

EPIDEMIOLOGICAL AND OBSTETRIC PROFILE OF PREGNANT WOMEN WITH HELLP SYNDROME

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ABSTRACT: This descriptive epidemiological study, with a quantitative approach, aimed to characterize the pregnant women with HELLP Syndrome regarding socio-demographic and obstetric data, and to ascertain the number of cases of this pathology. The population was constituted by 14 pregnant women diagnosed with HELLP Syndrome, confirmed by laboratory tests and clinical evaluation, and attended in an intensive care unit in the period January 2010 to December 2012. Data collection occurred in 2013, consulting the hospital records, using a form with socio-demographic and obstetric variables. The results evidenced that 64.3% of the pregnant women were aged over 26 years old; 92.9% were of mixed European, African and Indigenous ancestry; 64.3% did not undertake prenatal check-ups; and 78.6% had no history of complications in previous pregnancies. The results indicate data similar to that of other studies on the epidemiological profile of HELLP Syndrome, and serves as a warning regarding the shortage of information in the patient records.

DESCRIPTORS: Epidemiology; HELLP Syndrome; Pregnant women.

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INTRODUCTION

The gestational period has special meaning for every woman, varying according to each person's specific characteristics, and can be pleasurable or worrying; the pregnancy becomes worrying when it is associated with emotional and/or physical problems. Among the problems specific to the gestational period, the issue of the hypertensive disorders of pregnancy deserves attention. This is being discussed worldwide, principally in the underdeveloped and developing countries, as it is one of the largest causes of maternal death, thus being a public health problem. The Hypertensive Disorders of Pregnancy are classified as pre-eclampsia, eclampsia, and – in their most serious form – there is HELLP Syndrome⁽¹⁾.

This is a serious complication, first described in 1982 by Louis Weinstein, who reported 29 cases of pre-eclampsia in which there was thrombocytopenia, intravascular hemolysis evidenced by the findings in the peripheral blood smear, and alterations in the liver function tests. The research suggested that women presenting this laboratorial picture should be differentiated from those who were classified as having serious pre-eclampsia. This pathology, with serious maternal and fetal repercussions, was termed HELLP Syndrome, an acronym of the three criteria established for its presence (H = hemolysis; EL = elevated liver enzymes; LP = low platelet count)⁽²⁾.

In this context, it is important to describe this syndrome's clinical picture, whose most frequent signs and symptoms are epigastric pain in the right upper quadrant, malaise and nausea. The mild forms can pass unnoticed, should the correct laboratory evaluation not be made. Although this health problem has the symptomatology of the hypertensive pathologies, it can result from different causes and is fairly unspecific, this being one of the main problems in diagnosing it. The clinical progression of the woman with true HELLP Syndrome is characterized by a progressive and sudden deterioration of the maternal and fetal condition, this being associated with an increase in maternal and perinatal mortality and morbidity⁽³⁾.

It is recommended that those pregnant women with suspected pre-eclampsia should undertake the appropriate laboratory tests for screening for HELLP Syndrome, through basic tests for the screening: complete hemogram with platelets, urinalysis, serum creatine, lactic dehydrogenase (LDH), uric acid, bilirubin, and transaminase; the more specific tests are reserved for those women with a platelet count of below 100,000/ml⁽⁴⁾.

Also it is less frequent than pre-eclampsia, ma-

ternal death varies from 1.1% in developed countries to 24% in under-developed countries. The intensity of HELLP Syndrome, on average, can occur 24 to 48 hours after the birth; 31% may occur in the postpartum period and, of these, 20% do so without presenting previous pre-eclampsia, further worsening the picture⁽⁵⁾. The syndrome has a high morbidity and mortality; it is characterized as a rare condition, with the risk of death, and which occurs in between 0.2% to 0.6% of pregnancies. Some pregnant women develop only one or two of the Syndrome's characteristics⁽⁶⁾.

The treatment is a major challenge for obstetricians worldwide, and it is recommended that all patients in whom it is suspected should be hospitalized. The immediate conducts consist of diagnosing suspected cases early; evaluation of the maternal and fetal conditions, so as to identify the need for immediate birth, or at a later stage; control of the blood pressure; prevention of convulsions with magnesium sulphate; management of fluids and electrolytes; careful use of blood and blood derivatives; management of labour and birth; intensive care for the pregnant woman in the postpartum period; being alert for the development of systemic multiple organ failure; and counselling regarding future pregnancies⁽⁴⁾.

