v. 2, n. 26, 2022

International Journal of Health Science

CHARACTERIZATION OF WOMEN WHO GAVE BIRTH IN A HIGH COMPLEXITY MATERNITY HOSPITAL IN THE INTERIOR OF SP

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Abstract: Introduction: To know better women in their pregnancy-puerperal cycle and the perinatal results involved, allows establishing different policies that are able to reduce complications, sequelae and mortality in the reproductive cycle of women. **Goal:** To investigate the population of women in the puerperal pregnancy cycle during childbirth in a reference maternity hospital for high-risk pregnancy. **Method:** study carried out from August 2020 to May 2021 through electronic medical records of pregnant women who gave birth in a high-risk maternity hospital in the interior of the state of São Paulo. Women with gestational age above 20 weeks were included, being divided for analysis into two groups according to term or preterm delivery. **Results:** In premature births, 70.97% of the women were of white ethnicity, 61.29% had only high school education, 80.65% were aged between 19 and 35 years, 35.48% had had previous cesarean sections. Frequencies close to those presented by women with full-term deliveries. Regarding maternal and fetal outcomes, 54.84% of preterm births were cesarean sections, compared to 65.84% of full-term deliveries. Hospitalizations in the neonatal ICU for premature infants were 41,41,94%, while in deliveries over 37 weeks, they were 5.59%. In addition, preeclampsia was related to 35.48% of deliveries below 37 weeks. **Conclusion:** it is clear that prematurity was more related to more advanced maternal ages and cases of preeclampsia. Cesarean section proved to be useful for preventing maternal and fetal complications, as well as emphasizing the importance of effective neonatal care.

Keywords: Pregnancy, newborn, sociodemographic, prematurity, diagnoses, complications.

INTRODUCTION

Records from the World Health Organization (W.H.O.) show that about 303,000 women died in 2015 from complications in pregnancy or childbirth, and 99% of cases are concentrated in low- and middle-income countries. In addition, about 20 million babies were born with low birth weight in the same year. Thus, considering the WHO goal of reducing maternal and infant mortality, Brazil has instituted methods to achieve this goal, the Stork Network and campaigns to raise awareness of the need for prenatal care are part of the strategies implemented. [1,2]

Births in Brazil went through a process of institutionalization from the 20th century onwards, especially after the Second World War, thus, birth assisted by midwives at home began to be characterized by care in hospitals, under the responsibility of the care team composed of physicians. and nurses. However, not always meeting the subjective needs of women. [3,4]

Over time, the care model underwent changes that ensured good care practices, based on scientific evidence and that valued the role of women and their needs. (NAGAHAMA 2020) This way, with the change in the care mode and its progression, Brazil seeks to know its female population of childbearing age to improve maternal and fetal care and outcomes.[2,5,6]

It is relevant to point out that teenage pregnancy rates remain high in the country, showing the need for strategies in the field of health education for adolescents and awareness of contraceptive methods. Adolescent pregnancy, in addition to depriving women of their personal development, with abandonment of studies and difficulty in entering the labor market, also brings greater risks of maternal and perinatal complications.[7]

As for the type of delivery, recent studies have shown the predominance of the choice

of cesarean delivery by Brazilian women, a fact that has been worrying the scientific community due to the increased risk in future pregnancies and complications in childbirth and puerperium and adverse perinatal outcomes, such as immaturity of the baby. newborn.[8]

According to the literature, teenage pregnancy, as well as planned surgical delivery, is associated with prematurity, one of the main causes of death among newborns in Brazil and whose rates have been increasing. Thus, it is important to consider that maternal factors, such as age, education, type of delivery and infections during pregnancy, may be associated with the increase in the number of preterm neonates.[9]

For the assessment of prematurity, a baby born between 20 and 36 weeks and 6 days of gestation is considered premature or preterm, and a late preterm baby born between 37 and 37 weeks and 6 days of gestation is considered, and the high concern for them is owes to the immaturity of its organs and systems, susceptible to dysfunctions and failures at any period, whether during or after birth. Therefore, it is important to know the proportion of premature babies born in the various maternity hospitals in the country so that resources and assistance in maternal and child health are efficiently directed to the implementation of strategies that allow the reduction of prematurity and its consequences.[10]

