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NEWBORNS WITH RESPIRATORY MORBIDITY IN A BABY-FRIENDLY HOSPITAL: A DESCRIPTIVE STUDY

RECÉM-NASCIDO COM MORBIDADE RESPIRATÓRIA EM UM HOSPITAL AMIGO DA CRIANÇA: UM ESTUDO DESCRITIVO

RECIEN-NASCIDO CON MORBIDAD RESPIRATÓRIA EN UN HOSPITAL AMIGO DEL INFANTE: UN ESTUDIO DESCRIPTIVO

Jucimar Frigo¹, Rosana Amora Ascari², Denise Antunes de Azambuja Zocche³, Sandra Mara Marin⁴, Maria Hernandez⁵, Silvana dos Santos Zanotelli⁶

ABSTRACT

Objective: characterize the newborn with respiratory morbidity according to the mode of delivery, gestational age and birth weight. **Method:** descriptive study, retrospective documentary of 1,657 records of pregnant women in a reference hospital in 2010 attending high-risk pregnancy. For the data collection a specific instrument was drawn up in which data were recorded relating to the type of delivery (vaginal or abdominal) and gestational age, calculated in accordance with the rule of Nægele. The research project was approved by the Committee on Ethics in Research, Protocol n° 124.125/2012. **Results:** This study highlights the presence of transient tachypnea of the newborn with low weight at abdominal birth, aspiration of amniotic fluid and meconium in the newborn with weight and gestational age appropriate at birth. There was an inverse association between weight, gestational age and respiratory complications at birth. **Conclusion:** this study suggests that normal delivery associated with adequate gestational age at birth proved to be safer for the newborn. **Descriptors:** Newborn; Nursing; Respiratory illnesses.

RESUMO

Objetivo: caracterizar o recém-nascido com morbidade respiratória de acordo com a via de parto, idade gestacional e peso ao nascer. **Método:** estudo descritivo, retrospectivo e documental em 1.657 prontuários de parturientes atendidas em 2010 num hospital referência no atendimento à gestação de alto risco. Para a coleta dos dados foi elaborado um instrumento específico no qual foram registrados os dados relativos ao tipo de parto (vaginal ou abdominal) e idade gestacional calculada de acordo com a regra de Nægele. O projeto de pesquisa teve a aprovação do Comitê de Ética em Pesquisa, Protocolo n°124.125/2012. **Resultados:** destaca-se a presença de taquipneia transitória do RN com baixo peso em parto abdominal, aspiração de líquido amniótico e mecônio no RN com peso e IG adequado ao nascimento. Houve associação inversa entre peso, IG e complicações respiratórias ao nascimento. **Conclusão:** estudo aponta que o parto normal associado à IG adequada ao nascimento mostrou-se mais seguro para os RN. **Descritores:** Recém-nascido; Enfermagem; Doenças Respiratórias.

RESUME

Objetivo: caracterizar el recién-nascido con morbilidad respiratoria de acuerdo con el camino de parto, edad gestacional y peso al nascer. **Método:** estudio descriptivo, retrospectivo y documental en 1.657 prontuarios de parturientes atendidas en 2010 en un hospital referencia para el atendimento à gestación de alto risco. Para la coleta de los datos fue elaborado un instrumento específico con cual fueron registrados los datos relativos al tipo de parto (vaginal u abdominal) e edad gestacional calculada de acuerdo con la regla de Nægele. El proyecto de pesquisa tuvo la aprobación del Comité de Ética en Pesquisa, Protocolo n°124.125/2012. **Resultados:** destacase la presencia de taquipneia transitoria del recién nacido con bajo peso en el parto abdominal, aspiración de líquido amniótico y meconio en el recién nacido con peso e IG adecuado al nacimiento. Hubo asociación inversa entre peso, IG y complicaciones respiratorias al nacimiento. **Conclusión:** estudio apunta que el parto normal asociado à IG adecuada al nacimiento se mostró más seguro para los recién nacidos. **Descritores:** Recién-nascido; Enfermaría; Enfermedades Respiratorias.

