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GESTATIONAL RISK AND ASSOCIATED FACTORS IN WOMEN CARED BY THE PUBLIC HEALTH NETWORK

Elisiane Soares Novaes*
Emiliana Cristina Melo**
Patrícia Louise Rodrigues Varela Ferracioli***
Rosana Rosseto de Oliveira****
Thais Aidar de Freitas Mathias*****

ABSTRACT

This study aimed to classify and estimate the factors associated with gestational risk in women cared for delivery by the Unified Health System (SUS). A cross-sectional study with interviews and consultation to the card of the pregnant woman and the hospital records of 607 puerperal women resident in the municipality of the state of Paraná, Brazil. The gestational risk was classified according to the criteria of the program Parent Network Paranaense - RMP and the association with maternal characteristics was performed by means of logistic regression analysis. The puerperal women, 50.9% had risk pregnancy classified as usual, 5.8% intermediate risk and 43.3% high risk. For the classification of risk, smoking (12.7%), black race (11.4%), hypertensive disorders (9.6%) and urinary tract infection (8.4%) were the most frequent conditions. The paternal reaction in the negative pregnancy (ORaj=1.71), the pre-gestational BMI high (ORaj=1.67) and having had two or more previous pregnancies (ORaj=1.85) were independently associated with a high risk pregnancy. To prevent complications in pregnancy, the health care team should consider the modifiable factors such as smoking, hypertension, urinary tract infection and also non-modifiable, such as race/color black, history of pre-gestational BMI high and negative reaction of the father of the child to the pregnancy.

Keywords: Assessment. Risk factors. Pregnancy high-risk. Mother and child health. Prenatal Care.

INTRODUCTION

The occurrence of complications during pregnancy can affect maternal and fetal health and lead to undesirable outcomes such as prematurity, low birth weight and other even more serious as the maternal death, fetal and neonatal care. These complications are a result of risk factors before or during pregnancy that increase in varying degrees the likelihood of these events happens[1-2].

The first trimester of pregnancy phase is more susceptible to changes in fetal development related to maternal factors such as hyperglycemia, hypertension, coagulation disorders, alcoholism, smoking, drug addiction, early or advanced age, exposure to teratogenic factors as Zika virus, rubella, toxoplasmosis, cytomegalovirus, syphilis, among others[3-4].

There is a direct relationship between the lack of control of these factors and greater prevalence and incidence of congenital abnormalities, macrosomia, or fetal growth restriction, prematurity, hypoglycemia and neonatal jaundice, perinatal mortality, cognitive deficiencies, as well as ectopic pregnancies and spontaneous abortions[2-3].

Studies have demonstrated the association between several risk factors and the potentiation of the effects of that interaction[1,5-6]. Thus, obese pregnant women usually have hypertension, gestational diabetes, and urinary infection of repetition, pre-eclampsia and premature rupture of membranes[7]. Among pregnant adolescents, especially those less than 15 years, it is common for low education, low income, not planning and acceptance of pregnancy, low adherence to prenatal, absence of companion, eating disorders, use of drugs that overlap the immaturity of the reproductive system[8-9]. The monitoring, prevention and control of the determinants of gestational risk is one of the strategies used during the prenatal period to reduce the rates of maternal and perinatal morbidity and mortality[10-11].

Seeking to achieve the targets of the Millennium Development Goals, the state of Paraná organized the maternal and infant care in the Paranaense Mother Network program (RMP), deployed since 2012. The RMP aims to assist pregnant women and children until the second year of life, supported in risk stratification with specific criteria based on the epidemiological profile of Paraná State and regions[12].

The identification of pregnant women with risk

*Nurse. Master in Nursing. Hospital das Clínicas of the Federal University of Paraná (UFPR). E-mail: elisianenovaes@hotmail.com
**Nurse. PhD in Nursing. Lecturer at the State University of Northern Paraná (UENP). E-mail: ecmelo@uenp.edu.br.
***Nurse. PhD in Nursing. Lecturer at the State University of Paraná (UNESPAR). E-mail: patricialouisev@yahoo.com.br.
****Nurse. Post doctoral fellow in Nursing. Lecturer in the postgraduate program in nursing at the State University of Maringá (UEM). E-mail: rosanarosseto@gmail.com.
*****Nurse. PhD in Public Health. Full Professor of the UEM nursing department. E-mail: tafmathias@gmail.com

factors contribute to the planning of prenatal care and the provision of care to pregnant women provides a closer look at the health conditions more prevalent and monitoring of complications during pregnancy, allowing the early intervention with an impact on the indicators of maternal and child health[12].