Indicators are used worldwide that allow the assessment of birth outcomes, one of which is the application of the Apgar score, which consists of assessing muscle tone, respiratory effort, heart rate, skin color and reflex irritability. A score is established for each of these clinical signs, whose final grade varies from 0 to 10. This score is performed in the first and fifth minutes of life, thus, it is able to assess the degree of anoxia at birth (severe anoxia: 0-3 points, moderate: 4-7 points or absence of anoxia: 7-10), constituting an important variable for the characterization of perinatal outcome. [11]

With the same intention of considering perinatal outcomes, newborns are classified according to birth weight, considered as low birth weight weighing less than 2,500g. According to literature data, this is an important variable when related to infant mortality, since low birth weight is a characteristic that largely contributes to the risk of death of the neonate.12

For these reasons, the aim of this study is to know the characteristics of women who gave birth in the maternity hospital under study, their sociodemographic characteristics, comorbidities, obstetric and gynecological characteristics, as well as maternal and fatal outcomes, allowing to guide maternal and perinatal health care, optimization of resources and may contribute to the reduction of morbidity and mortality in the puerperal pregnancy cycle.

MATERIALS AND METHODS

The study was carried out based on a review of medical records. The medical records were identified from the birth record book of the maternity obstetric center.

The medical records were evaluated and the data of interest collected by the researcher through a collection instrument designed specifically for the study.

Data were stored in a database created in Excel, with consistency analysis to ensure the quality of the study.

Among the sociodemographic characteristics, the following were studied: education, age, ethnicity and marital status.

Reproductive characteristics studied: number of previous pregnancies, previous vaginal deliveries, previous cesarean sections, previous abortions, previous stillbirths.

Characteristics of the current pregnancy studied: gestational age at delivery and termination of pregnancy.

Characteristics regarding past and current clinical surgical diagnosis, as well as current pathological obstetric diagnoses.

The characteristics of the newborn were researched through Apgar values, ICU admission, gestational age and weight.

The characteristics of maternal ICU admission were processed when the event occurred.

Women were grouped according to gestational age into term and preterm.

As for data analysis: the absolute frequencies of the variables studied and of the constituted groups were described and bivariate analysis was performed using the Chi2 tests with Yates correction or Fisher's exact test, the risks and confidence interval at 95% were estimated and the significance level considered was 5%.

TYPE OF STUDY

This is a cross-sectional, descriptive, quantitative study developed from October 2020 to July 2021 in a highly complex maternity hospital in women's health care. The sample consisted of 200 medical records of women admitted to the maternity hospital under study, excluding 8 records due to lack of information on gestational age, thus totaling 192 records used in the final analysis.[13]

It was considered as an inclusion criterion giving birth in the study maternity hospital between the months of November 2020 and February 2021, selecting up to a total of 200 medical records. Excluding women who gave birth to NB with pregnancies less than 20 weeks and whose gestational age was not recorded in their medical records.

RISKS AND BENEFITS

The research presented minimal risks. This way, it presented the possibility of identifying the subjects participating in the research. To minimize this, the data collection forms were accessed only by the researcher who carried out the collection and by the professor responsible for the research. In addition, for storage, the names were highlighted from the collection forms.

The benefits of the study consisted of knowing the characteristics of women who gave birth in the maternity hospital under study, their sociodemographic characteristics, comorbidities, obstetric and gynecological characteristics, as well as maternal and fatal outcomes, allowing to guide maternal and perinatal health care, optimization of resources and may contribute to the reduction of morbidity and mortality in the puerperal pregnancy cycle.

RESEARCH PLACE

Research was carried out in a reference maternity hospital for high complexity in women's health care in the state of São Paulo. The city of choice by intention was Araras, in the Hospital Irmandade da Santa Casa de Misericórdia de Araras. The joint accommodation consists of 22 beds, accommodates an average of 150 postpartum women/month, totaling 1579 postpartum women/year. [14]

The city of Araras has a majority female population, with a predominance of the Roman Catholic religion, the presence of a majority of white ethnicity and concentrated between the ages of 15 and 35 years.[15]

It is a city with characteristics a little different from the Brazilian population, which, according to the National Household Sample Survey - PNAD 2015, is composed of a majority female (51.5%), of mixed ethnicity, and concentrated between 20 and 40 years old. and urban majority. [16]

In Araras, there are few studies on the

obstetric characteristics of the female population.

ETHICAL ASPECTS

The study was developed in accordance with the guidelines and provisions of Resolution No. 510, of April 7, 2016 of the National Health Council, Ministry of Health, and in accordance with the Declaration of Helsinki. 17.18

The Institutional Ethics Committee (CAAE 38786020.0.0000.5374 / opinion number 4,412,056) was waived as it was a retrospective study that used clinical records.

