. Chronic or situational low self-esteem is reported as an association between suicidal ideation, loneliness, ineffective coping, rumination, hopelessness, insomnia, and the search for self-affirmation; this is related to readiness for the entire pregnancy process and has a direct impact on their decisions and emotions (44).

A review with a sample of studies with nursing theories, such as King and Orem, observed that the bathing self-care deficit and impaired skin integrity diagnoses are found in many of the women interviewed. It is caused by a lack of knowledge of agents interfering with the thermal stability of the skin and appendages. Pregnant women end up using them due to widespread knowledge or because of the damage to the skeletal muscle caused by pregnancy (45). These data corroborate the study in question.

Regarding the disturbed body image diagnosis, previously reported as difficulty perceiving the body or interference from the partner, a longitudinal study (46) reports little association with depressive symptoms and eating disorders. It led us to consider that this diagnosis is associated with Body Mass Index and psychological variables, in addition to eating behaviors.

In this study, the “ineffective breastfeeding” diagnosis was associated with the puerperal phase. Among 30 puerperal women analyzed in a study conducted in the Primary Care context, 40 % had an ineffective breastfeeding diagnosis. The main characteristics were anxiety and offering supplementary food to the infant (47). It shows significant weaknesses in breastfeeding in pregnant women with and without comorbidities.

Other diagnoses cited in the studies were “risk of impaired liver function,” “impaired dentition,” and “impaired physical mobility.” Regarding this last diagnosis, lumbosacral pain stands out

as the morbidity with the highest incidence for pregnant women, who need physiotherapy, nerve stimulation, acupuncture, and pelvic cycles, in addition to non-pharmacological and pharmacological methods for pain relief (48).

Willingness to improve self-care, also reported in this review, can be associated with the use of scales, counseling, and home visits as more effective methods that directly affect care before, during, and after delivery. Light technologies are the most effective care for pregnant women, given the inherent need for mental health, sexual life, and physical and biopsychosocial adaptation (49).

The nursing interventions that stood out were those aimed at patient/environment hygiene, pain management, self-esteem level, fluid replacement, sleep-rest ratio, monitoring of hemodynamic dysfunctions, and anxiety management. These interventions can also be structured according to the literature (24, 26).

As for the limitations, few studies still focus on nursing diagnoses and interventions for women with HDPs, precluding generalizations. Similarly, it may suggest the devaluing of nurses' use of the Nursing Process.

The study offers contributions to finding diagnoses and interventions that enable the formulation of clinical indicators. It is noted that the theme has been gradually implemented, and, with the findings, novel studies can promote care for pregnant women with HDPs.

Conclusions

This study's nursing diagnoses and interventions corroborate the clinical practice and help nursing professionals' reasoning. The focus on human responses reveals a slight prevalence of diagnoses related to sensory perception and fluid dysfunction, in addition to those of an emotional nature.

The diagnoses shown are implemented in the hospital environment. They can reveal a portrait of reality, influencing workable changes according to the needs of each pregnant woman, which aids in good, organized, and objective targeting of the priorities that should be the focus of nurses' interventions.

Based on the diagnoses, nurses meet the needs of women with HDPs and can direct a therapeutic care plan that ensures good quality and scientifically-based care. It is expected that the study will encourage nurses to conduct research that includes diagnoses and interventions for women with HDP, favoring decision-making and aiding in clinical management.

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