Given the importance to classify the gestational risk after the implementation of the RMP, the objective of this study was to analyze the gestational risk and associated factors in the population using the SUS in Maringá-PR. The results of this study can contribute to the planning and actions in the context of women health care in the pregnancy-puerperal cycle.

METHODS

This study is part of more comprehensive project that investigates the health of women and children and associated factors in the municipality of Maringá, Paraná, funded by the Conselho Nacional de Desenvolvimento Científico e Tecnológico - CNPq. A cross-sectional study with data from pregnant women residing in Maringá, whose birth funded by the SUS.

The municipality of Maringá has a population estimated at approximately 400 thousand inhabitants and, in 2015, reached HDI of 0.84[13]. The primary care network structured with 74 teams from the Family Health Strategy (FHS) and 33 Basic Health Units (UBS) with pre-natal care. If a pregnant woman is classified as normal risk is accompanied by a general practitioner of the FHS, if intermediate risk by nursing and by professional gynecologist, and if high risk beyond the monitoring by the ESF team receives treatment in an outpatient clinic of high risk of reference hospital for the delivery[12]. Maringá is the reference to the care for high-risk pregnancies for 29 neighboring municipalities belonging to 15th Regional Health District[13].

The sample size was calculated considering the percentage of live births to mothers living in Maringá with childbirth funded by SUS in 2012 (which amounted to 45.5% of the total number of deliveries of residents) and the percentage of births in two hospitals that serve by SUS and belong to RMP, based on data from the Information System on Live Births - Sinasc, and the State Department of Health. The parameters used were a confidence interval of 95%; a sampling error of 3.5% and unknown prevalence of 50%, added 6% for possible losses, totaling 607 puerperal women interviewed. The inclusion criteria were the residence in the city of Maringá-PR, the achievement of at least one prenatal consultation by SUS and possession of the card of the mother at the time of the interview.

The data collection instrument was adapted from a previous study[14], built, and applied on Google Docs., a procedure that enables the collection and storage of data in real time - online. The main source of data was the interview with the puerperal women hospitalized at delivery, complemented by the audit of hospital records Breastfeeding and maternal card. The collection occurred daily, between October 2013 and January 2014 with data sheet conferred on a daily basis and, where necessary, corrected with new search the files or by telephone contact.

The stratification performed according to the criteria of the RIF[12], which consider as usual risk pregnant women who do not present risk factors or conditions. Pregnant women at intermediate risk are those with risk factors present, whether the individual characteristics (race/color black or indigenous ethnicity, age less than 15 or greater than 40 years), sociodemographic characteristics (less than 3 years of study) and reproductive history (4 or more living children, child born dead in previous pregnancies and abortions of repetition (3 or more). For high-risk pregnant women present a risk related to pre-existing medical conditions or developed in the current pregnancy such as hypertension, hypertensive disorders of pregnancy (HDP), cardiopathies, hemopatias, kidney, lung disease, endocrinopathies, gynecological deseases, infectious diseases, autoimmune diseases, illicit drug dependence or abuse, morbid obesity (BMI >40 kg/m2), neoplasms, bariatric surgery less than two years ago, epilepsy, psychosis and severe depression and obstetric complications (intrauterine growth retardation, work and/or preterm birth, premature amniorrexe, bleeding, fetal malformation isoimmunization, among others).

To identify factors associated with gestational risk were investigated independent variables related to maternal socioeconomic and demographic characteristics: marital status (with partner or without partner); household density in people/room (≤ 1 or >1); family income per capita in minimum wages (<0.5, 0.5 or >1); type of occupancy (paid or unpaid); pre-conception characteristics: number of previous pregnancies (None, 1, 2 or more); previous cesarean (none or 1 and more); contraceptive use (yes or no); treatment to get pregnant (yes or no); and the characteristics of the current pregnancy: family' reaction to the discovery of pregnancy (negative or positive); Child's father reaction to the discovery of pregnancy (negative or positive); Puerperal's reaction to the

discovery of pregnancy (negative or positive); unplanned pregnancy (yes or no); funding of prenatal care (SUS or mixed); number of prenatal consultations (<6 or ≥6); gestational age at the beginning of the prenatal (up to 12 or >12 weeks); participation in groups of pregnant women (yes or no); practice of physical activity (yes or no); pre-gestational BMI (<25 kg/m2 or ≥25 kg/m2); weight gain according to the recommendations of the Ministry of Health[3] (adequate or inadequate).