The medical records were listed using registration numbers, maintaining confidentiality in relation to their listing.

RESULTS

In the present study, 132 (68.75%) women were white, 43 (22.39%) were brown, 16 (8.33%) were black and 1 (0.05%) was yellow. Regarding education, 16 (8.33%) had only elementary school I, 27 (14.06%) had elementary school II, 136 (70.83%) had high school and 13 (6.77%) had higher education. In the analysis of maternal age, 12 (6.25%) were under 18 years of age, 158 (82.29%) were between 19 and 35 years of age, and 23 (11.98%) were over 35 years of age. In addition, 63 (32.81%) of the women did not have a partner, 68 (35.41%) were primigravidae, 36 (18.75%) had more than 3 previous deliveries, 62 (32.29%) had cesarean sections. and 53 (27.60%) had previous normal deliveries. In the morbid history, 147 (76.56%) had no previous comorbidities.

Table 1 presents demographic data and other maternal characteristics, seeking to compare preterm births and terms according to the variables studied.

In table 2, analyzes the maternal and fetal outcomes (Apgar values, weight and neonatal ICU admission for analysis of fetal outcome and type of delivery as a maternal outcome) between the two study groups and the statistical relevance of each variable.

Table 3 presents the obstetric pathologies related to the current pregnancy and its outcome in prematurity or not, allowing the identification of statistically significant associations.

DISCUSSION

By characterizing the population that gave birth in the study maternity, it can be seen that there is a white ethnic majority, followed by brown ethnicity, reflecting the population composition of Araras and region.[16] Regarding maternal age, most are between 19 and 35 years old, which is expected at the peak of maternal fertile and reproductive age.[19] When observing education and marital status, there is a predominance of women with elementary school II and high school, and with a partner, as found in previous studies that also evaluated maternal characteristics and risk factors for prematurity.[20] All patients analyzed were hospitalized by S.U.S. (Unified Health System).

Pathological and previous maternal gestational data did not show a strong relationship with the gestational outcome, contrary to what was found in a study in the city of São Paulo, which showed a high prevalence of prematurity in pregnant women with previous comorbidities, mainly arterial hypertension and diabetes.[21]

When comparing preterm and full term births, it can be seen that the data on ethnicity and education did not show a relevant difference between the groups, as was found in a research carried out in Divinópolis on factors related to prematurity.[22] However, the maternal age group showed a relationship between older ages (over 35 years old) and prematurity, according to a 2019 Unifeso study on advanced age and its outcomes,

Features	IG < 37 weeks		IG ≥ 37 weeks	
	N (31)	%	N (161)	%
Ethnicity				
White	22	70,97	110	68,32
Brown	7	22,58	36	22,36
Black	2	6,45	14	8,70
Yellow	0	0,00	1	0,62
Education				
E.F. I	2	6,45	14	8,70
E.F. II	7	22,58	20	12,42
E.M.	19	61,29	117	72,67
E. S.	3	9,68	10	6,21
maternal age ≤ 18 a	0	0,00	12	7,45
maternal age 19-35 a	25	80,65	133	82,61
maternal age > 35 a	6	19,35	17	10,56
no mate	7	22,58	54	33,54
no comorbidity	24	77,42	123	76,40
Primiparous	8	25,81	60	37,27
Parity ≥ 3	7	22,58	29	18,01
previous cesarean	11	35,48	51	31,68
previous normal birth	14	45,16	49	30,43

Table 1 - Maternal characteristics, morbid and obstetric history and care during pregnancy associated with the outcome.

Source: Own table.

Maternal and fetal outcome	IG < 37 weeks		IG ≥ 37 week s		p-value a/b	OR (95% CI)
	N (31)	%	N (161)	%		
End of pregnancy						
Vaginal	14	45,16	56	34,78	0,1846	1,5441(0,7091-3,3623
Caesarean	17	54,84	106	65,84		
Apgar 1º minute < 7	3	9,68	7	4,35	0,2063	2,3571(0,5748-9.6663
Apgar 5º minute < 7	0	0,00	0	0,00		
Weighr < 2500g	9	29,03	7	4,35	0,0001	9(3,0439-26,6102)
Internation UTI Neo	13	41,94	9	5,59	0	12,1975(4,5764-21,5105

A: Chi-square test with Yates correction.
B: Fisher's exact test.