¹Obstetric Nurse, Professor, University of the State of Santa Catarina/UFSC, South Brazilian Research Center, Extension and graduate/CENSUPEG, Doctoral Student in Nursing, Nursing Graduate Program at the Federal University of Rio Grande do Sul/UFGRS, Chapecó (SC), Brasil. E-mail: jucifrigo@hotmail.com; ²Nurse, Professor, University of the State of Santa Catarina/UFSC, Doctoral Student in Nursing, Graduate Program in Nursing at the Federal University of Rio Grande do Sul/UFGRS. Researcher of the Study Group on Health and Work - GESTRA/UFSC. Chapecó (SC), Brasil. E-mail: rosana.ascari@hotmail.com; ³Nurse, PhD, Associate Professor of Nursing, University of the State of Santa Catarina/UFSC. Chapecó (SC), Brasil. E-mail: denise9704@gmail.com; ⁴Nurse, PhD in Nursing from the Universidade Federal do Rio Grande do Sul/UFGRS. Professor at the University of the State of Santa Catarina (UFSC) and the Southern Brazilian Research and Graduate Centre(CENSUPEG). Chapecó (SC), Brasil. E-mail: sandrapj@hotmail.com; ⁵Obstetric Nurse, Doctoral Student in Nursing, Universidade Federal de Santa Catarina - UFSC. Florianópolis (SC), Brasil. E-mail: marijos33@yahoo.com.br; ⁶Nurse, Professor, University of the State of Santa Catarina/UFSC, Doctoral Student in Nursing, Graduate Program in Nursing at the Federal University of Rio Grande do Sul/UFGRS. Chapecó (SC), Brasil. E-mail: zanotelli@gmail.com



INTRODUCTION

Pregnancy, birth and the post-birth are events that integrate reproductive experience of men and women. This is a singular process, one of the most significant human experiences for all who are involved. This process of delivery is a moment of intense emotion, because it necessarily involves the preparation and the expectations of the woman, her partner and family.

It is known that among the types of delivery, the vaginal route is an option for the pregnant woman in the process of humanization, always considering the elements for their general conduct, gestational age, estimated fetal weight, fetal presentation, conditions of the uterine cervix, integrity of ovular membranes and fetal vitality, all these factors are crucial to the success of parturition.¹ In this context, labor has a very important role for the birth, a time that requires women and health professionals, and in particular, those of nursing, accompanying intensely this time, attitudes and specific knowledge related to the health of the woman, the fetus and the family.

For the development of appropriate delivery, be it vaginal or cesarean section, physical and emotional well-being of women are necessary, to favor the reduction of maternal and perinatal risks and complications.² A great achievement for the Ministry of Health (MOH) is to encourage the achievement of normal delivery and the reduction of cesarean sections, in view of the well-being of women and reduce risks for her and her baby.³

In June 2000 the MoH established the Program for Humanization of Prenatal and Birth (PNHP) in which respect for reproductive rights and the prospect of humanization appear as structuring elements of the program and its guidelines. The PNHP is based on law in the humanization of obstetric and neonatal care as precondition for adequate monitoring of delivery and post-birth. In this sense the humanization regards the conviction that it is the duty of the health services to receive with dignity women, their families and the newborn.⁴

Health care professionals are contributing this experience and play an important role in this process, recognizing the critical moments in which their interventions are necessary to ensure the maternal and neonatal health.⁵ yet regarding the care of the newborn at birth Programmatic Actions and Strategies directed to health care to the newborn, warn about the nursing care in order to reduce the

neonatal mortality rate, which accounts for 70% of deaths in the first year of life in Brazil.⁵

The proper care to the newborn infant is one of the challenges to reduce this index in the country, and depends primarily on the follow-up by health professionals during the gestational cycle, the proper attention at the time of birth and the care of newborns, i.e. specific and often intensive care that require specialized knowledge.⁵