Only were included in the analysis of association of the variables that not used for classification of risk. In the variable "number of previous pregnancies", were excluded 14 pregnant women who had four or more living children, five pregnant women with a history of fetal death and four with a history of recurrent abortions, and the variable "pre-gestational BMI" were excluded four pregnant women with BMI ≥ 40 kg/m2, since these criteria were used for the classification of gestational risk. For the logistic regression, the intermediate risk was added to the high risk and were included only variables with *p*-value <0.20 in the univariate analysis. The association of gestational risk (dependent variable) with the independent variables analyzed by means of the odds ratio obtained by means of the logistic regression model, stepwise forward, using the SPSS software, version 20.1. In all the steps we used the significance level of α=5%. The Research Ethics Committee of Universidade Estadual de Maringá-PR (Opinion nº 412.422/2013) approved the project.

RESULTS

Of the 607 puerperal women interviewed, 43.3% (263) classified as high risk, 5.8% (35) as intermediate risk, and 50.9% (309) as usual risk. The factors that contributed most to classification of gestational risk were the habit of smoking of pregnant women with a prevalence of 12.7% and the race/color black with 11.4%. Then, the factors that contributed the most were the clinical and obstetric complications during pregnancy, such as the ITU (8.4%), the HDP (7.1%), premature aminiorexe (6.3%), bleeding (5.8%), and the premature labor (5.8%) (Table 1).

Table 1. Distribution of mothers according to the classification of gestational risk and risk factors. Maringá-PR, Brazil, 2013-2014.

	Gestational Risk*			
Risk Factors	**Usual** 309(50.9%)	**An intermediary** 35(5.8%)	**High** 263(43.3%)	**Total** 607(100%)
Individual characteristics, sociodemographic and reproductive effects				
Race/color black	-	32(91.4)	37(14.1)	69(11.4)
Age <15 and >40 years	-	2(5.7)	14(5.3)	16(2.6)
4 living children or more	-	1(2.8)	13(4.9)	14(2.3)
History of fetal death	-	2(5.7)	3(1.1)	5(0.8)
Repetition abortion	-	1(2.8)	3(1.1)	4(0.7)
Schooling <3 years	-	1(2.8)	2(0.8)	3(0.5)
Pre-existing medical conditions				
Smoking	-	-	77(29.3)	77(12.7)
Pneumopathy	-	-	19(7.2)	19(3.1)
Arterial hypertension	-	-	15(5.7)	15(2.5)
Hypothyroidism	-	-	10(3.8)	10(1.6)
Diabetes	-	-	10(3.8)	10(1.6)
The use of illicit drugs	-	-	8(3.0)	8(1.3)
Cardiopathy	-	-	7(2.7)	7(1.2)
Liver Disease	-	-	7(2.7)	7(1.2)
Hyperthyroidism	-	-	5(1.9)	5(0.8)
Alcoholism	-	-	5(1.9)	5(0.8)
Bmi ≥ 40 kg/m2	-	-	4(1.5)	4(0.7)
Psychosis/severe depression	-	-	4(1.5)	4(0.7)
Hemopatia	-	-	3(1.1)	3(0.5)
HIV/Aids	-	-	3(1.1)	3(0.5)
Syphilis	-	-	2(0.8)	2(0.3)
Bariatric Surgery	-	-	2(0.8)	2(0.3)
Ginecopatias	-	-	1(0.4)	1(0.2)
Intercurrent clinical/current obstetric				
ITU ‡	-	-	51(19.4)	51(8.4)
DHEG§	-	-	43(16.3)	43(7.1)
Premature Amniorexe	-	-	38(14.4)	38(6.3)
Bleeding	-	-	35(13.3)	35(5.8)
Premature labor	-	-	35(13.3)	35(5.8)
Gestational Diabetes	-	-	15(5.7)	15(2.5)
Placenta preview	-	-	6(2.3)	6(1.0)
Cardiopathy	-	-	5(1.9)	5(0.8)
Toxoplasmosis	-	-	4(1.5)	4(0.7)
Pneumonia	-	-	4(1.5)	4(0.7)
Other infectious diseases**	-	-	4(1.5)	4(0.7)
Neuropathy	-	-	3(1.1)	3(0.5)
A neoplasm	-	-	3(1.1)	3(0.5)
Cervical incompetence	-	-	3(1.1)	3(0.5)
Rh Incompatibility	-	-	3(1.1)	3(0.5)
Syphilis	-	-	2(0.8)	2(0.3)
Rubella	-	-	2(0.8)	2(0.3)
Fetal Malformation	-	-	1(0.4)	1(0.2)
Severe anemia	-	-	1(0.4)	1(0.2)

*According to criteria of classification of gestational risk of guideline of the Program Parent Network Paranaense. ‡UTI - Urinary tract infection of pregnancy-specific hypertensive disease of pregnancy. **other infectious diseases and two cases of dengue, cytomegalovirus and one of bartholinite.