In spite of its low incidence, HELLP Syndrome's high maternal and perinatal morbidity/mortality require intensive care, and the hypothesis must not be disregarded in any patient with pre-eclampsia, as determining efficient care during the pregnancy is the only means of establishing a good maternal and neonatal prognosis. In this way, regarding the considerations raised, the aim was to characterize the study population in terms of the socio-demographic and obstetric data, and to ascertain the number of cases of HELLP Syndrome in the maternity center under study in 2010 to 2012. It is believed that this study can contribute to greater knowledge regarding this syndrome, which is little-known both by the professionals who work in the area, and by the pregnant women.

METHOD

The research is an epidemiological descriptive study, with a quantitative approach, undertaken in a public maternity center in the State of Piauí, considered a center of excellence in the state, located in the south region of the city of Teresina. The population was constituted by 14 pregnant women diagnosed with HELLP Syndrome, attended in the Intensive Care Unit (ICU) in the period January 2010 to December 2012. The inclusion criteria was the diagnosis with HELLP Syndrome, confirmed

by laboratory tests and clinical evaluation. Data collection occurred in March 2013. A search of the medical records was made, based on the register books and admission books of the patients in the above-mentioned ICU in the period of the study, with the hypothesis of diagnosing HELLP Syndrome; later, a count was made of the number of patients admitted in the period in question, using the admissions book, and based on that the percentage was calculated of the cases of HELLP Syndrome, and screening and retrospective analysis were made for those with the diagnosis confirmed. A standardized form was used to systematize the data, predominantly using closed questions referent to the epidemiological characteristics and the clinical progression of the HELLP Syndrome in the population studied.

The data were entered using Microsoft Office Excel version 7.0. The findings were presented using tables and graphs and the analysis was undertaken based on the most recent scientific productions on HELLP Syndrome.

The research project was authorized by the Ethics Committee under Protocol N. 03105/2013, and by the Research Ethics Committee of the Faculdade Camilo Filho under CAAE N. 11921013.8.0000.5212. The representative of the institution where the study was undertaken was offered the title of custodian trustee, in accordance with the guiding principles made available in Resolution N. 466/12 of the National Health Council.

RESULTS

In Table 1, the data indicated that the majority (64.5%) of the pregnant women were aged 26 years old or over; 92.9% were of mixed European, African and Indigenous ancestry; and, regarding education, 64.3% of the

Table 1- Socio-demographic characterization of the pregnant women with HELLP Syndrome. Teresina-PI-Brazil, 2010-2012

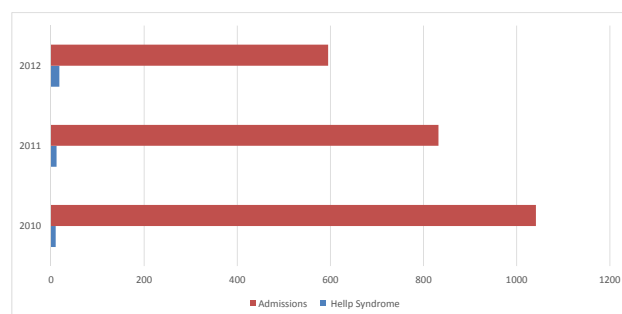
VARIABLES	n	%
Age range		
Up to 25 years old	5	35,7
(≥) 26 years old	9	64,3
Color		
Mixed race	13	92,9
Black	1	7,1
Education		
Information not available	9	64,3
Junior high	3	21,4
Senior high	1	7,1
Higher education	1	7,1
Total	14	100

medical records did not have this information available.

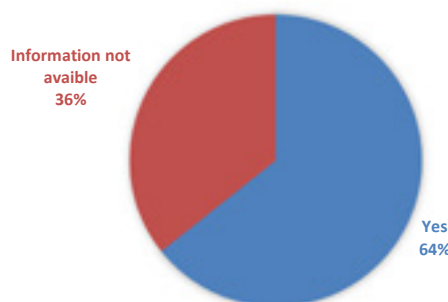
In Graph 1 it may be observed that in 2010, for 1041 pregnant women hospitalized in the Maternity ICU, 10 were diagnosed with HELLP Syndrome, while in 2011, for 832 pregnant women hospitalized in the Maternity ICU, 12 presented HELLP Syndrome and in 2012 of the 595 admissions to the Maternity ICU, 18 were diagnosed with the syndrome.

In Graph 2 it may be observed that 64.3% of the medical records did not contain information as to whether prenatal check-ups had been undertaken or not.

In Table 2 it may be observed that a large proportion of the pregnant women in the study had not presented complications or fetal death in previous pregnancies.