Table 2 – Maternal and fetal outcome.

Source: Own table.

Patologia Obstétrica	IG < 37 weeks		IG ≥ 37 weeks		p-value a/b	OR (95% CI)
	N (31)	%	N (161)	%		
Pre eclampsia	11	35,48	15	9,32	0,0005	**5,3533(2,16-13,2675)**
DPP	1	3,23	2	1,24	0,4122	2,65(0,2328-30,1612)
PP	11	35,48	3	1,86	0	28,9667(7,444-112,717)
RPMNI	10	32,26	9	5,59	0,0001	8,0423(2,9305-22,0713)
Gestational diabetes	3	9,68	5	3,11	0,121	3,3429(0,7558-14,7857)
Chorioamnionitis	4	12,90	0	0,00	0	inf
Meconium	2	6,45	11	6,83	0,6489	0,9404(0,198-4,4675)
Iterativity	1	3,23	16	9,94	0,2008	0,3021(0,0387-2,3659)

A: Chi-square test with Yates correction.
B:Fisher's exact test.

Table 3 – Obstetric pathologies.

Source: Own table.

reporting higher cases of gestational diabetes, gestational hypertension, fetal malformations and infections with increasing female age.[23]

When analyzing the data presented on clinical and surgical diagnoses of the current pregnancy, comparing terms and preterms, a prevalence of preeclampsia in both groups can be seen, with a marked predominance in parturients with a gestational age of less than 37 weeks, given these are higher than those found in a 2018 research that carried out a bibliographic review about this pathology, possibly because it is a reference unit for high-risk pregnancies and, thus, receiving complicated cases from the nearby health region. Thus, this pathology can be related to neonatal complications and premature birth, mainly due to maternal complications resulting from the pathophysiological mechanisms that lead to blood pressure and laboratory changes, also being able to correlate with a more active posture of the team in critical cases.[24]

Also verifying the clinical and surgical diagnostic data of the current pregnancy, it can be seen that placental abruption, preterm labor, premature rupture of ovular membranes and chorioamnionitis were highly related to prematurity, showing a relationship with their diagnostic criteria and protocols. of conduct, being in agreement with what was expected and found in a study published by the health system in 2018. [25]

In addition to the variables analyzed, there is a perception that meconium and fetal distress, diagnosed based on criteria such as fetal blood flow, fetal centralization and amount of amniotic fluid, as well as iteractivity, did not obtain great relevance for comparison between the two groups, however there is a slight predominance of term deliveries, related to more advanced gestational ages, recurrence of cesarean sections, difficulties in labor and increased neonatal mortality. [26]

Taking into account maternal and fetal outcomes, the total majority of deliveries were cesarean sections, with a slightly higher frequency in term deliveries, in agreement with a study published in 2020 in Revista Paulista de Pediatria that analyzed maternal risk factors associated with prematurity. According to WHO data presented in this same study, cesarean delivery is a useful and important intervention to save the life of the mother-baby binomial, however, it places an

ideal frequency of 10% to 15% in the total number of deliveries in the service. This way, it can be understood that the rates found in this present study are high for the expected ideal, but it could be explained by the fact that it is a high-risk maternity hospital and, therefore, presents more complicated cases and the need for interventionist conduct. The performance of this type of delivery at a gestational age below 37 weeks was also related as a measure to reduce neonatal mortality, because despite causing prematurity, it is related to important obstetric complications.20

Cesarean section also proves to be a necessary and important intervention for cases of placenta previa, being related to the increase in this mode of delivery and contributing to the prevention of complications such as hemorrhagic shock, hysterectomy, need for blood transfusion and infection. 27

When considering the neonatal outcome, it is clear that despite the high frequency of prematurity, there are increasing Apgar values, showing that these babies, even with Apgar in the first minute below 7, had an improvement in the Apgar in the fifth minute, and also that neonates with high values in the first minute did not have rates below 7 in the fifth minute, showing that the assistance was effective in the care, with a team prepared to receive complex cases and care for prematurity. In the same way, it can be considered that performing cesarean sections was really useful in preventing major neonatal complications, as found in the 2020 study previously used for comparison.20

It is also noticeable that premature neonates required more hospitalization in the neonatal ICU and there was a higher frequency of these with low birth weight (below 2500g), values that were also found in a study by the Revista Paulista de Pediatria cited, since every week that he remains in the maternal uterus, it enhances its development. This way, prematurity contributes to increased risks of developing respiratory complications, infections and immaturity of the central nervous system, requiring hospitalization in an intensive care unit.20

Regarding the limitations of the study, the data were obtained from digital records of a system recently inserted in the maternity, therefore, some information was not found due to the period of adaptation of the employees. In addition, there were difficulties regarding some variables, such as the mode of admission and prenatal history, which would contribute to more in-depth analyses, but were not detailed in the system. Some changes had to be made in the methodology, as 8 selected patients did not have a description of the gestational age in the medical records and, therefore, were excluded from the final calculations.