The number of risk factors for puerperal women ranged from none to seven and the average number of factors increased with age. Among women 13 to 19 years, the average was 0.75; among those from 20 to 34 years was 0.84 and among women aged 35 to 46 years, the average number of risk factors was 1.56 (data not shown in table). Among the high-risk pregnant women 39.2% presented only one factor, 38.4% and 22.4% presented two had three or more risk factors (Table 2). Of 35 puerperal women with gestational risk, intermediary 88.6% had only one factor and the majority was the black race/color (Table 1).

Table 2. Distribution of the puerperal women classified as intermediate risk and high risk, according to the number of factors present (n° and %). Maringá-PR, 2013-2014

	Number of factors							
	1		2		3 or more		Total	
Classification	N	%	N	%	N	%	N	%
Intermediate risk	31	88.6	4	11.4	-	-	35	100
High risk	103	39.2	101	38.4	59	22.4	263	100
Total	134	-	105	-	59	-	298	100

In the univariate analysis, a significant association was observed in the high risk pregnancy with income per capita ≤1 minimum wage (OR=1.55); overweight and obesity (OR=1.66), two or more previous pregnancies (OR =2.00), a negative reaction of the family (OR=1.49) and negative reaction of the father of the child to the discovery of pregnancy (OR=1.73) (Table 3).

Table 3. Univariate analysis of factors associated with gestational risk. Maringá-PR, 2013-2014.

	Gestational Risk					
Variables	High+inter (298)	Usual (309)	Total (607)	OR	95	*A p* value
Maternal sociodemographic						
Density person/room						
More than one	35(11.7)	23(7.4)	58(9.6)	1.65	(0.95; 2.87)	0.074
≤1	263(88.3)	286(92.6)	549(90.4)	1		
Per capita income* (SM)						
≤1	175(58.7)	148(47.9)	323(53.2)	1.55	(1.12; 2.13)	0.008
>1	123(41.3)	161(52.1)	284(46.8)	1		
Pre-conception and maternal reproductive history						
Pre-gestational BMI (≥25 and < 40 kg/m2)†						
Yes	127(42.6)	97(31.4)	224(37.1)	1.66	(1.19; 2.32)	0.003
Do not	167(56.0)	212(68.6)	379(62.9)	1		
No previous pregnancies‡						
None	103(37.5)	147(47.6)	250(42.8)	1		
1	85(30.9)	100(32.4)	185(31.7)	1.21	(0.83; 1.78)	0.323
2 or more	87(31.6)	62(20.0)	149(25.5)	2.00	(1.33; 3.02)	0.001
Reaction to the current pregnancy						
The family						
Negative	86(28.9)	66(21.4)	152(25.0)	1.49	(1.03; 2.16)	0.033
Positive	212(71.1)	243(78.6)	455(75.0)	1		
Paternal						
Negative	85(28.5)	58(18.8)	143(23.6)	1.73	(1.18; 2.53)	0.005
Positive	213(71.5)	251(81.2)	464(76.4)	1		
Tongue						
Negative	118(39.6)	101(32.7)	219(36.1)	1.35	(0.97; 1.88)	0.076
Positive	180(60.4)	208(67.3)	388(63.9)	1		

*Minimum wage in 2014; R$723; †Excluded 4 pregnant women with pre-gestational BMI ≥ 40; ‡Excluded 14 pregnant women with four children, animals or more, 5 with a history of fetal death and 4 with a history of recurrent abortions, because these criteria were used to classify the gestational risk.

The final model of multiple logistic regression showed a loss of significance of socioeconomic factors when analyzed in conjunction with the other. Pre-gestational overweight (ORaj=1,67), two or more previous pregnancies (ORaj=1.85) and negative paternal reaction to the pregnancy (ORaj=1.71) were independent factors that increased by almost twice the chance of pregnancy to be at high risk (Table 4).

