Prevalence of premature birth between 2018 and 2019 in a public maternity in the municipality of manaus-amazonas

Prevalência de partos prematuros entre os anos de 2018 e 2019 em uma maternidade pública no município de manaus-amazonas

Prevalencia de parto prematuro entre 2018 y 2019 en una maternidad pública del municipio de manaus-amazonas

RESUMO

Introdução: A prematuridade é definida como um nascimento que ocorre antes de 37 semanas completas (menos de 259 dias) de gestação e pode estar associada a um risco aumentado de morbidade e mortalidade especialmente entre prematuros extremos, isto é, idade gestacional (IG) <28 semanas. Objetivo: Descrever a prevalência de recém nascidos prematuros em uma maternidade pública do município de Manaus-Amazonas. Metodologia: Estudo retrospectivo, descritivo com abordagem quantitativa onde pretende-se estudar as informações secundarias existentes em bancos de dados. Resultados: No período foram registrados o nascimento de 15.118 destes, 1.585 foram partos prematuros, ou seja, uma prevalência de 10 a cada 100 nascimentos. A média de peso destes ao nascer foi de 2,050kg e 60% nasceu de parto cesariana sendo que a maioria das parturientes (79,6%) tinham entre 19 a 40 anos de idade mas um percentual bem expressivo (18,2%) eram adolescentes. Também 34,8% dos partos pré-maturos aconteceram entre mães primíparas. Conclusão: Chega-se ao entendimento que é importante se reduzir os níveis de prevalência de partos prematuros enfatizando as ações de promoção à saúde, a prevenção e identificação precoce de possíveis complicações com o feto para minimizar os fatores de riscos para a prematuridade.

DESCRITORES: Recém-nascidos, prematuridade, neonatologia, prevalência

ABSTRACT

Introduction: Prematurity is defined as a birth that occurs before 37 completed weeks (less than 259 days) of gestation and may be associated with an increased risk of morbidity and mortality especially among extremely preterm infants i.e. gestational age (GA) <28 weeks. Objective: To describe the prevalence of premature newborns in a public maternity hospital in the city of Manaus-Amazonas. Methodology: Retrospective, descriptive study with a quantitative approach where the intention is to study the existing secondary information in databases. Results: During the period, 15,118 births were registered, 1,585 of which were premature births, that is, a prevalence of 10 in every 100 births. The average weight of these at birth was 2.050 kg and 60% were born by cesarean section, with most parturients (79.6%) being between 19 and 40 years old, but a very significant percentage (18.2%) were teenagers. Also, 34.8% of preterm births occurred among primiparous mothers. Conclusion: It is understood that it is important to reduce the prevalence levels of premature births, emphasizing health promotion actions, prevention and early identification of possible complications with the fetus to minimize risk factors for prematurity.

DESCRIPTORS: Newborns, prematurity, neonatology, prevalence

RESUMEN

Introducción: La prematuridad se define como un nacimiento que ocurre antes de las 37 semanas completas (menos de 259 días) de gestación y puede estar asociado con un mayor riesgo de morbilidad y mortalidad, especialmente entre los recién nacidos extremadamente prematuros, es decir, edad gestacional (EG) <28 semanas. Objetivo: Describir la prevalencia de recién nacidos prematuros en una maternidad pública de la ciudad de Manaus-Amazonas. Metodología: Estudio retrospectivo, descriptivo con enfoque cuantitativo donde se pretende estudiar la información secundaria existente en bases de datos. Resultados: Durante el período se registraron 15.118 nacimientos, de los cuales 1.585 fueron prematuros, es decir una prevalencia de 10 por cada 100 nacimientos. El peso promedio de estas al nacer fue de 2.050 kg y el 60% nació por cesárea, teniendo la mayoría de las parturientas (79,6%) entre 19 y 40 años, pero un porcentaje muy importante (18,2%) eran adolescentes. Asimismo, el 34,8% de los partos prematuros ocurrieron entre madres primíparas. Conclusión: Se entiende que es importante reducir los niveles de prevalencia de nacimientos prematuros, enfatizando acciones de promoción de la salud, prevención e identificación temprana de posibles complicaciones con el feto para minimizar los factores de riesgo de prematuridad.

DESCRIPTORES: Recién nacidos, prematuridad, neonatología, prevalencia

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INTRODUCTION

When a birth occurs before 37 completed weeks (less than 259 days) of gestation, it is classified as a premature birth and is associated with an increased risk of morbidity and mortality, especially among extremely preterm infants, i.e., gestational age (GA) < 28 weeks, due to incomplete fetal development and its greater predisposition to neonatal infections, which are aggravated by handling during care and long periods in neonatal intensive care units - ICU NEO[1].