Of all the transitions that occur at birth, breathing is the most complex and vital, since the newborn should start breathing in a few seconds, the lungs should perform an entirely different from breathing, i.e. the direct exchange of gas with the environment in order to adapt immediately to life outside of the womb.⁶

The newborn may show signs and symptoms of respiratory difficulty as important clinical manifestation and common soon after birth. The respiratory morbidity alters the transition fetal-neonatal, hindering the process of cardiorespiratory adaptation at birth and consequently, triggering respiratory failure in the first 72 hours of extra-uterine life.⁶ Whereas the impacts of respiratory morbidity in the life of the newborn, as well as to the family and society, it is understood that it is important to conduct studies that seek understanding of the relationship between the respiratory morbidity with the mode of delivery, gestational age and birth weight.

It is essential that in addition to identifying the reasons and context of respiratory morbidity in neonates, it is also necessary to understand the relationship of these with the mode of delivery, birth weight and gestational age of these women, bearing in mind that this may influence the decision-making on the part of health professionals, in addition to promoting reflection and improvement in attention women's health in prenatal, labor, birth and post-birth phases.

Faced with this reality that warns us about the relationship of the delivery route with the quality of the labor process and its intimate relationship with respiratory illnesses, this study aims to characterize the newborn with respiratory morbidity according to the mode of delivery, gestational age and birth weight.

METHOD

A quantitative, descriptive and retrospective documentary study, consisting in characterizing the newborn with respiratory morbidity and relate to the mode of delivery, birth weight and gestational age. The data



were obtained from a review of medical records for the period January to December 2010, in a Hospital in public administration and with the title of "Friend of the Child, which is a regional referral for care to high-risk pregnancy. The hospital has 315 beds, of which 30 are for obstetrics, being ten to labor process and 20 to the housing assembly. The Hospital performs approximately 350 deliveries per month, of which 60 % are vaginal and 40% cesarean section.

For the data collection was drawn up a specific instrument in which data were recorded relating to the type of delivery (vaginal or abdominal) and gestational age calculated in accordance with the rule of Nägele. The characteristics recorded from newborn related to sex, birth weight, Apgar index at 1 and 5 minutes and respiratory morbidity.

Considered were the respiratory diseases that most afflicted the newborns, namely: transient tachypnea, hyaline membrane disease, aspiration of meconium and amniotic fluid, pneumomediastinum, pneumonia, being each one of these pathologies evaluated in reaction to the type of delivery (vaginal or abdominal), gestational age calculated in accordance with the rule of Nägele, newborn's weight at birth in grams and Apgar score⁷

To confirm the diagnosis of respiratory morbidity also consulted were medical, nursing, physical therapists and social service developments, containing the reports of the following manifestations: tachypnea, apnea, nostril movement, expiratory grunting, head bobbing, chest retraction and cyanosis,

conform the Guide of Programmatic Actions and Strategic Attention to the health of the newborn.⁷

The research project was approved by the Research Ethics Committee of the University of the State of Santa Catarina (Process 124,125 / 2012), by the System Platform Brazil, following the standards of Resolution no. 196/96.

RESULTS AND DISCUSSION

In 2010 the institution surveyed had 1,926 births in the period from January to December, making available, 1,657 records, which accounted for the sample of this research. All were derived from the Single Health System, represented by vaginal deliveries (62 %) and abdominal deliveries (38 %), and the others did not qualify for this research, dealing with medical records of patients from arrangements or individuals.

• Characterization of maternal-infant population

The hospital is set up in accordance with the requirements by ministerial decree, where vaginal delivery inis to represent 70% of the births.⁵ Considering the complexity of the obstetric service in order to meet women with security, in particular the high-risk pregnant women, it is believed that the 38% of abdominal deliveries are related to this service of high complexity and receives patients forwarded by neighboring municipalities (as shown in table 1).