Table 4. Logistic regression analysis of factors associated with gestational risk. Maringá-PR, Brazil, 2013-2014

Variables**	Gestational Risk: High+buffer* 298 (43.3%)	Gestational Risk: Low 309 (56.7%)	Total 607 (100%)	OR AJ	IC 95%	*P*-value
Negative paternal reaction to pregnancy	85(28.5)	58(18.8)	143(23.6)	1.71	(1.15; 2.54)	0.008
Pre-gestational BMI ≥25 and < 40†	127(42.6)	97(31.4)	224(37.1)	1.67	(1.18; 2.36)	0.004
Two or more previous pregnancies‡	87(31.6)	62(20.0)	149(25.5)	1.85	(1.22; 2.82)	0.004

*The sum of intermediate risk and high-risk; **Excluded puerperal women with conditions or factors used for the classification of gestational risk: 4 pregnant women with pre-gestational BMI ≥ 40; 14 pregnant women with 4 living children or more, 5 with a history of fetal death and 4 with a history of recurrent abortions.

DISCUSSION

The results of this study show that, in accordance with the risk criteria established by the program RIF, almost half of the women residing in Maringá-PR with childbirth funded by SUS were pregnant women at risk (5.8% intermediate risk and 43.3% high risk). Drew attention yet the high percentage of women with two or more risk factors with emphasis on smoking, the hypertensive disorders, and urinary tract infection of repetition, amniorexe premature and bleeding. These factors, identified in the interviews, when not controlled or prevented can lead the pregnant woman to hospital admissions and cause sequels with undesirable outcomes. Another important finding of this study was to observe that the number of risk factors for pregnant women increased with age.

The percentage of pregnant women at high risk was considered high in comparison with other national studies carried out in different localities and regions of the country, who pointed prevalence around 25 to 35% (11.15). Cross-sectional study conducted in Londrina, Paraná, with data from the Committee of maternal and infant mortality and Sinasc, pointed out that between 2000 and 2009, the prevalence of high-risk pregnant women was 33.5%[15]. Already a multicenter Brazilian study, performed with data from interviews with 23,940 mothers between 2011 and 2012, showed that 25% of pregnancies were high risk. However, it is possible that this prevalence underestimated, because the authors considered only the case of puerperal or not been classified as high risk; in addition, the study encompassed population SUS and non-SUS patients[11]. The data underestimated by the bias of forget fulness breastfeeding, the possibility of not evaluating or incorrect assessment of the degree of risk by health services and the difference in the pattern of morbidity and mortality among the population using the SUS and private service network.

The prevalence of risk factors may differ over time and according to geographical location, because is related to the characteristics and socioeconomic level of the society. In South Africa, for example, researchers reported that approximately 60% of pregnant women have at least a factor of high risk, such as alcoholism, severe depression, and nutritional deficit[6].

In the present study, 39.2% of the patients classified as high risk presented only one risk factor. Be classified, as high risk does not necessarily indicate the referral to the outpatient reference of high risk[3]. Some of the risk factors listed by the RIF, such as smoking, bariatric surgery less than two years ago, hypothyroidism and diabetes, for example, can conducted by family health teams, with targeted actions, the greater number of consultations and examinations for additional control[12].

Certain maternal behaviors, life habits, and socioeconomic conditions may negatively interfere in the course of pregnancy, and even influence the future life of the child. Among the conditions of risk liable to modification, smoking was the most prevalent (12.7%). A large part of the smokers find themselves in situations of greater vulnerability, such as low schooling, low income, unemployment and marital insecure[16]. It is therefore necessary to provide psychological and social support for pregnant women in situation of vulnerability, in addition to other measures to encourage the cessation or minimization of smoking, as well as alcohol and illicit drug use, increasingly prevalent in the female population user of SUS[8].

The risk factors can controlled also before the occurrence of pregnancy as, for example, changes in the nutritional status[11]. Currently, the high prevalence of overweight and obesity in the Brazilian population and among the pregnant women has become a challenge to health authorities. In Jundiaí-SP, researchers found a prevalence of 34.7% of overweight and pre-gestational obesity among users of SUS[15], a percentage similar to that found in the present study, which was 37.1%.

In this study, the pre-gestational BMI ≥ 25kg < 40

kg/m² was independently associated with high-risk pregnancies (ORaj=1.67). The professionals who work in prenatal care should dedicate special attention to pregnant women who began prenatal care with a high BMI, because they have higher chances of developing complications due to excess weight, such as gestational diabetes, hypertensive syndromes, thromboembolic disorders, urinary tract infection, puerperium, induced delivery, cesarean deliveries and postpartum hemorrhage[15]. So there is an urgent need to invest in the prevention of obesity, in family planning, pre-conception counselling, programs and specific guidance on adequacy of weight, healthy eating, and the practice of physical activity for women of reproductive age in order that are in the best possible conditions before becoming pregnant[3.7].

