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EPIDEMIOLOGICAL PROFILE OF HOSPITALIZATIONS IN A NEONATAL INTENSIVE CARE UNIT

PERFIL EPIDEMIOLÓGICO DAS HOSPITALIZAÇÕES EM UNIDADE DE TERAPIA INTENSIVA NEONATAL

PERFIL EPIDEMIOLÓGICO DE LAS HOSPITALIZACIONES EN UNIDAD DE TERAPIA INTENSIVA NEONATAL

Leidiane Ferreira Santos¹, Carla Thailenna Jorge Pereira², Cintia Flores Mutti³, Isabela Cristine Ferreira Fernandes⁴, Allison Barros Santana⁵, Lizete Malagoni de Almeida Cavalcante Oliveira⁶

ABSTRACT

Objective: to know the pregnancy conditions and socio-demographic characteristics of mothers of newborns admitted to the Neonatal Intensive Care Unit and describe causes of hospitalization and clinical characteristics of newborns in the Neonatal Intensive Care Unit. **Method:** A descriptive cross-sectional study with a quantitative approach, in which 180 records of newborns hospitalized in the Neonatal Intensive Care Unit (NICU) of a public hospital were found. The information was stored in a computerized database and submitted to descriptive statistical analysis. **Results:** Although many women do not present complications during pregnancy, many diseases can lead newborns to depend on intensive care. **Conclusion:** many women do not have access to health services advocated by the Brazilian public policy. Cardiac disorders, congenital malformation, sepsis and syphilis resulted in the newborn having to depend on intensive care. Most hospitalizations occurred due to prematurity. **Descriptors:** Hospitalization; Indicators of Morbidity and Mortality; Infant; Newborn; Intensive Care Units; Neonatal.

RESUMO

Objetivo: conhecer as condições de gestação e as características sociodemográficas das mães de recém-nascidos internados em Unidade de Terapia Intensiva Neonatal e descrever causas de internações e características clínicas de recém-nascidos em Unidade de Terapia Intensiva Neonatal. **Método:** estudo transversal descritivo, de abordagem quantitativa, em que foram consultados 180 prontuários de recém-nascidos hospitalizados na Unidade de Terapia Intensiva Neonatal (UTIN) de uma maternidade pública. As informações foram armazenadas em banco de dados informatizado e submetidas à análise estatística descritiva. **Resultados:** apesar de muitas mulheres não apresentarem intercorrências no período gestacional, inúmeros agravos podem levar os recém-nascidos a dependerem de cuidados intensivos. **Conclusão:** muitas mulheres não têm acesso aos serviços de saúde preconizados pelas políticas públicas brasileiras. Cardiopatias, malformação congênita, sepse e sífilis levaram o recém-nascido a depender de cuidados intensivos. A maioria das internações ocorreu devido à prematuridade. **Descritores:** Hospitalização; Indicadores de Morbimortalidade; Recém-Nascido; Unidades de Terapia Intensiva Neonatal.

RESUMEN

Objetivo: conocer las condiciones de gestación y las características sociodemográficas de las madres de recién nacidos internados en Unidad de Terapia Intensiva Neonatal y describir causas de internaciones y características clínicas de recién nacido en Unidad de Terapia Intensiva Neonatal. **Método:** estudio transversal descriptivo, de abordaje cuantitativa, en que fueron consultados 180 prontuarios de recién nacidos hospitalizados en la Unidad de Terapia Intensiva Neonatal (UTIN) de una maternidad pública. Las informaciones fueron almacenadas en banco de datos informatizado y sometidas al análisis estadística descriptiva. **Resultados:** a pesar de muchas mujeres no presentar interurrencias en el período gestacional, inúmeros agravios pueden llevar los recién nacidos a depender de cuidados intensivos. **Conclusión:** muchas mujeres no tienen acceso a los servicios de salud preconizados por las políticas públicas brasileñas. Cardiopatías, malformación congénita, sepsis y sífilis llevaron el recién-nacido a depender de cuidados intensivos. La mayoría de las internaciones ocurrió debido la prematuridad. **Descriptor:** Hospitalización; Indicadores de Morbimortalidad; Recién Nacido; Unidades de Cuidado Intensivo Neonatal.

¹Nurse, Lecturer, Doctor in Nursing, Graduate Program in Education in Science and Health (PPG-ECS)/Federal University of Tocantins / UFT. Palmas (TO), Brazil. E-mail: leidienesantos@uft.edu.br; ²Nuraw, graduated by the Department of Nursing at Federal University of Tocantins/UFT. Palmas (TO), Brazil. E-mail: thailenna1991@gmail.com; ³Nurse, Lecturer, Masters, Undergraduate course in Nursing Federal University of Tocantins/UFT. Palmas (TO), Brazil. E-mail: cfmutti@hotmail.com; ⁴Nurse, Lecturer, Masters, Undergraduate course in Nursing Federal University of Tocantins/UFT. Palmas (TO), Brazil. E-mail: isafernandes@mail.uft.edu.br; ⁵Nurse, Lecturer, Masters, Undergraduate course in Nursing Federal University of Tocantins/UFT. Palmas (TO), Brazil. E-mail: allison@mail.uft.edu.br; ⁶Nurse, Lecturer, Doctor in Nursing, Undergraduate course in Nursing, Nursing School of the Federal University of Goiás /UFG. Goiânia (GO), Brazil. E-mail: lizete.malagoni@gmail.com.br; *Research developed in the Group of Studies and Research in Child Health (GSRECC/FUT).