For this reason, this is a matter of great importance worldwide and also a Public Health priority, as it is the most important cause of neonatal death and the second leading cause of mortality in children under 5 years of age. [2]

This condition continues to be an important obstetric problem today, being responsible for most cases of perinatal morbidity and mortality, as it causes severe immediate damage to newborns and late sequelae. [2, 3]

In Brazil, currently, 340,000 babies are born premature every year, equivalent to 931 per day or 6 premature births/10 minutes. More than 12% of births in the country take place before the 37th week of gestation, double the rate of European countries.[4,7,10]

The worldwide incidence of preterm birth is estimated to be approximately 10% (ranging from 5% in parts of Europe to 18% in parts of Africa), and approximately 15 million children are born prematurely each year. Of these preterm births, 85% occurred between 32 and 36 weeks of gestational age (GA), 10% occurred between 28 and < 32 weeks of GA, and 5% occurred at < 28 weeks of GA. In the United States, approximately 550,000 premature babies are born each year, with about 10% of all live births born before 37 weeks' GA and nearly 3% born <34 weeks' GA. [2, 5]

Even with all the advances in the obstetric area, the occurrence of these childbirths is still quite significant, especially in underdeveloped and developing countries. [3, 6]

In addition, prematurity can be associated with several factors, such as maternal age under 18 years and over 40 years, bacteriuria, low socioeconomic status, chorioamnionitis, chronic diseases, smoking, drug use, among others. [7]

However, the increase in the number of teenage pregnancies has also become a worrying factor, as in most cases mo-

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therhood during this period can bring physical, emotional, social and economic conditions for the adolescent mother and the newborn, mainly due to the increased risk of premature births. [5,8]

It is in adolescence that abandonment occurs, the exchange of childhood behaviors for new ideals and the choices of social and affective bonds are made. During this period, the teenage mother is susceptible to various influences that are related to models, behaviors, customs, laws and varied practices according to the environment in which she lives. Among the numerous changes that occur, there is the possibility of procreation, related to the early onset of sexual life. [9]

Prematurity is associated with 61.4% of perinatal causes of infant mortality, usually associated with respiratory distress syndrome, hypoxia and other respiratory compromises. [3,9]

Other aggravating factors reported by these authors are that, in addition to maternal age, there are countless factors that lead to a baby being born in a preterm birth, mainly placental involvement (placenta and previous displacement), primiparous and maternal infections, determining prematurity as a cause of infant mortality. [10]

Other studies continue to say that among the risk factors linked to pregnant women, there are also specific hypertensive diseases of pregnancy (HDP), placental insufficiency, infections, multiple twins, illicit drug use, smoking, alcoholism, obesity, chorioamnionitis, placenta previa, placental abruption, preeclampsia, premature rupture of the ovulatory membrane (PROM) or premature rupture of membranes, idiopathic preterm labor, oligohydramnios, adramnia, anemia, low number of prenatal consultations, urinary tract infection (UTI). [11]

Therefore, births before 28 weeks of gestation have the highest mortality rate (approximately 50%) and if they survive, they are at greatest risk of long-term morbidity. In premature survivors, there is a high rate of neurodevelopmental impairment (NDI) and chronic long-term health problems. These chronic complications often require additional health and education services, which add to the overall economic cost of caring for the premature baby. [12]

Preterm births are also the main cause of disabilities acquired after birth, except for congenital malformations, 75% of perinatal deaths and 50% of neurological abnormalities are directly attributed to preterm infants. [13]

Therefore, premature infants need strict monitoring and a greater number of health status assessments, and hospital discharge does not mean the resolution of their problems, as there must be specialized outpatient follow-up with a view to early detection and intervention of intercurrences with special attention to monitoring growth, nutrition, visual, auditory, neuromotor functions, immunization and home care. [14]

The Brazilian Society of Pediatrics (SBP) provides a manual for the Follow-up of Premature Children at Risk, in which it recommends follow-up with a multidisciplinary team and periodic assessments when it comes to neuropsychomotor development (NPMD), ophthalmological evaluation, evaluation with an otorhinolaryngologist, transfontanellar ultrasounds, nutritional evaluation, laboratory, and when necessary cardiological evaluations. [15]

In this way, the world health organization-WHO suggests as essential the existence of quality prenatal care and structured and specialized programs for the follow-up of newborns at risk (especially premature ones), in order to guarantee continuity of care, promote health, prevent and early identify complications and diseases and reduce morbidity and mortality in these patients. [16]

Therefore, the main objective of this study was to describe the prevalence of premature newborns in a public maternity hospital in the city of Manaus-Amazonas in the period between 2018 and 2019.