Another finding of this study was the association of women with more than two previous pregnancies. Pre-gestational guidance and encouragement to family planning must offered, because these women were 1.85 times more likely to spend on high-risk pregnancy when compared to nuligestas. It is reality that the majority of the Brazilian pregnant without planning. A recent study, conducted with a representative sample of puerperal women SUS users residing in Maringá-PR, pointed out that 60% of pregnant women did not planned the pregnancy, and that the Multiparity and unplanned pregnancy were factors associated with inadequate prenatal care (ORaj=2.18; ORaj=2.06, respectively)[2].

For the multigestas, the occurrence of adverse events in previous pregnancies increases the chances of these repeat in the next pregnancy. Therefore, the health professional during the pre-natal must devote special interest to the past in obstetrics, in order to know records that show the possibility of increased risk in the current pregnancy[5.10]. In addition to this risk factors such as age of the woman who is generally higher for the multigestas, conducting multiple cesarean deliveries and birth interval short which increases substantially the chances of complications[1].

The negative reaction of the father of the baby gestation increases 1.71 times the classification for high-risk pregnancy. The initial negative reaction to the news of the pregnancy by team mate can provide a feeling of insecurity of pregnant women facing the new social role to play, because one of the factors that contribute to your well-being is the support it receives from those that surround it. The availability of social support, especially on stressful conditions makes the necessary adjustments and can minimize the risks of pregnancy[17-18]. The lack of adequate social support, with emphasis on the support of the baby's father is an additional stressor, which in turn can affect the health of the mother and the fetus and increase the chances of undesirable events such as the delay in fetal growth, low birth weight, and preterm birth[19]. Studies show that pregnant women with partners involved are more likely to reduce the consumption of cigarettes, alcohol and receive prenatal care early and qualified[17,19]. Although the health service does not have much influence on the reaction of the father of the child to the discovery of pregnancy, it is possible to identify women who do not rely on this support and provide other sources of social support. In addition, it is necessary to train the professionals who work in prenatal care to involve parents in the monitoring of pregnancy, providing bond, and state[3].

It is important to highlight that many of the risk factors identified in this study can controlled even before conception, avoiding spending on unnecessary treatments and hospitalizations, irreversible consequences both for women and for the baby. It is necessary to invest more and more in the provision of qualified prenatal care, continuous and timely, with team qualification of basic care in the implementation of care that eliminate or minimize the risk factors and, consequently, the unfavorable results[2.11].

CONCLUSION

This study, although with some limitations as possible recall bias of the puerperal woman, not to have regarded women with gestations interrupted which can influence the identification of risk factors, brings some results that should highlighted. First drew attention to the high proportion of pregnant women with social and clinical conditions such as smoking, black race, hypertension and infection of the urinary tract, which justified its classification as pregnant women at risk or intermediate or high risk. Another important outcome was the identification of factors associated with high risk as multiparity, pre-gestational BMI high and negative reaction from father to pregnancy.

The classification of gestational risk as a routine activity in prenatal care, with consequent surveillance and health promotion, before and during the pre-natal, should consider the prevalence of these conditions in women of reproductive age in order to prevent the occurrence of undesirable events for the pregnant woman and the fetus. Finally, even if this study bring results of a specific population, it is possible to

extrapolate the conclusions for similar realities, especially for people who use the public health care system.

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RISCO GESTACIONAL E FATORES ASSOCIADOS EM MULHERES ATENDIDAS PELA REDE PÚBLICA DE SAÚDE

RESUMO

Objetivou-se classificar e estimar os fatores associados ao risco gestacional em mulheres atendidas para o parto pelo Sistema Único de Saúde (SUS). Estudo transversal com entrevista e consulta ao cartão da gestante e ao prontuário hospitalar de 607 puérperas residentes em município do Estado do Paraná, Brasil. O risco gestacional foi classificado segundo critérios do programa Rede Mãe Paranaense - RMP e a associação com características maternas foi realizada por meio de análise de regressão logística. Das puérperas, 50,9% tiveram gravidez classificada como de risco habitual, 5,8% risco intermediário e 43,3% alto risco. Para classificação do risco, o tabagismo (12,7%), a raça negra (11,4%), os distúrbios hipertensivos (9,6%) e a infecção do trato urinário de repetição (8,4%) foram as condições mais frequentes. A reação paterna negativa à gestação (ORaj=1,71), o IMC pré-gestacional elevado (ORaj=1,67) e ter tido duas ou mais gestações anteriores (ORaj=1,85) foram independentemente associados ao alto risco gestacional. Para prevenir complicações na gestação, a equipe de saúde deve considerar os fatores modificáveis, como o tabagismo, hipertensão, infecção de trato urinário e também não modificáveis, como raça/cor negra, história de IMC pré-gestacional elevado e reação negativa do pai da criança à gestação.