INTRODUCTION

The child care process has changed over the years, with a consequent reduction of child deaths and implementation of various public policies aimed at protection and health promotion of that population.¹⁻² In the world, the number of deaths among children under five years of age decreased from 143 per 1,000 live births in 1970 to 85 in 1990 and 44 in 2013.²

Although substantial progress has been achieved in recent decades, child survival is still set as a challenge for many countries, such as Brazil, which have weaknesses in relation to assistance to child health. If current trends persist, by 2030 nearly 38 million children die before their fifth birthday.²

Alarming data is still recorded in Brazil. For instance, in 2014 there were 26,006 infant deaths from preventable causes, with nearly 80% of this total being children up to 27 days of life.³

A high percentage of deaths from preventable causes, among newborn indicates problems of access to health services, coverage and / or quality of services.⁴ It is noteworthy that the causes of in-hospital death in newborns admitted to the Neonatal Intensive Care Unit (NICU), are determined primarily by the quality and service conditions during pregnancy, childbirth and immediately after birth.⁵

Thus, to reduce maternal and infant mortality rates comprehensive measures are necessary, including improvements in prenatal care, childbirth and newborns.⁵⁻⁶

It is important to consider that, commonly, the child's birth symbolizes great expectations of time for women and their families. However, when the newborn requires specialized care and is hospitalized in NICUs, the people involved in the process begin to experience feelings such as anxiety, suffering and emotional distress. This situation may also corroborate difficulties and changes in the role that mothers we expecting to play with their children and families.⁷

Based on these, this study aims to:

- Know the pregnancy conditions and socio-demographic characteristics of mothers of newborns admitted to the Neonatal Intensive Care Unit;
- Describe causes of hospitalization and clinical characteristics of newborns in the Neonatal Intensive Care Unit.

We believe that knowing pregnancy characteristics and profile of hospitalizations

in NICUs may favor the implementation of strategies aimed at promoting and child health protection and consequently reduces the number of hospitalizations in NICUs. We also hope to contribute to reducing the suffering of the families, helping them not to experience the situation of having to live with and hospitalized newborn.

METHOD

A descriptive cross-sectional study with a quantitative approach, in which 180 records of newborns hospitalized in the NICU of a public hospital were found, located in the city of Palmas, Tocantins, Brazil, from July 2014 to January 2015.

The researched NICU is reference in maternal and child care in the state and performed services to critically ill newborns. It has 10 beds but, commonly, all of them are taken.

The data collection instrument was built with information related to maternal socio-demographic characteristics, pregnancy and the clinical profile of the newborn. The information was stored in a computerized database and submitted to descriptive statistical analysis, exploited by simple frequency and percentage.

Medical records of children with up to 27 days old, hospitalized in the NICU in the data collection period, and deleted the records that did not show the cause of the newborn in the NICU hospitalization were included in this study.

This study was approved by the Ethics Committee on Human Research of the Federal University of Tocantins, 040/2014 protocol and met the assumptions of Resolution 466 of 2012.

RESULTS

The average age of mothers of newborns hospitalized in the NICU was 25 years (SD = 6.6), with a maximum of 40 and minimum of 13 years. It was found that 120 (66.7%) women had no job, and of these 40 (33.3%) were students. 60 (33.3%) women worked outside the home, performing various functions, such as plantation worker, civil servant, cashier, manicurist, nanny and others. Almost half (86; 47.8%) of households had family income lower than the minimum wage and 88 (48.9%) owned their own home.

176 (97.8%) women received health care during pregnancy and the number of consultations per woman ranged from one to sixteen. In 103 (57.9%) cases, there were at least six prenatal consultations. Among

women who did not receive prenatal care (4; 100%), one (25%) were enrolled in higher education, two (50%) had incomplete primary education and one (25%) completed secondary school. The pregnancy was not planned in 141 (78.3%) cases, and during pregnancy, 19 (10.6%) women made use of narcotic substances, such as cigarettes, alcohol and crack.

93 were identified (51.7%) in cases of complications during pregnancy, such as Urinary Tract Infection (UTI), toxoplasmosis, Hypertensive Disease Specific to pregnancy (HDP), syphilis, congenital malformation, bacterial vaginosis among others. In some pregnant women it was possible to identify the presence of two or more health problems (Figure 1).