Table 1. Socio-demographic characteristics of women and newborn infants treated in the year 2010 in HAC in the state of Santa Catarina, Brazil.

Variables	n
Age (years)	
≤18	19 -35
1.239	≥35
Schooling (years of study)	0-3
4-7	
8-11	≥12
Marital status	Single
Married	Stable
Other	Profession
Housewife	
Production assistant	Agriculturists
Other	538

Source: medical records of women and newborns admitted to the hospital where the study was carried out, 2010.

As to the age of the women the stage of 18 to 35 years prevails, corresponding to 74,7% (n=1239) of the population. Attention for the age group with an age under 18 years, corresponding to 18% (n=297) women.

The two extremes of the reproductive cycle are at higher risk of complication, both

medical and socio-psychological as regards conception.⁸ Considered extreme for childbearing are women aged less than 18 years and over 35 years. Often a pregnancy in adolescence means an interruption in the studies, which can significantly change the future of adolescent. Due to their



physiological immaturity, nutritional status and reluctance to seek early prenatal care, they have a higher risk of developing toxemia, premature labor, babies of low birth weight and abdominal delivery.¹

Pregnant women with 35 years or more are defined as obstetrically aged, and present a high risk of obstetric complication, such as placenta previa, placenta abruption, toxemia and other. Over 35 years women in general should no longer become pregnant, so expressive are the indices of poor fetal formations and delivery dystocia.⁸

As for schooling our survey found that the majority 58% (n= 955) of the women studied between 8 to 11 years and only 10% (n= 165) studied more than 12 years, and a few women, 3% (n= 51), have a low educational level (illiterate or study only up to 03 years). It can be said that the low maternal educational level is an important factor that may predispose patients to potentially unsafe situations for the mother and the newborn, because it is associated with low birth weight, the perimortality, neonatal mortality and infant mortality, as well as the increase in the number of births.⁹

In the case of the relationship of the consultations carried out in pre-natal care and education of women, it should be noted that the more schooling, 8 to 11 years of studies, 42.1% (n= 699), the more prenatal consultations, more than 07

consultations. Thus, these mothers would give greater importance to prenatal care and/or have an easier access to the monitoring of their pregnancy.

Regarding the marital status of the patients surveyed we observed that 29% (n= 473) of the women have reported being married, 37% (n= 616) reported having a stable union, and 33% (n= 552) reported being single.

In relation to the professions of women it was observed that 59% (n= 977) are informal home workers, 5.3% (n= 87) of women work as production assistant, 3.3% (n= 55) work in agriculture and other occupations.

• Characterization of obstetric history

In relation to the number of previous pregnancies we observe that 48.2% (n= 798) women were primiparous, 51.8% (n= 859) of the women were multiparous. When we talk about humanization of nursing care in labor process is the process of nursing, we should refer to the other components of the family, for which actually occurs a integration of assistance of systemic form and humanized in nursing care.

Table 2. Obstetric History and admission data from the mothers of newborn infants treated in the year 2010 in HAC in the state of Santa Catarina, Brazil.

Variables	n
Parity	
Primiparous	798
Multiparous	859
Gestational age at birth (weeks)	
≤ 37	160
37-41	1488
≥ 41	9
No pre-natal consults	
None	14
1-3	45
4-6	391
≥ 7	1207
Way of delivery	
Vaginal	1025
Abdominal	632
Previous abortions	
Yes	131
No	1526

Source: medical records of women and newborns admitted to the hospital where the study, 2010 .

In relation to pre-natal consults we observed that 72.8% (n=1,207) of the women performed more than seven consults during pregnancy, while 23.5% (n= 391) took between 4 to 6 consultations, 2.7% (n= 45) performed between 1 to 3 prenatal consultations. However despite all the information and the availability of Basic

Health Units in the city, we still have 1.0 % (n= 14) women who did not have any pre-natal consults during the pregnancy.

