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

ORIGINAL ARTICLE

PROFILE OF PREGNANT WOMEN WITH HYPERTENSIVE SYNDROME IN A PUBLIC MATERNITY

PERFIL DE GESTANTES COM SÍNDROME HIPERTENSIVA EM UMA MATERNIDADE PÚBLICA

PERFIL DE GESTANTES COM SINDROME HIPERTENSIVA EN UNA MATERNIDAD PÚBLICA

Mércia de França Nóbrega[1], Maria Teresa Botti Rodrigues Santos[2], Rejane Marie Barbosa Davim[3], Luciana Ferreira Monteiro e Oliveira[4], Érica Surama Ribeiro César Alves[5], Erta Soraya Ribeiro César Rodrigues[6]

ABSTRACT

Objective: to evaluate the profile of pregnant women with Hypertensive Syndrome in Pregnancy; to characterize demographic conditions. ***Method:*** descriptive, retrospective and documentary study with quantitative approach and developed in the Maternity Dr. Peregrino Filho in Patos/PB. The study population consisted of 468 medical records of pregnant women that had undergone cesarean section from January 2008 to December 2012, through a chart elaborated in the Service of Medical Records and Statistics (*SMRS*). Data were entered into Excel database and processed in SPSS Inc version 18.0 to carry out descriptive analysis. ***Results:*** mild preeclampsia was the most diagnosed. Ages between 19 and 25 years, single, living in the urban area, brown-skinned, between 35 to 40 weeks of pregnancy. Rooming-in was the most used, first pregnancy with use of methyldopa. ***Conclusion:*** hypertensive disorders deserve special emphasis on public health, starting with high quality of prenatal care and treatment in hospital environment. ***Descriptors:*** Preeclampsia; Eclampsia; Pregnant Women; Maternity.

RESUMO

Objetivo: avaliar perfil de gestantes com Síndrome Hipertensiva da Gestação; caracterizar condições demográficas. ***Método:*** estudo descritivo, retrospectivo documental, com abordagem quantitativa, desenvolvido na Maternidade Dr. Peregrino Filho em Patos/PB. A população do estudo foi composta por 468 prontuários de gestantes submetidas à cesariana no período de janeiro de 2008 a dezembro de 2012, por meio de ficha elaborada no Serviço de Arquivo Médico e Estatística (*SAME*). Os dados foram digitados em banco de dados do Excel e processadas no SPSS Inc versão 18.0 para proceder às análises descritivas. ***Resultados:*** a pré-eclâmpsia leve foi a mais diagnosticada. Idades entre 19 a 25 anos, solteiras, residentes na zona urbana, cor parda, entre 35 a 40 semanas de gestação. O alojamento conjunto foi o mais utilizado, primigestas com uso de metildopa. ***Conclusão:*** as síndromes hipertensivas merecem especial destaque na saúde pública, iniciando com pré-natal de qualidade e tratamento em ambiente hospitalar. ***Descritores:*** Pré-Eclâmpsia; Eclâmpsia; Gestantes; Maternidade.

RESUMEN

Objetivo: evaluar el perfil de gestantes con Síndrome Hipertensivo de la Gestación; caracterizar condiciones demográficas. ***Método:*** estudio descriptivo, retrospectivo documental, con enfoque cuantitativo, desarrollado en la Maternidad Dr. Peregrino Filho en Patos/PB. La población del estudio fue compuesta por 468 prontuarios de gestantes sometidas a la cesárea en el período de enero de 2008 a diciembre de 2012, por medio de formulario elaborado en el Servicio de Archivo Médico y Estadística (*SAME*). Los datos fueron digitados en banco de datos de Excel y procesados en SPSS Inc versión 18.0 para proceder a los análisis descriptivos. ***Resultados:*** la pre-eclampsia leve fue la más diagnosticada. Edades entre 19 a 25 años, solteras, residentes en la zona urbana, color parda, entre 35 a 40 semanas de gestación. El alojamiento conjunto fue el más utilizado, primer embarazo con uso de metildopa. ***Conclusión:*** los síndromes hipertensivos merecen especial destaque en la salud pública, iniciando con pre-natal de calidad y tratamiento en ambiente hospitalario. ***Descriptores:*** Pre-Eclampsia; Eclampsia; Gestantes; Maternidad.