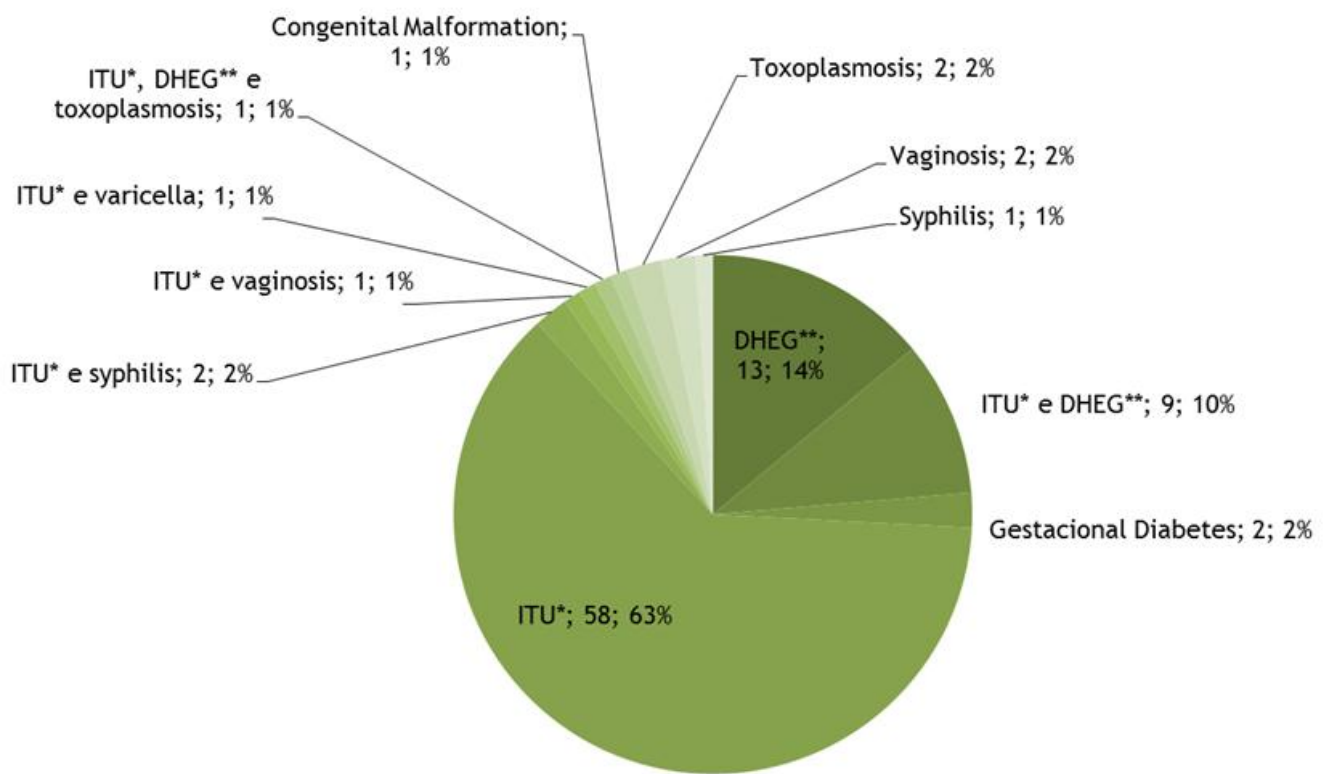


Figure 1. Complications during pregnancy registered in the records of newborns hospitalized in NICUs. Palmas, TO, Brasil, 2015 (n=93).

* Urinary tract infection.
** Hypertensive disease during pregnancy.

Although many women (87; 48,3%) have not presented complications during pregnancy, it is observed that many diseases led newborns to depend on intensive care, such as prematurity, heart disease, congenital malformation, sepsis, syphilis among others.

In come cases concomitante diseases were recorded 29 (16,1%). Agravations were identified after child (Figura 2).
180 (100%) newborns were hospitalized in the NICU, during the data collection period, 33 (18.3%) died.