The prenatal care aims to maintain the integrity of the conditions of maternal and fetal health. For this reason, it is necessary that the For this reason it is necessary to start the pre-natal phase as early as possible,



preferably before the 12th week of pregnancy, in order to identify and prevent clinical, surgical and obstetrical complications that may harm the pregnant woman or the fetus. The number of prenatal visits should be at least seven in high-risk patients; the range of consultations should be assessed individually and in accordance with the severity of their disease, with the follow-up, sometimes done with the patient hospitalized.⁵

It was noticed that the resolution of the labor process in vaginal route way was an average time of 03h40min and abdominal route was averaged 03h21min. It is not uncommon that the abdominal deliveries are scheduled before the woman enters in labor, this is justifiable when we found an average time traveled between the labor process and the indication of delivery lower abdominal vaginal delivery, being carried out at the maximum 03h21min after admission of pregnant women in obstetrics. The attitudes of professionals involved in childbirth are fundamental and must comply with the time limits, desires, aspirations and expectations of each woman, during the entire follow-up period of labor and childbirth.⁵

The Apgar score when compared with the track of labor realizes that for vaginal births the index was between 8.25 points in the first minute and 9.12 points in the fifth minute of life. In the case of abdominal newborns showed in the first minute 8.27 points and fifth minute 9.17 points. Evidencing in this way, that there is practically no difference in Apgar scores by way of birth.

The gestational age of 37 to 41 weeks was the best Apgar score on average 8.42 points in the first minute and in the fifth minute of life, 9.27 points. The higher Apgar score is directly related to the gestational age appropriate for the birth and the physiological maturation, in particular that of the respiratory system, essential for the maintenance of life outside of the womb.⁷⁻⁸

The study showed that when compared to the weight of birth with the Apgar score, 1.8% (n= 31) of newborns with weight of 500 to 1,500 grams, obtained an average score in the first minute of life of 4.61 points and in the fifth minute of 5.65 points, values considered to be inappropriate, where measures of resuscitation to improve the physiological condition will have to be taken.⁷ The best Apgar score was observed in birth weight between 2,500 to 3,500 grams, corresponding to 71.3% (n=1,182) births, in the first minute with 8.41 points and in the fifth minute of life with 9.26 points.

It is believed that a higher Apgar scores related to birth weight is connected with the gestational age appropriate at birth and with better physiological conditions.

In relation to gestational age, based on the rule of Nägele, at the moment of birth 90% (n= 1488) of the women were 37 to 41 weeks in gestation. We worry about the number of preterm births, where we obtained 10% (n=160) newborns with age less than 37 weeks of gestation. The duration of gestation is 280 days, on average, that is, 40 weeks of pregnancy, and may be considered a full term newborn that is born between 37 th to 41 th week of gestation.⁵ The characteristics and the physiology of the neonates, mature and immature, born with changes of intrauterine development is under the responsibility of the professionals determine the details of assistance that will dispense the baby through the assessment of its specific needs.^{8,9}

It can be observed that 71% of the newborn exhibited weight that ranged from 2,500 to 3,500 grams at birth, and 18% above 3500 grams, and 11% below 2500. Even taking into account the guidelines of the MoH, the care of high-risk pregnant women, this population with lower weight is vulnerable due to its low weight, because this indicator, even isolated may be an aggravating factor for the development of respiratory complications.

When correlating the gestational age of the women searched with the birth weight of the newborn, 76% of the children of women with gestational age of 37 to 41 weeks, had a body weight appropriate for birth, in contrast 20% of infants born to mothers with gestational age between 37 and 40 weeks, weighing over 3,500 grams, less than 2,499 grams and with gestational age of 37 to 41 weeks, we have 3.9% newborns.

In relation to morbidities at birth, 9.7% newborns showed some pathology, among them, 41% of respiratory diseases, and 59% between malformations and metabolic diseases. Among the respiratory pathologies, 50% newborns showed transient tachypnea at birth and hyaline membrane disease. This fact confirms the literature reports, because the respiratory distress represented by hyaline membrane and the transient tachypnea is the pathology that most often affects neonates, especially when the pregnancy is interrupted prematurely, with gestational age less than 37 weeks.