Palavras-chave: Medição de risco. Fatores de risco. Gravidez de alto risco. Saúde materno-infantil. Assistência pré-natal.

RIESGO GESTACIONAL Y FACTORES ASOCIADOS EN MUJERES ATENDIDAS POR LA RED PÚBLICA DE SALUD

RESUMEN

El objetivo fue clasificar y estimar los factores asociados al riesgo gestacional en mujeres atendidas para el parto por el Sistema Único de Salud (SUS). Estudio transversal con entrevista y consulta al registro de la gestante y al registro hospitalario de 607 puérperas residentes en un municipio del estado de Paraná, Brasil. El riesgo gestacional fue clasificado según criterios del programa Rede Mãe Paranaense (RMP), y la asociación con características maternas fue realizada por medio de análisis de regresión logística. De las puérperas, 50,9% tuvieron embarazo clasificado como de riesgo habitual, 5,8% riesgo intermediario y 43,3% alto riesgo. Para clasificación del riesgo, el consumo de tabaco (12,7%), la raza negra (11,4%), los trastornos hipertensivos (9,6%) y la infección urinaria de repetición (8,4%) fueron las condiciones más frecuentes. La reacción paterna negativa al embarazo (ORaj=1,71), el IMC pregestacional elevado (ORaj=1,67) y haber tenido dos o más embarazos anteriores (ORaj=1,85) fueron independientemente asociados al embarazo de alto riesgo. El equipo de salud debe considerar los factores modificables, como el consumo de tabaco, hipertensión, infección urinaria, y también no modificables, como raza negra, historia de IMC pregestacional elevado y reacción negativa del padre del niño al embarazo, para prevenir complicaciones en la gestación.

Palabras clave: Medición de riesgo. Factores de riesgo. Embarazo de alto riesgo. Salud materno-infantil. Atención prenatal.

REFERENCES

1. Ribeiro FD, Ferrari RAP, Sant'Anna FL, Dalmas JC, Girotto E. Extremes of maternal age and child mortality: analysis between 2000 and 2009. Rev. Paul. Pediatr., São Paulo, v. 32, n. 4, p. 381-388, 2014. doi: http://dx.doi.org/10.1590/S0103-05822014000400015.

2. Melo EC, Oliveira RR, Mathias TAF. Factors associated with the quality of prenatal care: an approach to premature birth. Rev. Esc. Enferm. USP, São Paulo, v. 49, n. 4, p. 540-549, 2015. doi: http://dx.doi.org/10.1590/S0080-623420150000400002.

3. BRASIL. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Ações Programáticas Estratégicas. Gestação de alto risco: manual técnico. 5. ed. Brasília, DF, 2012. Disponível em: http://bvsms.saude.gov.br/bvs/publicacoes/manual_tecnico_gestacao_alto_risco.pdf.

4. BRASIL. Ministério da Saúde. Secretaria de Vigilância em Saúde. Protocolo de vigilância e resposta à ocorrência de microcefalia relacionada à infecção pelo vírus Zika. Brasília, DF, 2015. Disponível em: http://portalsaude.saude.gov.br/images/pdf/2015/dezembro/08/microcefalia-protocolo-de-vigilancia-e-resposta-v1.pdf.

5. Xavier RB, Jannotti CB, Silva KS, Martins AC. Risco reprodutivo e renda familiar: análise do perfil da gestante. Ciênc. Saúde Coletiva, Rio de Janeiro, v. 18, n. 4, p. 1161-1171, 2013. doi: http://dx.doi.org/10.1590/S1413-81232013000400029.

6. Tomlinson M, O'Connor MJ, le Roux IM, Stewart J, Mbewu N, Harwood J, Rotheram-Borus MJ. Multiple risk factors during pregnancy in South Africa: The need for a horizontal approach to perinatal care. Prev. Sci., New York, v. 15, no. 3, p. 277-282, 2014. doi: https://doi.org/10.1007/s11121-013-0376-8.

7. Silva JC, Amaral AR, Ferreira BS, Petry JF, Silva MR, Krelling PC. Obesidade durante a gravidez: resultados adversos da gestação e do parto. Rev. Bras. Ginecol. Obstet., Rio de Janeiro, v. 36, n. 11, p. 509-513, 2014. doi: http://dx.doi.org/10.1590/S0100-720320140005024.