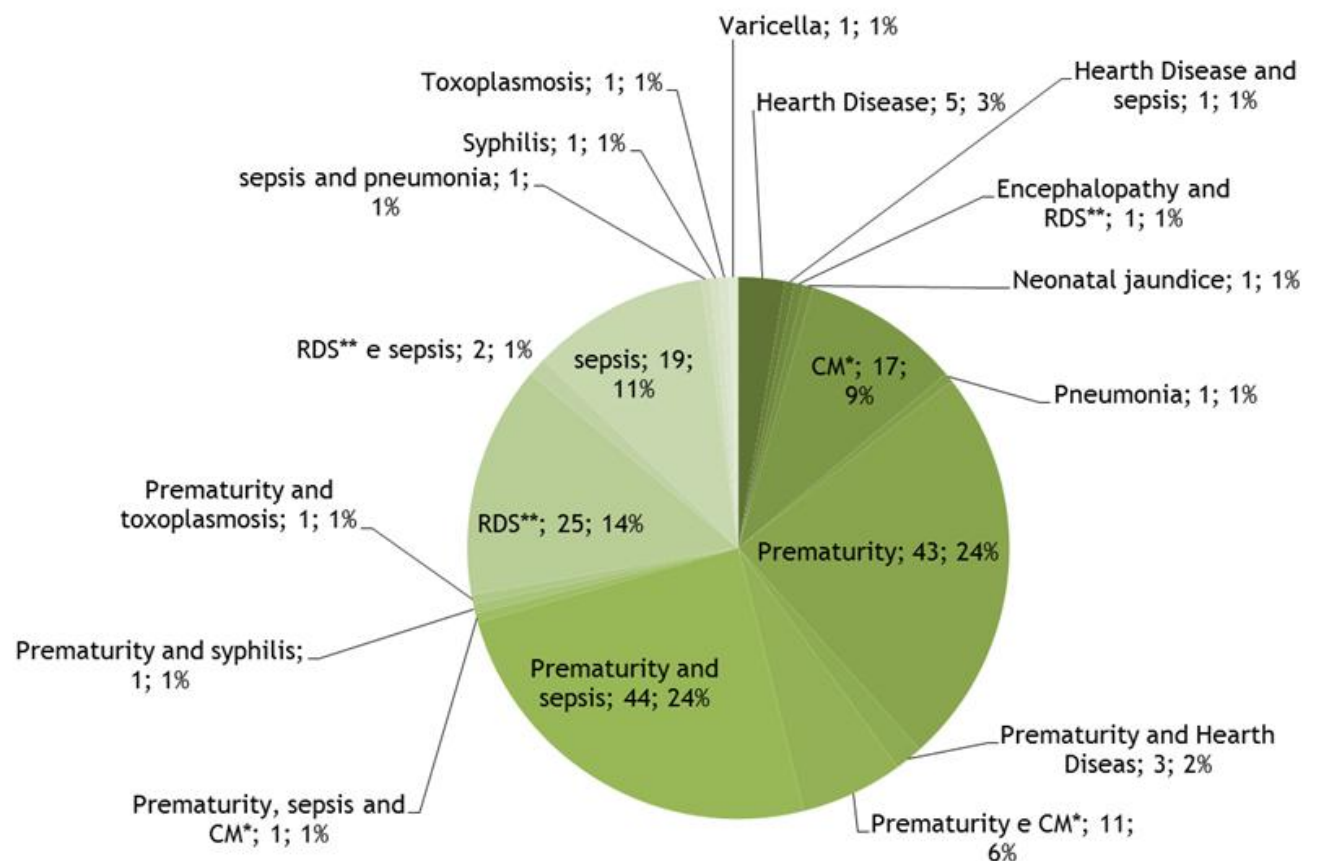


Figure 2. Causes of hospitalization in NICU registered in the records of newborns. Palmas, Tocantins, Brazil, 2015 (n = 180).
* Congenital malformation;
** Respiratory distress syndrome.

Concomitant to premature birth (104; 100%), 61 (58.7%) newborns also had other health problems such as heart disease,

congenital malformation, sepsis and syphilis (Figure 3).

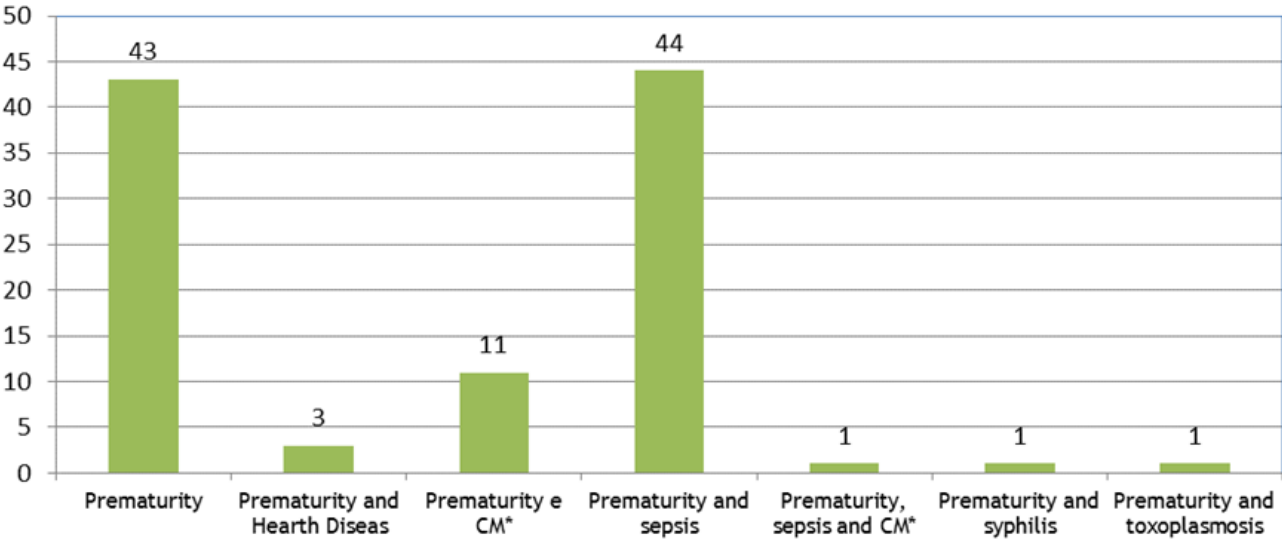


Figure 3. Hospitalizations in the NICU due to prematurity, registered in the records of newborns. Palmas, Tocantins, Brazil, 2015 (n = 104).
*Congenital malformation.