METHOD

This was a retrospective and descriptive study, with a quantitative approach where the data collection was carried out from an active search of the existing variables in minutes books of the delivery rooms in a public maternity hospital in the city of Manaus-AM, which is considered the largest in the state and one of the largest in the northern region of Brazil. It is a State institution that is characterized as a teaching hospital which receives undergraduate and graduate students from different areas.

Only secondary information on preterm infants with a gestational age of less than 37 weeks existing in the database were eligible for the study. The questionnaires only had a sequential number for better protection of the study participant. The sample characteristics and prevalence of comorbidities were described in absolute and relative frequencies and the following data was included: types of childbirth, mother's age, gestational age, number of previous pregnancies, preterm birth weight.

The study began after being considered and approved by the Ethics Committee for Research in Human Beings-CEP according to resolution 466/12 CONEP and its complementary under CAAE 65559422.7.0000.0005 and Opinion Number: 5.790.540.

RESULTS AND DISCUSSIONS

In the two-year period, 15,118 births were recorded, 1,585 of which were premature births, that is, a prevalence of 10 premature births per 100 births. Of the total number of premature births, 60% were born by cesarean section, 37.5% were natural and 2.4% were at home and most parturients (79.6%) were between 19 and 40 years old (with an average of 25 years old), but a very significant percentage (18.2%) were adolescents and also 34.8% of preterm births occurred among primiparous mothers. Their average weight at birth was 2.050 kg.

Studies carried out in other regions of Brazil have also shown that the average age of pregnant women with preterm labor is, on average, 24 years, with a higher percentage in adolescents. [4,11,13,17]

These data corroborate what was found in this study and which is expressed in the

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Table above (Table 01) where 18.2% of the parturients are adolescents between 11 and 14 years of age with an average of 25 years.

Authors show that the age factor alone does not indicate a condition for preterm childbirths, but together with other variables such as obstetric diseases, it considerably increases the risk. [18]

The rate of prematurity has increased worldwide, mainly due to the increase in late premature births, often associated with obstetric interventions. The overall prematurity rate is around 10.6 per 100 live births. Brazil occupies the ninth place in the ranking of the 10 countries with the highest rates of prematurity, with a rate of 11.2 per 100 live births. [4,19]

Recent data from the survey "Birth in Brazil: national survey on labor and birth", showed a Brazilian prematurity rate of around 11.5% and this value is almost twice as high as that observed in European countries, with 74% of these being late preterm infants (34 to 36 gestational weeks). [20,21]

The values found in the studies mentioned above differ from those found in this study (Graph 01) since most premature infants are in the "very premature" range, which is between 28 and 32 weeks.

In a cross-sectional, observational, descriptive study carried out in the southern region of the country, where premature newborns admitted to the ICU and ICU were evaluated, it was shown that the weight classification found was moderate or extreme. However, when weight was classified according to gestational age, most newborns had adequate weight. There was a higher frequency of length below the recommended for gestational age in the investigated preterm infants. [22]

Premature childbirths place the newborn (NB) in a category of great nutritional risk; in this sense, food represents a continuous challenge for those responsible for nutrition. [24]

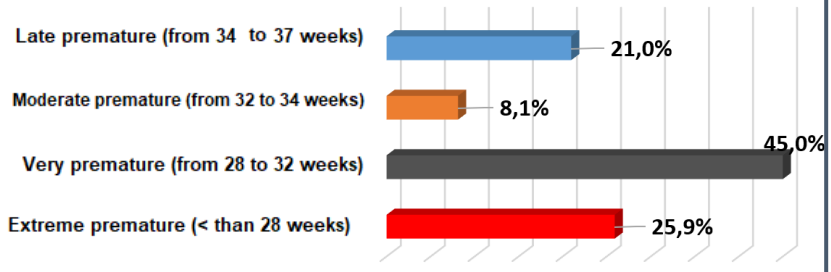
But there are other factors considered risk indicators for child development, classified as biological risk (low birth weight, prematurity, mechanical ventilation, peri-intraventricular hemorrhage, prenatal exposure to alcohol and drugs); established risk (hy-

Table 01: Profile of mothers of premature newborns in the period proposed by the study;

Age group of mothers	N	%
Between 11 to 14 years old	359	18,2
Between 15 to 18 years old	268	17,7
Between 19 and 40 years old	1.297	79,6
Older than 40 years old	44	2,7
Onset of prematurity		
Prematurity in the first pregnancy	531	34,8
Prematurity in the second pregnancy	994	65,2
Type of childbirth		
C-section	926	60,0
Natural	581	37,6
Home Childbirth	37	2,4