Graph 1 - Number of cases of HELLP Syndrome in relation to the total number of hospitalizations in the period. Teresina-PI-Brazil, 2010-2012



Graph 2 - Distribution of the women with HELLP Syndrome by undertaking of prenatal check-ups. Teresina-PI-Brazil 2010-2012

Table 2- Characterization of the women with HELLP Syndrome by perinatal clinical data. Teresina-PI-Brazil, 2010-2012

VARIABLES	n	%
Complications in previous pregnancies		
Yes	3	21,4
No	11	78,6
Number of fetal deaths in previous pregnancies		
Yes	1	7,1
No	13	92,9

DISCUSSION

The majority of pregnant women with HELLP Syndrome were aged 26 years old or over, a result similar to that found in a study undertaken in the city of Porto in Portugal (primigravidas with a mean age of 28.5 years old) and in an obstetric ICU in Recife in the Brazilian state of Pernambuco (26.7 years old). The mean age of the patients with this pathology varies from 24 to 30 years old, being, generally speaking, slightly greater than that of women with hypertensive disorders but who do not have HELLP Syndrome^(3,7).

In the present study, the majority of the women were of mixed European, African and Indigenous ancestry, however, a study undertaken at the University Hospital of Maringá in the State of Paraná showed that a large proportion of the pregnant women were Caucasian⁽⁸⁾. Although any pregnant woman can develop the Syndrome, some have a higher risk, including those who are Caucasian, aged over 25 years old, multiparas, who have systemic arterial hypertension and a situation of pre-eclampsia or eclampsia. The analysis of race or color has always been a difficult mission, taking into account the difficulty of understanding for classification, there being an argument for non-classification⁽⁹⁾.

In the light of the above, and knowing that mixed ethnicity is the main identity in Brazil, one may have a distorted picture of the true social context in Brazil, interfering with and hindering realistic analysis of the population and its profile of morbidity and mortality. According to data from the Brazilian Institute for Geography and Statistics, in Brazil in the first decade of the 21st century, a change in the distribution of the population stood out, segmented by color or race, confirming a previously-detected tendency. Data from the National Household Sample Survey show growth in the proportion of the population who state themselves to be black or of mixed race in the last 10 years: respectively 5.4% and 40% in 1999; and 6.9% and 44.2% in 2009. One of the factors for this growth is probably recovery of racial identity, already commented on by academics working in the area⁽¹⁰⁾.

In relation to the data from Table 1, a similar result was found in a study on maternal mortality in Brazil, in which in 5,603 records there was no information on educational level; that is to say, 33.9% of the deaths recorded⁽¹¹⁾. The educational context in the North-East of Brazil is considered low when compared to the South and South-East regions. Among people aged 15 years old or over, in the north-east 19.4% are illiterate

and 31.6% are functionally illiterate, indicators which correspond, respectively, to 5.4% and 16.2% for the South and to 5.8% and 15.8% for the South-East. In the North-East, the situation of States such as Alagoas, Piauí and Paraíba is even weaker, with around a quarter of the population aged 15 or over illiterate⁽¹²⁾.

The analysis of the percentage of cases of HELLP Syndrome in the maternity center studied demonstrated that among the 2468 women admitted to the Maternity ICU, 40 cases of the syndrome were confirmed, representing 1.6% of the total of the pathologies attended in the period 2010 to 2012 (Graph 1). Similar results were evidenced in a study undertaken with 30 puerperas with HELLP Syndrome, demonstrating that among those hospitalized in the period studied, 7.5% presented Hypertensive Disorders of Pregnancy (HDP) and 4.7% progressed to complications from the Syndrome⁽¹³⁾.

A study undertaken with 741 pregnant women with HDP admitted between January and December 2009 evidenced that 18 presented HELLP Syndrome, equivalent to 2.42%⁽¹⁴⁾. This syndrome affects 4% to 12% of pregnant women with pre-eclampsia or eclampsia and is related to high rates of maternal-fetal morbidity and mortality⁽⁴⁾.

The hypertensive syndromes in pregnancy are highly prevalent illnesses, and entail striking repercussions on maternal and perinatal morbidity and mortality. In Brazil these syndromes, mainly in their serious forms, such as eclampsia and complications from HELLP Syndrome, are the principal causes of maternal death. In addition to this, they determine a significant increase in perinatal morbidity and mortality. HELLP Syndrome is a pathology in the gravido-puerperal cycle, with high morbidity and mortality; it is a rare condition, with a risk of death, and which occurs in between 0.2% and 0.6% of pregnancies; however, some pregnant women develop only one or two of this syndrome's characteristics⁽⁹⁾.