Among mothers of premature children, 59 (56.7%) had complications during pregnancy. Gestational age ranged from 23 to 36 weeks and birth weight 515-3326 grams. Most hospitalizations occurred shortly after the child's birth (81; 77.9%), and the total, 19 (18.3) premature infants died (Table 1).

Table 1. Profile of premature infants hospitalized in the Neonatal Intensive Care Unit. Palmas, Tocantins, Brazil, 2015 (n = 104).

Characteristics	Total n(%)
Maternal complications during pregnancy	
Yes	59 (56,7)
No	45 (43,3)
Gestational age	
≤24 weeks	7 (6,7)
25-28 weeks	9 (8,7)
29-32 weeks	29 (27,9)
33-36 weeks	59 (56,7)
Hospitalization in NICU	
Soon after birth	81 (77,9)
Up to 1 day after birth	10 (9,6)
2 to 4 days after birth	8 (7,7)
5 to 17 days after birth	5 (4,8)
Denouement	
Discharge from hospital	85 (81,7)
Death	19 (18,3)

DISCUSSION

We see the urgent need to qualify the care offered to women during pregnancy, in order to identify risk factors for children and pregnant women, as well as integral and humanized care. In this perspective, the health professional should be able to accommodate the pregnant woman, the health service from the beginning of pregnancy and to identify behavioral, emotional and physical changes, share information and answer the woman's questions and also her family's, promoting attention quality and minimizing chances of future injuries;⁸ also, public policies capable of overcoming socioeconomic inequalities prevalent in many countries, given that many authors have shown that between low socioeconomic status families for high child mortality rates.^{2,9} In this study almost half of the families had a family income lower than the minimum wage.

It is essential to implement interventions in support of inverse combat and significant association between low socioeconomic status and child mortality^{2,9} that in Brazil, expressed both between regions, as at the state and municipalities.⁹ The social, economic, environmental, cultural and health policies should be to be based on the principle of equity so that, effectively, they can meet the different demands of each region.¹⁰

Studies have shown an association between low socioeconomic statuses and non planned pregnancies.¹¹⁻¹² According to records analyzed 78.3% (141) of the women did not plan the pregnancy and there were 29 (16.1%) cases of teenage pregnancy.

Note that the effective implementation of family planning programs is considered a major challenge in the field of sexual and

reproductive health in primary care. Therefore, it is important that managers and health teams reflect, plan and implement actions to help ensure women their sexual and reproductive rights, particularly the youngest ones.¹³

It is essential that health workers and society in general perform contraceptive counseling with adolescents, in order to understand the correct and incorrect perceptions they have about contraceptive methods and help them understand the risk of unprotected sexual activity in their personal context, explaining the types of contraceptive methods, the operation of each of them, the correct mode of use, effectiveness, indications and counter-indications, and the dual role of condoms in preventing early pregnancy and sexually transmitted diseases.¹⁴

The data recorded in the medical records of newborns in the number of prenatal visits of pregnant women, reveal that the care received by these women falls short of what is recommended by public health policies in Brazil.¹⁵ 77 (42,1%) women had fewer than six consultations during pregnancy.

Women should perform at least six visits during pregnancy, starting in the first quarter and in order to identify diseases or possible complications early and get appropriate treatment, helping to get a better prognosis for pregnant women and children and reducing maternal morbidity and child mortality rates.¹⁵

Although there were significant advances in recent years in public policies aimed at maternal and child health, it cannot be said that the quality of service is the same as the desired.¹⁶ Thus, it is clear there is a need for targeted strategies for monitoring the quality of care for pregnant women and children, in order to have the greatest possible certainty

that policies developed are truly being implanted efficiently.¹⁷

In this scenario, it is worth noting that pregnancy, even when not identifying maternal and fetal abnormalities, may have an unfavorable outcome for the newborn due to complications occurring during labor and / or after birth.¹⁸ In Brazil, 23% of neonatal deaths are related to asphyxia and late prematurity. This situation expresses the preventability of infant deaths, and the possibility of health interventions with greater impact and in the short-term;⁶ however, as it reduces infant mortality, it shows an increase in the proportion of neonatal deaths.¹⁹ Note, thus, the need for skilled health professionals who are able to give quality care to seriously ill newborns, as well as health facilities with adequate technological apparatus to meet the child's needs.²⁰

In this research various grievances committed to the health of newborns and led them to depend on intensive care for maintenance of life. Among these, the highlight were premature birth, which was also described by other authors.²¹⁻²²