With respect to the mode of delivery and respiratory complication, only 6.2% of those who were born by vaginal route had complications, since those who were born



through the abdominal presented more complications being 14.2% of newborns.⁷

Table 3. Transient Tachypnea related to gestational age, weight and track of birth.

Transient Tachypnea	Up to 37 weeks	37 To 41 weeks
Vaginal Delivery		
From 500 to 1,499 grams	3	--
Of 1,500 to 2,499 grams	6	--
2,500 To 3,500 grams	2	--
Abdominal Delivery		
Of 1,500 to 2,499 grams	10	--
2,500 To 3,500 grams	4	3
Above 3,500 grams	--	3

Source: medical records of women and newborns admitted to the hospital where the study, 2010.

As to the Hyaline membrane disease, we found in 15% of the newborns, all delivered by cesarean and had gestational age less than 37 weeks of gestation. Premature infants are especially susceptible to Respiratory Distress Syndrome (Hyaline membrane disease). This

disease occurs in babies who do not have adequate amount of surfactant to a good pulmonary post-natal function. The surfactant may be deficient at birth due to the immaturity of extreme cells alveolar coating or by a reduction in the production¹⁰

Table 4. Hyaline membrane disease related to gestational age, weight and track of birth.

Hyaline membrane disease	Up to 37 weeks of gestational age	37 To 41 weeks of gestational age
Vaginal Delivery		
Of 1,500 to 2,499 grams	2	1
Abdominal Delivery		
From 500 to 1,499 grams	3	--
Of 1,500 to 2,499 grams	--	3

Source: medical records of women and newborns admitted to the hospital where the study, 2010.

Among the infants with aspiration of meconium/amniotic fluid, 54% had gestational age greater than 42 weeks of pregnancy, and 46% had gestational ages of 37 to 41 weeks,

and to relate the way of delivery identified that 54% were of vaginal delivery and 46% via abdominal route.

Table 5. Meconium aspiration syndrome related to gestational age, weight and track of birth.

Meconium Aspiration/amniotic fluid	Up to 37 weeks of gestational age	37 To 41 weeks IG.	Above 42 weeks IG.
Vaginal Delivery			
Of 1,500 to 2,499 grams	2	--	--
2,500 To 3,500 grams	--	4	--
From 500 to 1,499 grams	--	--	1
Above 3,500 grams	--	--	1
Abdominal Delivery			
Of 1,500 to 2,499 grams	3	2	--
2,500 To 3,500 grams	--	4	--

Source: medical records of women and newborns admitted to the hospital where the study, 2010.

The meconium aspiration can occur in any condition where the hypoxia make the fetus eliminate meconium in utero.¹⁰ The baby suffering from hypoxia is at risk of intrauterine aspiration, or the time of delivery. The factors associated with the elimination of meconium may be delayed fetal development and the post-maternity, conditions where the intrauterine hypoxia and the elimination of the meconium can occur due to the failure of placental function.

Only one newborn showed signs of pneumonia. The other newborns, 59 %, had other than respiratory diseases.

For the routing of the pathological newborn

for treatment it was noted that 55% were admitted to the Intensive Care Unit, 45 %, at the Intermediate Care Unit. The other 1,483 newborns in this study were forwarded to the Housing Assembly.

For the routing of the pathological newborn for treatment it was noted that 55% were admitted to the Intensive Care Unit, 45 %, at the Intermediate Care Unit. The other 1,483 newborns in this study were forwarded to the Housing Assembly.

CONCLUSION

The study allowed the identification of respiratory morbidity more frequent in



newborns at a public hospital in the region west of Santa Catarina, highlighting the transient tachypnea of the newborn, meconium aspiration/amniotic fluid, hyaline membrane disease and pneumonia. Despite the diversity of diseases of the respiratory system in newborn infants, their impact suffers significant differences according to the socio-demographic profile.