[1]Nurse, Master in Health Sciences, UNICSUL. São Paulo (SP), Brazil. Email: mercialafi@hotmail.com; [2]Odontologist, Dental surgeon, Faculty of Dentistry/USP, PhD in Health Sciences, Coordinator of the Dental Institute of Undergraduate and Post-Graduate Dentistry, University of Cruzeiro do Sul/UNICSUL. São Paulo (SP), Brazil. Brazil. Email: drsantosmt@yahoo.com.br; [3]Nurse Midwife, PhD Professor in Health Sciences, Federal University of Rio Grande do Norte/UFRN. Natal (RN), Brazil Email: rejanemb@uol.com.br; [1]Nurse, Master in Health Sciences, UNICSUL. São Paulo (SP), Brazil. Email: ericasurama@bol.com.br; [1]Nurse, Master in Health Sciences, UNICSUL. São Paulo (SP), Brazil. Email: lucianafmonteiro2003@ig.com.br; [1]Nurse, Master in Health Sciences, UNICSUL. São Paulo (SP), Brazil. Email: soraya-cesar@outlook.com

INTRODUCTION

Hypertensive Syndromes in Pregnancy (HSP) deserve special attention in the global health scenario because they represent the third cause of maternal mortality worldwide and the first cause in Brazil. In developed countries, approximately two to eight in every 100 pregnant women will develop the event, while in Brazil the incidence can reach 10% of cases. Thus, due to the severity of the disease, this is considered as an important cause of hospitalization in Maternal Intensive Care Unit (Maternal ICU) and sometimes included as criteria for severe maternal morbidity.[1]

In most of pregnancies, evolution occurs without complications. However, there is a portion of pregnant women who have certain characteristics or suffer from an illness that endanger the health of the mother and fetus. Among the maternal diseases that occur during gestation, the pregnancy-induced hypertension is the one that causes adverse effects on maternal and fetal body.[2]

The main cause of maternal and fetal morbidity and mortality are hypertensive complications. Hypertensive disorders of pregnancy affect 7.5% of Brazilian women. The World Health Organization (WHO) defines maternal death one where the woman dies during pregnancy or within a period of 42 days after the termination of pregnancy, irrespective of the duration or location of the pregnancy.[4]

Arterial hypertension (AH) is considered a public health problem. Its prevalence varies according to age, sex, race, obesity and associated diseases such as diabetes and kidney disease.[5] Hypertension in pregnant women is defined by the presence of systolic blood pressure equal to or higher than 140 mmHg and diastolic blood pressure equal to or greater than 90 mmHg. To be detected, two measurements should be observed within an interval of four hours.[6]

According to the hypertensive state, AH is classified into three major categories: pregnancy-induced hypertension (preeclampsia and eclampsia); chronic hypertension preceding pregnancy and hypertension with toxemia superimposed on pregnancy, besides its clinical outcomes such as premature placental abruption (PPA), intrauterine growth restriction (IUGR), maternal and fetal death, prematurity, pulmonary and cerebral edema.[7-8]

Preeclampsia is a multisystem disorder exclusive of pregnancy and characterized by hypertension and proteinuria with development triggered in the 20th week of pregnancy.[9] When delayed, its onset occurs in the 34th gestational week.[10] The detection of the protein previously to the 20th week of pregnancy suggests pre-existing renal disease.[11]

According to the criteria established by the National Blood Pressure Education Program Working Group (NHBPEPWG), preeclampsia may be clinically characterized in the mild and severe forms. It is a syndrome with unknown cause and characterized by vasospasm, endothelial activation and activation of the coagulation system with alteration in blood pressure control.[4] A complex disease with unknown etiology and a disorder of pregnancy that negatively affects mother/baby.[12]