Regarding undertaking prenatal check-ups, it was observed in the medical records analyzed that a large percentage did not include information on prenatal check-ups (Graph 2), and that those including information were incomplete, not specifying the number of check-ups undertaken. Regarding the importance of early capture, this genuinely strengthens the woman's compliance with systematic monitoring and promotes the appropriate tracking of possible risk factors. Therefore, prenatal monitoring must occur shortly after the beginning of the pregnancy, must have universal coverage, be undertaken periodically, be integrated with other

preventive and curative actions and include a minimum number of check-ups⁽¹⁵⁾. The data on neonatal mortality are considered one of the main indicators for evaluating the health services, above all for the quality of the care to the pregnant woman during the prenatal stage, the birth, the postpartum period and the neonatal care⁽¹⁶⁾.

Appropriate prenatal monitoring involves the capture of the woman by the 14th week (120 days) of the pregnancy, and the undertaking of, at the very least, six check-ups, one in the first trimester, two in the second, and three in the third. If done in this way the prenatal monitoring, without doubt, can achieve its main objective: the prevention of perinatal morbidities and mortality⁽⁴⁾.

In this way, regarding the investigation, appropriate records provide a description of the patient's progression and of her treatment, providing material for studies on specific diseases and their manifestations, as well as supporting "active searching" in epidemiological investigations. Only diagnosis and appropriate treatment are fundamental for it to be possible to change the maternal and perinatal results for the better. The lack of information in the medical records can result in risks for the mother and fetus, as therapeutic tests or procedures may be neglected, or be repeated unnecessarily⁽⁴⁾.

In the analysis of the obstetric data, it was possible to observe that the majority of the pregnant women had not presented complications in previous pregnancies or a history of fetal death (Table 2). The hypertensive pathologies can result from different causes and are fairly unspecific, as well as variable, this being one of the main problems in diagnosing HELLP Syndrome; moreover, the majority of the patients did not present any predisposing factor⁽³⁾. Thus, one can recognize the importance of knowledge of these patients' antecedents, given that the association between the rate of complications and the presence of previous medical pathologies is proven.

Although the cause of HELLP Syndrome is not yet completely explained, it can lead to heart failure, liver bruise, acute renal failure, and cerebrovascular accidents, cerebral hemorrhage being the main cause of maternal death, responsible for 60%, followed by acute pulmonary edema and placental abruption (PA), resulting in fetal death⁽¹⁷⁾.

The early identification of risks and biological markers is fundamental for the prevention or reduction of the risks of maternal and fetal mortality⁽⁴⁾. Although this prevention is possible in the prenatal check-up, the professionals undertaking the prenatal check-up need to be more alert to this situation

and also to be technically prepared for carrying out satisfactory screening of high risk pregnant women. It follows that the health team, of which the nurse is a member, must be alert to everything that happens with a pregnant woman and to all her doubts, seeking to mitigate her suffering through guidance and help. It is necessary for the nursing professional to have knowledge and sensitivity, which are essential for identifying, understanding and monitoring changes in the physiological, pathological and emotional processes which permeate the high risk pregnancy⁽⁹⁾.

That many medical records were incomplete may be a limitation of this research. However, the questions which guided the study were clarified during the investigation, without negatively impacting on the achievement of this study's objectives.

FINAL CONSIDERATIONS

This study allowed the evaluation of the situation of HELLP Syndrome and demonstrated a profile of women of European-African-Indigenous descent, aged over 26 years old and with a low educational level. It was found that in spite of this pathology being rare, in the majority of cases it develops in the third trimester of the pregnancy.

Emphasis is placed on the poor quality of the records in the medical records, such as socio-demographic and obstetric data and data from the prenatal check-ups. This is evidence of negligence, as this information is necessary throughout the process of the pregnant woman's hospitalization and post-hospitalization.

As evidenced, this study's results indicate the need for further investigations to be undertaken, so that the issue of HELLP Syndrome may be better understood, and draw attention to the problem of shortage of essential data in the records. Although this is not an object of the study, it was possible to note the absence of the Systematization of Nursing Care, which would contribute to the recording of information and the promotion of the quality of the care for the patients.