We confirm that the respiratory morbidity is associated with the abdominal way of delivery, therefore, the normal delivery associated with gestational age appropriate birth proved to be safer for the newborns.

The incentive to normal delivery is growing in such a way as to qualify the birth process, benefiting from the maternal and neonatal health, corroborating with the valuation of subjective aspects of birth. In spite of the incentives towards natural childbirth there is still a need of health professionals incorporating the abdominal delivery as an optional method to solve neonatal and maternal suffering. The assistance must be based on a system that will ensure continuous care from the health team proportional to the level of risk of the newborn.

REFERENCES

1. Piato S. Complicações em obstetrícia. São Paulo: Manole; 2009.
2. Moura FMJSP, Crizostomo CD, Nery IS, Mendonça RCM, Araújo OD, Rocha SS. A humanização e a assistência de enfermagem ao parto normal. Rev Bras Enferm [Internet]. 2007 [cited 2013 Mar 10];60(4):452-5. Available from: <http://dx.doi.org/10.1590/S0034-71672007000400018>
3. Reis AE, Zuleica MP. Aplicação das ações preconizadas pelo Ministério da Saúde para o parto humanizado em um hospital de santa Catarina. Ciênc Saúde Coletiva [Internet]. 2005 [cited 2013 Mar 15];10(supl):221-30. Available from: <http://www.scielo.br/pdf/csc/v10s0/a23v10s0.pdf>
4. Ministério da Saúde (BR). Secretaria Executiva. Humanização do Parto. Programa humanização no pré-natal e nascimento. Brasília: Ministério da Saúde [Internet]. 2002 [cited 2013 Feb 12]. Available from: <http://bvsmms.saude.gov.br/bvs/publicacoes/p artes/parto1.pdf>
5. Ministério da Saúde (BR). Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Atenção ao pré-natal de baixo risco. Brasília: Editora do Ministério da Saúde [Internet]. 2012 [cited 2014 Feb 02]. Available from: http://bvsmms.saude.gov.br/bvs/publicacoes/c adernos_atencao_basica_32_prenatal.pdf
6. Tamez RN. Enfermagem na UTI neonatal: assistência ao recém-nascido de alto risco. 5ª ed. Rio de Janeiro: Guanabara Koogan; 2013.
7. Ministério da Saúde (BR). Secretaria de Atenção à Saúde. Departamento de Ações Programáticas e Estratégicas. Atenção à saúde do recém-nascido: guia para os profissionais de saúde. Brasília: Ministério da Saúde [Internet]. 2011 [cited 2014 Feb 01];4 v. : il. - (Série A. Normas e Manuais Técnicas). Available from: http://bvsmms.saude.gov.br/bvs/publicacoes/a tencao_saude_recem_nascido_profissionais_v3 .pdf
8. Montenegro CAB, Rezende JF. Obstetrícia fundamental. 12th ed. Rio de Janeiro: Guanabara Koogan; 2011.
9. Querido DL, Christoffel MM, Matos PBC, Almeida VS, Monteiro JLS, Silva AP. Intervenção educativa em uma unidade de terapia intensiva neonatal no manejo da dor. Rev enferm UFPE on line [Internet]. 2013 Oct [cited 2014 Feb 26]; 7(esp):6310-4. Available from: http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/5432/pdf_3829
10. Tamez RN, Silva MJP. Enfermagem na UTI neonatal: assistência ao recém-nascido de alto risco. 3ª ed. Rio de Janeiro: Guanabara Koogan; 2006.
11. Araújo LA, Reis AT. Enfermagem na prática materno-neonatal. Rio de Janeiro: Guanabara Koogan; 2012.



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Corresponding Address

Jucimar Frigo
Rua Machado de Assis, 399-D
Bairro Jardim Itália
CEP 89802-310 – Chapecó (SC), Brasil