Notably, among risk factors that increase the likelihood of a pregnancy to develop preeclampsia are diabetes, kidney disease, obesity, multiple pregnancy, primiparity, age over 30 years, personal history and/or family history of preeclampsia, chronic hypertension and ethnicity. The increase in blood pressure causes deleterious effects on various systems, particularly on the vascular, hepatic, kidney and brain systems.[13-14]

Mild preeclampsia begins due excessive and sudden weight gain (greater than or equal to 500g/week) followed by generalized edema and hypertension. Present of BP <160/110 mmHg in at least two measurements taken after the 20th week of pregnancy in women who have never had hypertensive manifestation; presence of proteinuria between 300mg and 2g in 24 hours which can rapidly progress to more severe forms without necessarily presenting all criteria of severity.[11,15-16] Brain symptoms are headache, dizziness, blurred or gastrointestinal vision(epigastric pain, nausea or vomiting, or thrombocytopenia and liver enzyme abnormalities) even in the absence of proteinuria.[5]

Severe pre-eclampsia presents the following findings: BP> or = 60/110 mmHg (GUIMARÃES, 2014).[16] Presence of 2.0g additional proteins in the urine of 24 hours; diuresis (urine volume) less than 500 ml/day or 15 ml/minute; serum creatinine greater than 1.2 mg/dl; major headache, vomiting and visualization of scotomas, signs of heart failure, abdominal pain, especially on the region of the liver; decreased number of platelets in the blood and disturbance of factors responsible for the presence of amniotic fluid in small fetus for the gestational age. Pregnant women who present

severe preeclampsia should be compulsorily admitted to high-risk ward and subjected to absolute rest.[17]

Eclampsia is the appearance of seizures in a pregnant woman with preeclampsia.[18] It can occur during pregnancy, childbirth or within 10 days postpartum and is defined by the manifestation of generalized tonic-clonic seizures and/or with pregnant women with hypertension or preeclampsia in the absence of neurological diseases.[19] It can occur during pregnancy, childbirth and immediate postpartum.[20] Its manifestation before the 20th week of pregnancy is rare and when it happens, the diagnosis of hydatidiform mole or antiphospholipid antibody syndrome must be rejected.[19] Usually, seizures are preceded by warning signs; the most common are headache and visual disturbances such as diplopia, blurred vision and scintillating scotoma.[4] The most frequent causes of death in eclampsia cited were congestive heart failure, strokes and complications of obstetric surgeries.[8]

When eclampsia occurs during late pregnancy, labor must be anticipated by identifying the major causes of pre-eclampsia before the onset of seizures.[21] When eclampsia occurs during childbirth, labor is accelerated, the mother begins to improve after death or expulsion of the fetus, within 12 to 24 hours. In postpartum eclampsia, seizures occur soon after birth almost always within 24 hours.[8] Recent mothers should be counseled about the possibility of complications and warning signs of eclampsia at the moment of discharge from the hospital.[5]

Maternal and perinatal morbidity and mortality are still high in Brazil and this is incompatible with the current economic and social development of the country. Prenatal care requires dynamic assessment of risk situations. The monitoring of an effective prenatal care and the simple act of measuring blood pressure can prevent or control the hypertensive state of pregnancy as well as HSP.[20-23]

The motivation to obtain data on the profile of women with HSP came during a work developed as a clinical nurse in the maternity Dr. Peregrino Filho in Patos/PB, where high number of admissions of pregnant women diagnosed with the disease to be studied was observed, since this is a reference hospital for the surrounding municipalities.

Because this is a condition with injuries to maternal and child health, and high morbidity and mortality rate, the following questions were raised: what is the number of women affected by HSP from January 2008 to December 2012 at the Maternity Dr. Peregrino Filho? What are the demographic characteristics, clinical forms, gestational week, parity and use of medications recorded in the medical charts of these pregnant women? We expect that this research may significantly contribute to studies related to HSP for professionals working in the field of obstetrics. Based on these questions, the following objectives were developed:

- Evaluate the profile of pregnant women with Hypertensive Syndrome of Pregnancy;
- Characterize demographic conditions; identify clinical forms and sectors of hospitalization;
- Identify the gestational week at the moment of hospitalization;
- Quote parity and use of medications.