From the present research, it is possible to suggest to the study service, the improvement of the electronic record of the patients, with attention to essential data for the correct understanding of the clinical history. In the health service, measures to encourage schooling can be encouraged, seeking to increase the educational level of the female population and, thereby, improve family and professional planning.

It is important to note that the data presented here showed an efficient obstetric and pediatric service for interventions in high-risk comorbidities and in the care of premature infants.

CONCLUSION

It can be concluded from this study that the public that gives birth in the high-risk maternity hospital in the interior of the state of São Paulo is composed of a predominance of white and brown women, aged between 19 and 35 years, without education. superior and

with partner. In addition, there is a majority without previous comorbidities.

Thus, it is possible to describe that advanced maternal age was more related to prematurity, as well as gestational comorbidities, with preeclampsia being the main related pathology.

Despite the service's high cesarean rates, it can be concluded that this is an effective measure to reduce maternal and fetal risks, and necessary because it is a high-risk maternity.

In neonatal outcomes, high rates of admission to the intensive care unit and low birth weight were shown.

THANKS

We are grateful to Faculdade São Leopoldo Mandic de Araras, which allowed this study to be carried out through the Institutional Scientific Initiation Program, and to Hospital Maternity of the Irmandade da Santa de Misericórdia de Araras, which agreed to provide the data used in the study.

REFERENCES

1. Organização Pan-americana da Saúde1. Organização Mundial da Saúde divulga novas estatísticas mundiais de saúde [online]. OPAS/OMS; 2018 Ago. Acessado em 03 de dezembro de 2019. Disponível em: https://www.paho.org/bra/index.php?option=com_content&view=article&id=5741:folha-informativa-mortalidade-materna&Itemid=820

2. Ministério da Saúde. Ministério da Saúde investe na redução da mortalidade materna [Internet]. Ministério da Saúde; 2018 Mai; (28). Acessado em 03 de dezembro de 2019. Disponível em: https://www.saude.gov.br/noticias/agencia-saude/43325-ministerio-da-saude-investe-na-reducao-da-mortalidade-materna

3. Nagahama EEI, Santiago SM. A institucionalização médica do parto no Brasil. Ciência e Saúde Coletiva. 2020 Mai; (20):651-657.

4. Sales MC, Rocha ACD, Pedraza DF. Características sociodemográficas e fatores importantes para a manutenção da saúde em mulheres. Revista Brasileira de Promoção da Saúde. 2014 Out; (21):503-504.

5. Organização Pan-americana da Saúde. Organização Mundial da Saúde divulga novas estatísticas mundiais de saúde [online]. OPAS/OMS; 2018 Mai; (17). Acessado em 03 de dezembro de 2019. Disponível em: https://www.paho.org/bra/index.php?option=com_content&view=article&id=5676:organizacao-mundial-da-saude-divulga-novas-estatisticas-mundiais-de-saude&Itemid=843

6. Organização Pan-americana da Saúde. Organização Mundial da Saúde divulga novas estatísticas mundiais de saúde [online]. OPAS/OMS; 2019 Mai; (16). Acessado em 03 de dezembro de 2019. Disponível em: https://www.paho.org/bra/index.php?option=com_content&view=article&id=5935:um-em-cada-sete-bebes-em-todo-o-mundo-nascem-com-baixo-peso&Itemid=820

7. Carniel EF, Zanolli ML, Almeida CAA, Morcillo AM. Características das mães adolescentes e de seus recém-nascidos e fatores de risco para a gravidez na adolescência em Campinas, SP, Brasil. Revista Brasileira de Saúde Materna e Infantil. 2006 Nov; (03):419-426.

8. Osava RH, Silva FMB, Tuesta EF, Oliveira SMJV, Amaral MCE. Caracterização das cesarianas em centro de parto normal. Revista de Saúde Pública. 2011 Mai; (17):1036-1043.