Premature birth is characterized by being before 37 completed weeks of pregnancy, counting from the first day of the last menstrual period.¹⁵ This injury is also a major cause of infant mortality in Brazil.³

Among the main risk factors for prematurity, there are the placental disorders, maternal infections, excessive amniotic fluid, extreme maternal age (less than 21 or greater than 36 years) and low socioeconomic status. However, it is worth noting that many cases have no specific cause.¹⁵

The premature newborn, commonly presents respiratory complications that are associated significantly with gestational age less than 32 weeks and low birth weight.²³ The main reasons for hospitalization of newborns in the NICU were respiratory disorders and low birth weight. The main causes of death were cardio-respiratory arrest and prematurity.²⁴

Low birth weight (less than 2.5 kg), is configured as a risk factor that can lead to death of the newborn, it contributes to nutritional deficiency, growth impairment and child development and favors low immunity, corroborating the appearance of infections.²⁵

In this study, in addition to prematurity, more than half (61; 58.7%) of the newborns also had another type of health problem. It is understood, therefore, that early diagnosis is essential and proper treatment to prevent

perinatal complications and reduce the number of child deaths.²⁶

Note that to reduce neonatal mortality in the country, strengthening public policies is essential, measures more directly related to the classification of health care. First, we need to implement networks of regionalized perinatal care. Second, investment in the implementation of practices based on scientific evidence and qualification of care processes in prenatal services, especially in serving the labor and birth.⁶ Also have to understand that the prenatal period is an important step the lives of women, therefore, health professionals must seek to know the history of the women, the pregnancy context and provide moments of listening and interaction that contribute to the woman becoming an active agent in her own care.²⁷ In this and in other studies it was identified that some women make use of narcotic substances during pregnancy. This situation may affect significantly the health of the child.²⁸⁻²⁹

Drug use among pregnant women is a serious social and public health problem. It is observed that pregnant women with substance abuse have lower adherence to prenatal care, have lower participation in education and higher risk of obstetric and fetal complication activities. In addition, most users abandon their children or may be considered, by a judge as unable to take care of their children.³⁰

It is considered that the pregnant woman with a drug addiction has a high-risk pregnancy, due to not only the use of the drugs during the fetal period of development, but also social and emotional risk condition to which it is exposed. Therefore, the implementation of specialized services for the monitoring of population and early detection of the use of drugs of abuse by pregnant women is important.³⁰

In this scenario, it is essential for the professional that cares for the mother, the self-awareness of their values and beliefs, to be able to distinguish the values, beliefs, care practices, the prior knowledge and the cultural context of the individual that they care for. Such an attitude can help make them more aware of their actions and to provide quality, effective and meaningful service to those being cared for. For humanized and comprehensive care, the professional must become able to handle bio-psychosocial demands of pregnant women and their families.²⁷

CONCLUSION

Assistance to maternal and child health in Brazil still has many weaknesses. Women do not have access to health services or, often, assistance does not provide the minimum recommended quality for the public policy of the country. There is still high number of unplanned pregnancies, reflecting the lack of implementation, of effective actions to ensure sexual and reproductive rights of Brazilian women and men.

The low socioeconomic status and low education of mothers of newborns show the social vulnerability of families served in the Unified Health System and the need for actions directed to the real demands of these people.

Most admissions to the NICU were due to the newborn prematurity. Cardiac disorders, congenital malformation, sepsis and syphilis were also conditions that led the newborn to depend on intensive care.

The high number of premature births suggests that actions are carried out during prenatal care, which enabled the identification of risk factors for this injury, as well as proper treatment of conditions in support of prematurity. Even when complications during pregnancy are not identified, the newborn can be complicated and depend on intensive care for maintenance of his life. Therefore, it is important that the health service, for the care of pregnant women to carry out delivery, offering specific health professionals and technological apparatus that favor the survival of children with perinatal complications.

REFERENCES

1. Araújo FG, Oliveira SR, Menezes GAC, Meira DCS. Prenatal care and culture: an interface in nursing practice. J Nurs UFPE on line [Internet]. 2014 [cited 2015 July 18];8(8):2667-75. Available from: http://www.revista.ufpe.br/revistaenfermage/m/index.php/revista/article/view/5781/pdf_5863 DOI: 10.5205/reuol.6081-52328-1
2. Wang H, Liddell CA, Coates MM, Mooney MD, Levitz CE, Schumacher AE et al. Global, regional, and national levels of neonatal, infant, and under-5 mortality during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. Lancet. 2014 Sep;384(9947):957-79.
3. Ministério da Saúde (BR), Departamento de Informática do SUS - DATASUS [Internet]. Painel de Monitoramento da Mortalidade Infantil e Fetal. Brasília: Ministério da Saúde; 2015 [cited 2015 July 18]. Available from:

<http://svs.aids.gov.br/dashboard/mortalidade/infantil.show.mtw>

4. Silva CMCD, Gomes KRO, Rocha AOMS, Almeida IMLM, Neto JMM. Validade, confiabilidade e evitabilidade da causa básica dos óbitos neonatais ocorridos em unidade de cuidados intensivos da Rede Norte-Nordeste de Saúde Perinatal. Cad saúde pública [Internet]. 2013 [cited 2015 July 20];29(3):547-556. Available from: <http://www.scielo.br/pdf/csp/v29n3/a12v29n3.pdf>
5. Silva CF, Leite AJM, Almeida NMGS, Leon ACMP, Olofin I. Fatores associados ao óbito neonatal de recém-nascidos de alto risco: estudo multicêntrico em Unidades Neonatais de Alto Risco no Nordeste brasileiro. Cad saúde pública [Internet]. 2014 [cited 2015 July 18];30(2):355-68. Available from: <http://www.scielo.br/pdf/csp/v30n2/0102-311X-csp-30-2-0355.pdf>
6. Lansky S, Friche AAL, Silva AAM, Campos D, Bittencourt DAS, Carvalho ML et al. Birth in Brazil survey: neonatal mortality, pregnancy and childbirth quality of care. Cad saúde pública [Internet]. 2014 [cited 2015 July 18];30(Sup1):S1-S15. Available from: http://www.scielo.br/pdf/csp/v30s1/en_0102-311X-csp-30-s1-0192.pdf
7. Santos LF, Oliveira LMAL, Munari DB, Barbosa MA, Peixoto MKAV, Nogueira, ALG. When the communication is harmful in the encounter between health professional and family of hospitalized child. Enferm Glob [Internet]. 2015 [cited 2015 July 18];14(37):216-26. Available from: http://scielo.isciii.es/pdf/eg/v14n37/en_docencia4.pdf
8. Duarte SJH, Almeida EP. O papel do enfermeiro do programa saúde da família no atendimento pré-natal. R Enferm Cent O Min [Internet]. 2014 [cited 2015 July 15];4(1):1029-35. Available from: <http://www.seer.ufsj.edu.br/index.php/recom/article/view/137/577>
9. Santos IS, Matijasevich A, Gorgot LRMR, Valle NCJ, Menezes AM. Óbitos infantis evitáveis nas coortes de nascimentos de Pelotas, Rio Grande do Sul, Brasil, de 1993 e 2004. Cad saúde pública [Internet]. 2014 [cited 2015 July 17];30(11):2331-43. Available from: <http://www.scielo.br/pdf/csp/v30n11/0102-311X-csp-30-11-2331.pdf>
10. Bühler HF, Ignotti E, Neves SMAS, Hacon SS. Análise espacial de indicadores integrados determinantes da mortalidade por diarreia aguda em crianças menores de 1 ano em regiões geográficas. Ciênc saúde coletiva [Internet]. 2014 [cited 2015 July

18];19(10):4131-40. Available from: <http://www.scielo.br/pdf/csc/v19n10/1413-8123-csc-19-10-4131.pdf> DOI: 10.1590/1413-812320141910.09282014

11. Almeida AC, Jesus ACP, Lima PFT, Araújo MFM, Araújo TM. Fatores de risco maternos para prematuridade em uma maternidade pública de Imperatriz-MA. *Rev Gaúcha Enferm* [Internet]. 2012 [cited 2015 July 20];33(2):86-94. Available from: <http://www.scielo.br/pdf/rgenf/v33n2/13.pdf>

12. Simón Y, Aznar T. Influye la familia de origen em el embarazo no planificado de adolescentes y jóvenes? *Prog Obstet Ginecol*. 2015 Mar;58(3):118-124.

13. Evangelista CB, Barbieri M, Silva PLN. Unplanned pregnancy and the factors associated with the participation in the family planning program. *J res fundam care online* [Internet]. 2015 [cited 2015 July 18];7(2):2464-74. Available from: <file:///C:/Users/leid/Downloads/3633-24660-1-PB.pdf> DOI: 10.9789/2175-5361.2015.v7i2.2464-2474

14. Carmo SS, Livramento DE, Neto HFP, Zeferino MGM. Análise quantitativa sobre gravidez na adolescência em um município mineiro. *Cogitare Enferm* [Internet]. 2014 [cited 2015 July 18]; 19(4):801-7. Available from: <http://ojs.c3sl.ufpr.br/ojs/index.php/cogitare/article/viewFile/35901/23958>

15. Ministério da Saúde (BR), Secretaria de Atenção à Saúde, Departamento de Atenção Básica [Internet]. Atenção ao pré-natal de baixo risco. Brasília: Ministério da Saúde; 2012 [cited 2015 July 18]. Available from: http://bvsms.saude.gov.br/bvs/publicacoes/cadernos_atencao_basica_32_prenatal.pdf

16. Araújo JP, Silva, Collet N, Neves ET, Toso BRGO, Viera CS. História da saúde da criança: conquistas, políticas e perspectivas. *Rev Bras Enferm* [Internet]. 2014 [cited 2015 July 18];67(6):1000-7. Available from: <http://www.scielo.br/pdf/reben/v67n6/0034-7167-reben-67-06-1000.pdf>