METHOD

Descriptive, retrospective and documentary study with a quantitative approach developed at the Public Maternity Dr. Peregrino Filho, located in the city of Patos in the Paraíba Hinterland, 300 km away from the capital João Pessoa/PB, a medium-sized municipality with a predominantly urban population and totaling 104.716 inhabitants with reference to 46 surrounding municipalities. Since May 2012, this assists pregnant and postpartum women in Maternal ICU.[24]

The population consisted of 468 medical records of pregnant women that had undergone cesarean section from January 2008 to December 2012 with information contained in the records of users and with confirmed diagnosis of HSP.

As inclusion criteria to participate in the survey the following points were observed: have been assisted in the maternity Dr. Peregrino Filho in the period of survey; Diagnostic of HSP; availability of all information necessary for completing the data collection instrument in the chart.

Before starting the research, the study was authorized by the director of the Maternity Dr. Peregrino Filho, submitted to Brazil Platform for appreciation of the Ethics Committee of the Integrated Colleges of Patos (FIP/PB) Protocol CAAE nº: 2043513.5.0000.5181.

Data were collected by the researcher in the hospital through a form previously elaborated in Service of Medical Records and Statistics (*SMRS*). Forty-two records, on average, were evaluated per day in the period from 18 October to 27 December 2013, with an estimated collection time of 8 hours per

week. Collected data included demographic characteristics such as age, marital status, skin color and specific issues: gestational week, parity, use of medications, clinical forms and sectors of hospitalization. The information examined in archived records were medical diagnosis, BP of pregnant women at admission, prescription of specific medications for HSP, parity, demographic data (filled by the receptionist), and some incomplete records in this item. Data were collected in the evolution of nursing to ascertain the place of hospitalization.

All variables transcribed from records were entered into Excel database and processed in Statistical Package Program for Sciences (SPSS Inc, Chicago, USA) version 18.0 to make the descriptive analysis.

RESULTS

The results of this study indicate a higher prevalence of pregnant women aged between 19 to 25 years, according to diagnoses in medical records. High rate (63.40%) of single women with complications and predominance of HSP in urban areas (73.50%) were observed. As for color, white was the most evident in 2008 (59.20%) and 2009 (68.20%) and the less evident in 2012 (11.30%). On the other hand, the higher prevalence of brown skin color was found in 2012 (87.60%) and the lower prevalence of this color was seen in 2008 (59.20%). Black-skinned had little impact, the highest ones were in 2008 (3.90%) and 2010 (3.80%).

It was found that 76.30% of women with HSP were between 35 and 40 weeks of gestation. According to data collected from medical records, it was observed that most women with HSP were in the first pregnancy: in 2008 (68.40%); 2009 (60.60%) and 2010 (55.80%); the other pregnant women had low incidence. Mild preeclampsia based on the values of blood pressure (BP) were evident in the medical records. The highest incidence was observed in 2008 (73.70%) and the lowest in 2011 (52.50%). Severe preeclampsia had higher incidence in 2010 (32.90%) and eclampsia in 2011 with 16.90% of cases.

With respect to prescribed medications, there was Hydralazine in 2010 (32.10%) and 2011 (32%); Methyldopa in 2008 (51.10%); Nifedipine 2008 (32.10%) and 2009 (33.10%) and magnesium sulfate in 2012 with 13.50%. As for the hospital sector, higher prevalence in Maternal ICU was seen in the year 2012 (16.50%) and the lowest in 2009 (1.50%). High risk ward prevalence was higher in 2010 (38.50%); 2008 (30.30%) and 2011 with 30.50% the lowest in 2012 with 10.30% of the cases. In rooming-in, higher prevalence of hospitalizations was seen in 2009 (80.30%); 2012 (73.20%) and the lowest in 2008 (69.70%) and 2010 with 62% of cases.