9. Lansky S, Friche AAL, Silva AAM, Campos D, Bittencourt SDA, Carvalho ML, Frias PG, Cavalcante RS, Cunha AJLA. Pesquisa Nascer no Brasil: perfil da mortalidade neonatal e avaliação da assistência à gestante e ao recém-nascido. Caderneta de Saúde Pública. 2014 Fev; (11):S192-S207.

10. Ramos HAC, Cuman RKN. Fatores de risco para prematuridade: pesquisa documental. Escola Anna Nery Revista de Enfermagem. 2009 Abr; (06):297-304.

11. Schardosim JM, Rodrigues NLA, Rattner D. Parâmetros utilizados na avaliação do bem estar do bebê no nascimento. Av. Enfermagem. 2018 Abr; (17):197-208.

12. Santos GHN, Martins MG, Sousa MS. Gravidez na adolescência e fatores associados com baixo peso ao nascer. Revista Brasileira de Ginecologia e Obstetrícia. 2008 Mai; (13):224-231.

13. Figueiredo MS, Oliveira DKMA, Vieira NRS, Davim RMB, Silva RAR. Possíveis indicadores da assistência obstétrica a parturiente em uma Maternidade Escola. Cogitare Enfermagem. 2013;18(4):722 8.

14. Ministério da Saúde. DataSUS. Informações em saúde. Acessado em 24/04/2020. http://tabnet.datasus.gov.br/cgi/tabcgi.exe?sinasc/cnv/nvsp.def

15. IBGE. Instituto Brasileiro de Geografia e Estatísticas. Censo demográfico. Rio de Janeiro; 2010. [Online]. Acessado em 03 de dezembro de 2019. Disponível em: https://cidades.ibge.gov.br/brasil/sp/araras/panorama

16. IBGE. Síntese de indicadores sociais: Uma análise das condições de vida. Estudos e Pesquisas: Informações demográficas e socioeconômicas. 2016.

17. Associação Médica Mundial. Declaração de Helsinque da Associação Médica Mundial (WMA): princípios éticos para pesquisa médica envolvendo seres humanos. 06/1964. Disponível em http://www.amb.org.br/_arquivos/_downloads/491535001395167888_

18. Conselho Nacional de Saúde (Brasil). Resolução Nº 466, de 12 de dezembro de 2012. Aprovar as diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos. [Internet]. 2012 (acesso 26 abr. 2020). Disponível: http://conselho.saude.gov.br/resolucoes/2012/Reso466.pdf

19. Nunes JS, Ladeiras R, Machado L, Coelho D, Duarte C, Furtado JM. The Influence of Preeclampsia, Advanced Maternal Age and Maternal Obesity in Neonatal Outcomes Among Women with Gestational Diabetes. Revista Brasileira de Ginecologia e Obstetrícia. 2020;

20. Vanin LK, Zattin H, Sancini T, Nunes RD, Siqueira LBS. Fatores De Risco Materno-Fetais Associados À Prematuridade Tardia. Revista Paulista de Pediatria. 2020;1-8.

21. Berger AZ, Zorzim VI, Pôrto EF, Alfieri FM. Parto prematuro: características das gestantes de uma população da zona sul de São Paulo. Revista Brasileira de Saúde Materno Infantil. 2016;437-445.

22. Guimarães EAA, et al. Prevalência e fatores associados à prematuridade em Divinópolis, Minas Gerais, 2008-2011: análise do Sistema de Informações sobre Nascidos Vivos. Epidemiologia e Serviços de Saúde. 2017; 91-98

23. Barboza BP, et al. Idade Materna Avançada E Seus Desfechos. Revista Cadernos de Medicina Unifeso. 2019;146-151.

24. Kahhale S, Francisco RPV, Zugaib M. Pré-Eclâmpsia. Revista de Medicina. 2018; 226-234.

25. Tedesco MG, Patella LHD, Filho EVC. Descolamento Prematuro De Placenta. Portal Regional da Biblioteca Virtual em Saúde. 2018;

26. Osava RH, Silva FMB, Oliveira SMJV, Tuesta EF, Amaral MCE. Fatores maternos e neonatais associados ao mecônio no líquido amniótico em um centro de parto normal. Revista de Saúde Pública. 2012 Feb 02;:1023-1029.

27. Navti, O.B.; Konje, J.C. Bleeding in late pregnancy.In: JAMES, D., et al. High risk pregnancy: management options. 4th.ed. Philadelphia: Saunders, 2011. p.1037-1051.