17. Cassiano ACM, Carlucci SEM, Gomes CF, Bennemann RM. Saúde materno infantil no Brasil: evolução e programas desenvolvidos pelo Ministério da Saúde. *RSP* [Internet]. 2014. [cited 2015 July 18];65(2): 227-244. Available from: <http://seer.enap.gov.br/index.php/RSP/article/view/581/499>

18. Harper LM, Caughey AB, Roehl KA, Odibo AO, Cahill AG. Defining an abnormal first stage of labor based on maternal and neonatal outcomes. *Am J Obstet Gynecol* [Internet]. 2014 Jun[cited 2015 July 20];210(6):536.e1-

e7. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4076788/pdf/nihms551076.pdf>

19. Pizzo LGP, Andrade SM, Silva AMR, Melchior R, González AD. Mortalidade infantil na percepção de gestores e profissionais de saúde: determinantes do seu declínio e desafios atuais em município do sul do Brasil. *Saude soc* [Internet]. 2014. [cited 2015 July 20];23(3):908-18. Available from: <http://www.scielo.br/pdf/sausoc/v23n3/0104-1290-sausoc-23-3-0908.pdf>

20. Costa ALRR, Júnior EA, Lima JWO, Costa FS. Fatores de risco materno associados à necessidade de unidade de terapia intensiva neonatal. *Rev Bras Ginecol Obstet* [Internet]. 2014 [cited 2015 July 18];36(1):29-34. Available from: <http://www.scielo.br/pdf/rbgo/v29n9/10.pdf>

21. Kambourova M. Inadequate antenatal care as a factor for prematurity. *Akush Ginekol (Sofia)*. 2015;54(1):7-10.

22. Marinov B, Andreeva A, Karamisheva V, Museva A. Preterm birth in Bulgaria-changes in aetiology and incidence in the last decade. *Akush Ginekol (Sofia)*. 2014;53(Sup1):33-9.

23. Oliveira CS, Casagrande GA, Grecco LC, Golin MO. Perfil de recém-nascidos pré-termo internados na unidade de terapia intensiva de hospital de alta complexidade. *ABCS Health Sci* [Internet]. 2015 [cited 2015 July 18];40(1):28-32. Available from: <file:///C:/Users/leid/Downloads/700-1435-1-PB.pdf>

24. Basso, CG; Neves, ET; Silveira, A. Associação Entre Realização De Pré-Natal E Morbidade Neonatal. *Texto Contexto Enferm* [Internet]. 2012 [cited 2015 July 18];21(2): 269-76. Available from: <http://www.scielo.br/pdf/tce/v21n2/a03v21n2>

25. Tourinho AB, Reis LBSM. Peso ao nascer: uma abordagem nutricional. *Com Ciências Saúde* [Internet]. 2013 [cited 2015 July 19];22(4):19-30. Available from: http://bvsms.saude.gov.br/bvs/periodicos/revista_ESCS_v23_n1_a02_peso_ao_nascer.pdf

26. Rysavy MA, Li L, Bell EF, Das A, Hintz SR, Stoll BJ et al. Between-Hospital variation in treatment and outcomes in extremely preterm infants. *N Engl J Med* [Internet]. 2015 May[cited 2015 July 18];372(19):1801-11. Available from: http://formsus.datasus.gov.br/novoimgarq/20337/3220639_109700.pdf

27. Alves CC, Wilhelm LA, Barreto CN, Santos CC, Meincke SMK, Ressel LB. Prenatal care and culture: an interface in nursing practice. *Esc Anna Nery* [Internet]. 2015 [cited 2015 July 18];19(2):265-71. Available from:

http://www.scielo.br/pdf/ean/v19n2/en_1414-8145-ean-19-02-0265.pdf

28. Dumas A, Lejuene C, Simmat-Durand L. Tobacco, alcohol, marijuana and pregnancy: Which women are at risk?. *Sante Publique*. 2014 Sep; 26(5): 603-12. Available from: [http://www.drugandalcoholdependence.com/article/S0376-8716\(13\)00370-0/pdf](http://www.drugandalcoholdependence.com/article/S0376-8716(13)00370-0/pdf);

29. Tong VT, Althabe F, Alemán A, Johnson CC, Dietz PM, Berrueta M et al. Accuracy of self-reported smoking cessation during pregnancy. *Acta Obstet Gynecol Scand*. 2015 Jan;94(1):106-11. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4301572/pdf/nihms-655635.pdf>;

30. Kassada DS, Marcon SS, Pagliarin MA, Rossi RM. Prevalence of drug abuse among pregnant women. *Acta Paul Enferm [Internet]*. 2013 [cited 2015 July 18];26(5):467-71. Available from: http://www.scielo.br/pdf/ape/v26n5/en_a10v26n5.pdf

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Corresponding Address

Leidiane Ferreira Santos
Department of Nursing
Federal University of Tocantins/UFT
Av. NS 15, ALCNO 14, Bala II, sala 8B, 109
Norte
CEP 77001-090 – Palmas (TO), Brazil