DISCUSSION

There was a high number of early pregnancy among young women and adolescents in this study. Similar results were found in pregnant women aged between 15 and 19 years (45.45%) and 13.63% between 20 and 24 years[6], opposing scholars who reported the age group of women at 35 to be predisposed to occurrence of preeclampsia.[25]

There was high number of single women, corroborating the study of authors[26] that emphasize the predominance of young people aged between 15 and 19 years developing HSP, in contrast to a documentary descriptive research conducted in São Paulo/SP that report a percentage of 86.36% of married women and only 9.09% of single women.[6]

There was a predominance of HSP in the urban area, confirming the findings ofa study by authors in 2011 that point to 58% of participants residing in urban areas followed by 42% in rural areas. The authors justify this explaining that, in certain areas, there are restrictions on access and lack of physical infrastructure, equipment and qualified professionals.[26]

In this research, there was a prevalence of brown-skinned women, also found in a research where the authors report a predominant risk factor for non-white skinned women (92.54%), a fact related to the great miscegenation typical of Brazil.[23] Other authors[6] contradict this when they identify a prevalence of white skinned women (54.54%) against non-white women (40.90%) in a study developed in a public hospital in São Paulo/SP. Still within this perspective,[27] a research with women affected HSP in a hospital in Sorocaba/SP found a prevalence of 176 white-skinned women against 55 not white.

It was found in the present study that 76.30% of women with HSP were between 35 and 40 weeks of gestation. This corroborates a study conducted in 2010 that showed the same indices, women who developed SHG with gestational age between 25 and 40 weeks.[28] However, another study found women over 37 weeks (60%) while the others (40%) were in a period between the 30th and the 37th week at the same hospital in this study, thus giving another look at HSP.[16]

According to the data collected from medical records, most women with HSP were primigravidae. A study carried out in India found that the higher incidence of HSP occurred among primigravidae, young women with preeclampsia in previous pregnancies.[29]

There is a shortage of articles reporting the occurrence of HSP in multiparous women and, thus, there is a gap in the discussion of this topic, evidenced prevalence of women with HSP among women pregnant of the first child.

Prevalence of women with mild preeclampsia according to BP values recorded in the medical records was evident in this study. Studies state that, in other countries like those from Africa, Asia, Latin America and the Caribbean, eclampsia accounts for 60-100% of maternal deaths related to HSP[19] and the lack of assistance to women with preeclampsia or its unfavorable outcome can lead to death, making this disease the main responsible for maternal mortality in Latin America and the Caribbean, including Brazil.[30] Other researchers argue that women diagnosed with preeclampsia after 28 weeks, and in the severe form, evolved to eclampsia with increased BP of 180x120 mmHg.[31] Another study illustrates that during the period from 2000 to 2010, 211 pregnancies diagnosed with preeclampsia were selected. Most patients had the severe for of the disease (82.8%) as seen in the clinic and maternity the hospital of clinics of the UFMG.[10]

In this research, it was observed that pregnant women made use of more than one drug during their hospitalization, or made use of a combination of medications to better success and reduction of signs and symptoms of a HSP. In hypertensive crisis, while preparing to terminate the pregnancy, antihypertensive drugs are administered to prevent serious complications, especially stroke. Among the most orally administrated drugs were α-methyldopa, ß-blocker (propranolol), and calcium channel blockers (nifedipine and nicardipine), while intravenous drugs such as hydralazine are mostly used in hypertensive emergencies,[32] corroborating the treatment of HSP in women that are in serious condition with intravenous administration of magnesium sulfate (loading doses and maintenance) as a prophylactic and curative medicinev for inhibition and remission of seizures of users, respectively. The definitive treatment of preeclampsia is the childbirth. Depending on factors such as gestational age, gravity, fetal well-being and presence or absence of complications, termination of pregnancy may be indicated.[33]

Pregnant women who develop HSP are subjected to hospitalization in maternal ICU and generally, this need is accentuated after the thirtieth week.[34] Importantly, the data found in this study are in agreement with the findings in the literature. Analyzing the medical records of pregnant women admitted to the Maternal ICU of the Public Maternity Dr. Peregrino Filho in Patos/PB has the information on the number of pregnancies that each patient had had.