REFERENCES

1. Pereira MN, Montenegro CAB, Rezende Filho J. Síndrome HELLP: diagnóstico e conduta. *Femina*. [Internet] 2008;36(2) [acesso em 25 mar 2013]. Disponível: http://www.febrasgo.org.br/site/wp-content/uploads/2013/05/Femina-2_fevereiro_111-116.pdf
2. Montenegro CAB. Rezende J, obstetrícia fundamental.

- 12ª ed. Rio de Janeiro: Guanabara Koogan; 2012.
3. Freitas DSF. Características clínicas, sintomatologia, tipo de parto, tratamento, morbidade e mortalidade materna associada ao síndrome hellp no chp-hsa: Estudo retrospectivo [dissertação]. Porto (PT): Instituto Ciências Biomédicas Abel Salazar; 2009.
 4. Ministério da Saúde (BR). Departamento de Atenção Básica. Atenção ao pré-natal de baixo risco. Brasília: Conselho Nacional de Saúde; 2012.
 5. Leão MD. Redução da morbi-mortalidade na síndrome de hellp completa com o uso de altas doses de dexametasona [tese]. Natal (RN): Universidade Federal do Rio Grande do Norte; 2008.
 6. Ziegel EE, Cranley MS. Enfermagem obstétrica. 8ª ed. Rio de Janeiro: Interamericana; 2008.
 7. Leila K, Melania MRA, Giselly VM, João LPS. Perfil clínico, laboratorial e complicações de pacientes com síndrome HELLP admitidas em uma unidade de terapia intensiva obstétrica. Rev. Bras. Ginecol. Obstet. [Internet] 2008;30(2) [acesso em 06 abr 2013]. Disponível: <http://dx.doi.org/10.1590/S0100-72032008000200006>
 8. Angonesi J, Polato A. Doença Hipertensiva Específica da Gestação (DHEG), incidência à evolução para a Síndrome de HELLP [dissertação]. Maringá (PR): Centro Universitário de Maringá (CESUMAR); 2007.
 9. Oliveira RS, Matos IC, Silva TBP, Azevedo NM, Andrade M, Espírito Santo FH. Síndrome Hellp: estudo de revisão para o cuidado de enfermagem. Enferm. Glob. [Internet] 2012;11(28) [acesso em 20 mai 2013]. Disponível: http://scielo.isciii.es/scielo.php?pid=S1695-61412012000400018&script=sci_arttext
 10. Instituto Brasileiro de Geografia e Estatística (IBGE). Indicadores sociodemográficos e de saúde do Brasil - 2010. Rio de Janeiro; 2010.
 11. Ferraz L, Bordignon M. Mortalidade materna no Brasil: uma realidade que precisa melhorar. RBSP [Internet] 2012;36(2) [acesso em 15 fev 2013]. Disponível: <http://files.bvs.br/upload/S/0100-0233/2012/v36n2/a3253.pdf>
 12. Bezerra FD, Carvalho JS. Indicadores socioeconômicos do Nordeste: análise comparativa inter-regional. Fortaleza: Banco do Nordeste do Brasil; 2010.
 13. Oliveira MIV, Vasconcelos SG. Puérperas com síndrome de HELLP: análise baseada nos aspectos obstétricos. Rev. Rene. [Internet] 2006;7(2) [acesso em mai 2012]. Disponível: <http://www.revistarene.ufc.br/revista/index.php/revista/article/view/794>
 14. França CMV. A prevalência de gestantes portadoras de DHEG que apresentaram a síndrome HELLP em uma maternidade de referência de Maceió-AL [dissertação]. Maceió (AL): Universidade Estadual de Ciências da Saúde de Alagoas (UNCISAL); 2010.
 15. Coimbra LC, Silva AAM, Mochel EG, Alves MTSSB, Ribeiro VS, Aragão VMF et al. Fatores associados à inadequação do uso da assistência pré-natal. Rev. Saúde Públ. [Internet] 2003;37(4) [acesso em mai 2012]. Disponível: <http://dx.doi.org/10.1590/S0034-89102003000400010>
 16. Barreto JOM, Nery IS, Mendes YMMB. Mortalidade perinatal: uma análise com enfoque na evitabilidade. Cogitare enferm. [Internet] 2011;16(1) [acesso em 20 mai 2013]. Disponível: <http://ojs.c3sl.ufpr.br/ojs2/index.php/cogitare/article/download/21117/13943>
 17. Peracoli JC, Parpinelli MA. Síndromes hipertensivas da gestação: identificação de casos graves. Rev. Bras. Ginecol. Obstet. [Internet] 2005;27(10) [acesso em 20 maio 2013]. Disponível: <http://dx.doi.org/10.1590/S0100-72032005001000010>