8. Kassada DS, Marcon SS, Pagliarini MA, Rossi RM. Prevalence of drug abuse among pregnant women. Acta Paul. Enferm., São Paulo, v. 26, n. 5, p. 467-471, 2013. doi: http://dx.doi.org/10.1590/S0103-21002013000500010.

9. Melo EC, Ribeiro AB, Oliveira RR, Zurita RC, Mathias TA. Analysis of Maternal and Child Health Indicators in an Area at Paraná State, Brazil.Nurs. Res. Pract., Cairo, v. 2013, p.1-9, 2013. doi: https://doi.org/10.1155/2013/495178.

10. Paris GF, Pelloso SM.; Martins, PM. Qualidade da assistência pré-natal nos serviços públicos e privados. Rev. Bras. Ginecol. Obstet., Rio de Janeiro, v. 35, n. 10, p. 447-452, 2013. doi: http://dx.doi.org/10.1590/S0100-72032013001000004.

11. Viellas EF, Domingues RMSM, Dias MAB, Gama SGN, Filha MMT, Costa JV, et al. Prenatal care in Brazil. Cad. Saúde Pública, Rio de Janeiro, v. 30, supl. 1, p. S85-S100, 2014. doi: http://dx.doi.org/10.1590/0102-311X00126013.

12. PARANÁ. Secretaria de Estado de Saúde do Paraná. Linha Guia: Mãe Paranaense. Curitiba, 2012. v. 1. Disponível em: http://www.saude.pr.gov.br/arquivos/File/ACS/linha_guia_versao_final.pdf.

13. INSTITUTO PARANAENSE DE DESENVOLVIMENTO ECONÔMICO E SOCIAL. Caderno estatístico: município de Maringá. Curitiba, 2016. Disponível em: http://www.ipardes.gov.br/cadernos/MontaCadPdf1.php?Municipio=87000

14. Almeida MF, Alencar GP, França Jr. I, Novaes HMD, Siqueira AAF, Schoeps D, et al. Validade das informações das declarações de nascidos vivos com base em estudo de caso-controle. Cad. Saúde Pública, Rio de Janeiro, v. 22, n. 3, p. 643-652, 2006. doi: http://dx.doi.org/10.1590/S0102-311X2006000300019.

15. Fonseca MRCC, Laurenti R, Marin CR, Traldi MC. Ganho de peso gestacional e peso ao nascer do concepto: estudo transversal na região de Jundiaí, São Paulo, Brasil. Ciênc. Saúde Coletiva, Rio de Janeiro, v. 19, n. 5, p. 1401-1407, 2014. doi: http://dx.doi.org/10.1590/1413-81232014195.17022013.

16. Chamberlain C, O'Mara-Eves A, Oliver S, Caird JR, Perlen SM, Eades SJ, Thomas J. Psychosocial interventions for supporting women to stop smoking in pregnancy. Cochrane Database Syst. Rev., Chichester, v. 10, p. CD001055, 2013. doi: https://dx.doi.org/10.1002%2F14651858.CD001055.pub4.

17. Alio AP, Mbah AK, Kornosky JL, Wathington D, Marty PJ, Salihu HM.. Assessing the impact of paternal involvement on racial/ethnic disparities in infant mortality rates. J. Community Health,Amsterdam, v. 36, no. 1, p. 63-68, 2011. doi: https://doi.org/10.1007/s10900-010-9280-3.

18. Vieira APR, Laudade LGR, Monteiro JCS, Nakano AMS. Motherhood in adolescent and family support: implications in breast care and self-care in postpartum. Ciênc. Cuid. Saúde, Maringá, v. 12, n. 4, p. 679-687, 2013. doi: http://dx.doi.org/10.4025/cienccuidsaude.v12i4.21195.

19. Plantin L, Olukoya AA, Ny P. Positive Health Outcomes of Fathers' Involvment in Pregnancy and Childbirth Paternal Support: A Scope Study Literature Review. Fathering, Harriman, v. 9, no. 1, p. 87-102, 2011. doi: http://dx.doi.org/10.3149/fth.0901.87.

Corresponding author: Thais Aidar de Freitas Mathias. Programa de Pós-Graduação em Enfermagem, Universidade Estadual de Maringá. Av. Colombo, 5790 - Cidade Universitária, CEP 87020-900 - Maringá, PR, Brasil. E-mail: tafmathias@gmail.com

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