The HSP is a serious public health problem in Brazil and managers should be alert to the implementation of more tailored health policies directed to the health of those users with qualitative and quantitative association of prenatal care, individualising reference and counter-reference of pregnant women to obstetric specialties, showing the itinerary of them in the SUS.[35]

CONCLUSION

Mild preeclampsia was the HSP most frequently found in pregnant women in this study and they were aged betwee19 to 25 years old, single, living in an urban area, brown-slkinned and with 35 to 40 weeks of gestation. The rooming-in was the most prevalent sector in hospitalization for postpartum women in their first pregnancy and making use of methyldopa.

Therefore, it was observed that HSP deserve special attention in the public health scenario starting with prenatal care of high quality and especially hosting the pregnant woman/companion, as well as treatment for these women in a hospital setting in order to decrease in maternal/fetal mortality.

REFERENCES

1. Neto HC, Sá. RAM. Obstetrícia Básica. 2nd ed. São Paulo: Atheneu; 2007.

2. Chaim SRP, Oliveira SMJV, Kimura AF. Hipertensão arterial na gestação e condições neonatais ao nascimento. Res Acta paul enferm [Internet]. 2008 [2015 Nov 03];21(1):53-8. Available from: http://www.scielo.br/scielo.php?pid=S0103-21002008000100008&script=sci_abstract&tlng=pt

3. Laurenti R, Jorge MPHM, Gotlieb SLD. A mortalidade nas capitais brasileiras: algumas características e estimativa de um fator de ajuste. Res. Bras. Epidemiologia. [Internet]. 2004 [cited 2015 Nov 03];7(4):449-60 2004. Available from: https:/;/www.nescon.medicina.ufmg.br/biblioteca/registro/A_mortalidade_materna_nas_c

apitais_brasileiras__algumas_caracteristicas_e_estimativa_de_um_fator_de_ajuste_1/291

4. Freitas F. Rotinas em obstetrícia. 5ª ed. Porto Alegre: Artmed, 2007.

5. Freire CMV, Tedoldi CL. Hipertensão arterial na gestação. Arq. Bras. Cardiol [Internet]. 2009 [2015 Nov 03];93(6):159-65. Available from: http://www.scielo.br/scielo.php?pid=S0066-782X2009001300017&script=sci_arttext

6. Gonçalves R, Fernandes RAQ, Sobral DH. Prevalência da doença hipertensiva específica da gestação em hospital público de São Paulo. Rev. bras enferm [Internet]. 2005 [2015 Nov 03]; 58(1):61-4. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0034-71672005000100011

7. Silva EF, Cordova FP, Chachamovich JLR, Záchia SA. Percepção de um grupo de mulheres sobre a doença hipertensiva especifica da gestação. Rev. Gaúcha de Enferm [Internet]. 2011 [cited Nov 03 2015];32(2):316-22. Available from: http://www.scielo.br/scielo.php?pid=S1983-14472011000200015&script=sci_arttext

8. Ziegel EE, Cranley MS. Enfermagem obstétrica. 8ª ed. Rio de Janeiro: Guanabara Koogan, 2011

9. Figueiró Filho EA, Oliveira VM, Coelho LR, Breda I. Marcadores sérios de trombofilias hereditárias e anticorpos antifosfolípides em gestantes com antecedentes de pré-eclâmpsia grave. Rev. Bras. Ginecol Obstet [Internet]. 2012 [2015 Nov 03];31(1):40-1. Available from: http://www.scielo.br/scielo.php?pid=S0100-72032012000100008&script=sci_arttext

10. Reis ZSN, Lage EM, Teixeira PG, Porto LB, Guedes ECLO, Cabral ACV. Pré-eclâmpsia precoce e tardia: uma classificação mais adequada para o prognóstico materno e perinatal? Rev Bras Ginecol Obstet [Internet]. 2010 [2015 Nov 03];32(12):584-90. Available from: http://www.scielo.br/scielo.php?pid=S0100-72032010001200004&script=sci_arttext

11. Rezende Filho J, Montenegro CAB. Obstetrícia fundamental. 12ª ed. Rio de Janeiro: Guanabara Koogan, 2011.

12. Barden AE, Corcoran TB, MAS E, Durand T, Galano JM, Roberts LJ et al., Is There a Role for Isofurans and Neuroprostanes in Pre-Eclampsia and Normal Pregnancy? Antioxid Redox Signal. [Internet]. 2012 [cited Nov 1 2015];16(2):165-9. Available from: http://www.ncbi.nlm.nih.gov/pubmed/21827297

13. Assis TR, Viana FP, Rassi S. Estudo dos principais fatores de risco maternos nas síndromes hipertensivas da gestação. Arq. Bras. Cardiol [Internet]. 2008 [2015 Nov 03];91(1):11-7. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0066-782X2008001300002

14. Cavalli RC, Sandrim VC, Santos JETS, Duarte G. Predição de pré-eclâmpsia. Res. Bras. Ginecol. Obstet. [Internet]. 2009 [cited 2015 Nov 03];31(1):1-4. Available from: http://www.scielo.br/scielo.php?pid=s0100-72032009000100001&script=sci_arttext

15. Zugaib M. Obstetrícia. 1ª ed. Barueri: Manole; 2008.

16. Guimarães JP, Medeiros LG, Oliveira FCS, Oliveira SF. A prevalência de gestantes portadoras de SHEG que evoluíram para síndrome HELLP em uma maternidade pública. Revista brasileira de educação e saúde. [Internet]. 2014 [cited 2015 Nov 03]; 4(1):1-17. Available from: http://www.gvaa.com.br/revista/index.php/REBES/article/view/2572/2013

17. Oliveira LG, Karumanchi A, Sass N. Pré-eclâmpsia: estresse oxidativo, inflamação e disfunção endotelial. Res. Bras. Ginecol. Obstet. [Internet]. 2010 [cited 2015 Nov 03]; 32(12):609-16. Available from: http://www.scielo.br/scielo.php?pid=S0100-72032010001200008&script=sci_arttext

18. Peixoto MV, Martinez MD, Valle NSB. Síndromes hipertensivas na gestação: estratégia e cuidados de enfermagem. Rev. Edu. Meio Amb. Saúde. [Internet]. 2008 [cited 2015 Nov 03]; 3(1):208-22. Available from: http://www.faculdadedofuturo.edu.br/revista/2008/pdfs/REMAS3%281%29208a222.pdf

19. Peraçoli JC, Parpinelli MA. Síndromes hipertensivas da gestação: identificação de casos graves. Rev Bras Ginecol Obstet [Internet]. 2005 [cited 2015 Nov 03]; 27(10):627-34. Available from: http://www.scielo.br/scielo.php?pid=S0100-72032005001000010&script=sci_abstract&tlng=pt

20. Ministério da Saúde (Brasil). Gestação de alto risco: manual técnico. 5th ed. Brasília, 2010.

21. Ricci SS. Enfermagem materno-neonatal e saúde da mulher.1st ed. Rio de Janeiro: Guanabara Koogan, 2008.

22. Ministério da Saúde (Brasil). Conselho Nacional de Saúde. Resolução nº 466/2012. Dispõe sobre pesquisa envolvendo seres humanos. Brasília: DF, CONEP, 2012.

23. Gomes AS, Chaves AFL, Silva RB, Damasceno AKC, Franco RGMF, Uriá MOB. Análise dos níveis pressóricos em gestantes no diagnóstico precoce da síndrome hipertensiva gestacional. Rev. Eletr. Enf [Internet]. 2013

[cited 2015 Nov 03];15(4):923-31. Available from: https://www.fen.ufg.br/fen_revista/v15/n4/v15n4a09.htm

24. Instituto Brasileiro de Geografia e Estatística (IBGE). Dados Básicos. Localização; Área; População. Rio de Janeiro: IBGE; 2013.

25. Andrade PC, Linhares JJ, Martinelli S, Antonini M, Lippi UG, Bacarat FF. Resultados perinatais em grávidas com mais de 35 anos: estudo controlado. Rev Bras Ginecol Obstet. [Internet]. 2004 [cited Nov 01 2015];26(9):697-701. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0100-72032004000900004

26. Lima CRV, Silva CS, Barbosa MF. Perfil sócio demográfico clínico e obstétrico de gestantes admitidas numa maternidade de referência do Recife com diagnóstico de parto prematuro no ano de 2010. Revista Conceito A. [Internet]. 2011 [cited 2015 Nov 02];2:646-82. Available from: http://www.faculdadesaomiguel.com.br/pdf/revista-conceito/n2/enfermagem/perfil-socio-demografico.pdf

27. Novo JLVG, Patrício BT, Vanin NS. Hipertensão arterial induzida pela gravidez no conjunto hospitalar de Sorocaba. Aspectos maternos e perinatais. Rev.Fac.Ciênc.Méd. Sorocaba [Internet]. 2010 [cited Nov 02 2015];12(3):9-20. Available from: http://revistas.pucsp.br/index.php/RFCMS/article/view/2839/pdf

28. Aguiar F, Isis M, Freire BCP, Cruz P, Marfisa I, Gomes L, et al., Sistematização da assistência de enfermagem a paciente com síndrome hipertensiva específica da gestação. Rev Rene [Internet]. 2010 [cited 2015 Nov 02];11(4):66-75. Available from: http://www.redalyc.org/articulo.oa?id=324027972007

29. Prakash J, Pandey JK, Singh AK, Kar B. Hypertension in pregnancy: hospital based study. J Assoc Physicians India [Internet]. 2006 [cited 2015 Nov 02];54:273-8. Available from: http://www.japi.org/april2006/O-273.pdf

30. Herculano MMS, Damasceno AKC. Avaliação da assistência pré-natal de mulheres com síndrome hipertensiva gestacional. 2010. 97f. Dissertação (Mestrado em Enfermagem). Universidade Federal do Ceará. Programa de Pós-Graduação em Enfermagem. [Internet]. 2010 [cited 2015 Nov 01] Available from: http://www.repositorio.ufc.br/bitstream/riufc/1977/1/2010_mmsherculano.pdf

31. Melo BCP, Amorim MMR, Katz L, Coutinho I, Veríssimo G. Perfil epidemiológico e evolução clínica pós-parto na pré-eclâmpsia grave. Rev Assoc Med Bras. [Internet]. 2009 [cited 2015 Nov 02]; 55(2):175-80. Available from: http://www.scielo.br/scielo.php?pid=S0104-42302009000200022&script=sci_arttext

32. Morais FM, Novaes JM, Silveira MCA, Araújo MJAR, Melo SM, Gontijo LS. Uma revisão do perfil clínico-epidemiológico e das repercussões perinatais em portadoras de síndrome hipertensiva gestacional. Revista EIXO [Internet]. 2013 [cited 2015 Nov 02];2(1):69-82. Available from: http://revistaeixo.ifb.edu.br/index.php/RevistaEixo/article/view/103/51

33. Neto CN, Souza ASR, Amorim MMR. Tratamento da pré-eclâmpsia baseado em evidências. Rev Bras Ginecol Obstet [Internet]. 2010 [cited Nov 03 2015];32(9):459-68. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0100-72032010000900008

34. Pereira MN, Montenegro CAB, Rezende Filho J. Síndrome HELLP: diagnóstico e conduta. Femina [Internet]. 2008 [cited 2015 Nov 03];36(2):111-6. Available from: http://www.febrasgo.org.br/site/wp-content/uploads/2013/05/femina-2_fevereiro_111-116.pdf

35. Ribeiro JF, Rodrigues CO, Bezerra VOR, Soares SAC, Souza PG. Sociodemographic and clinical charactheristicsof parturientes with preeclampsia J Nurs UFPE on line {Internet]. 2015 [cited 2015 19 Oct];9(5)7917-23. Available from: http://www.periodicos.ufpe.br/revistaenfermagem/index.php/revista/article/view/6928/pdf_7842

Submission: 2015/11/13
Accepted: 2016/04/11
Publishing: 2016/05/01

Corresponding Address

Rejane Marie Barbosa Davim
Residencial Villaggio Di Firenze
Avenida Rui Barbosa, 1100
Bloco C, Ap. 804
Bairro Lagoa Nova
CEP 59056-300 – Natal (RN), Brazil