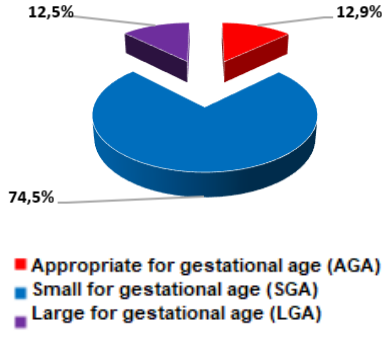
Source: Secondary databases of Maternidade Ana Braga

Graph 01: Premature, extremely preterm, very preterm, moderately preterm and late preterm newborns registered in the period proposed by the study;



Source: Maternidade Ana Braga secondary databases

Graph 03: Classification of premature newborns according to birth weight for gestational age



Source: Maternidade Ana Braga secondary databases

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drocephalus, microcephaly, chromosomal and musculoskeletal anomalies); and environmental/social risk (social vulnerability, behavioral state anomalies). [23]

It is known that those born with low birth weight often need specialized neonatal care, as they always have a higher risk of mortality and morbidity throughout the first year of life. Among the complications that may be related to prematurity, respiratory disorders stand out. [25]

In units where there are premature newborns, professionals must be very careful in their management. The maturity and description of the characteristics of the newborn is a determining factor for the scarcity of adipose tissue, which is responsible for greater thermal lability and epidermal fragility. [26]

This type of patient requires special care, especially with the skin. The greatest precautions are those related to the use of adhesives, rotation of pulse oximeters to prevent skin burns, when changing diapers, repositioning in the crib and invasive procedures. [27]

It is always very important to carefully analyze the issue of cesarean deliveries, especially in premature infants, since the maintenance of pregnancy must be carefully evaluated considering the risks of childbirth associated with the risks of premature birth. [22, 26]

In a cross-sectional study carried out with premature newborns in a hospital in the northwest region of the state of Rio Grande do Sul/Brazil, pre-eclampsia and gestational diabetes was the most prevalent complication among pregnant women undergoing cesarean sections and possibly for this reason extrauterine growth restriction was observed at the time of discharge from the unit. [27]

Prematurity constantly appears in official reports from the Ministry of Health and the World Health Organization as the leading cause of early neonatal death in all regions of Brazil. On the other hand, the identification and early treatment of risk factors for preterm childbirth increase fetal viability, reducing perinatal morbidity and mortality. [22, 28]

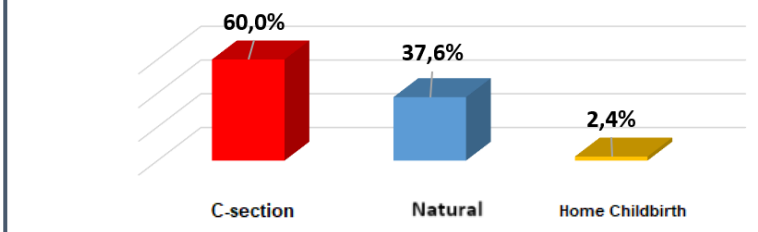
Within this perspective, it is essential to establish preventive measures based on the main risk factors for this complication. These measures should start already in the prenatal period. [28]

Table 02: Classification of premature newborns according to birth weight

Variables	N	%
Low birth weight (< than 2,500g)	646	36,8
Very low birth weight (< than 1,500g)	584	33,3
Extremely low birth weight (< 1,000g)	526	30,0

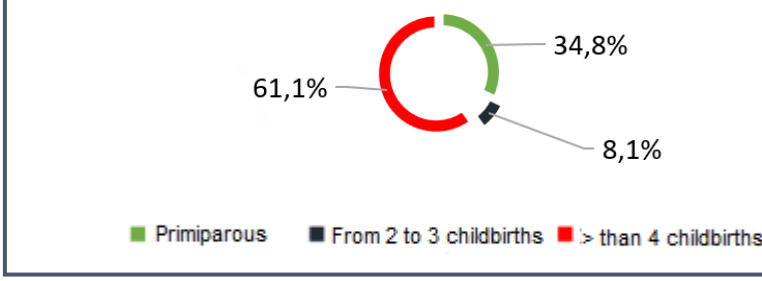
Source: Maternidade Ana Braga secondary databases

Graph 05: Most common type of childbirth among prematurity cases;



Source: Maternidade Ana Braga secondary databases

Graph 06: In which pregnancy there was the highest occurrence of premature births: if among primiparous, second, multiparous, or great multiparous;



Source: Maternidade Ana Braga secondary databases

CONCLUSION

Data from this study showed that most premature childbirths occurred by cesarean section in a hospital environment. Another worrying fact is that even with the provision of specialized hospital care services, 2.4% of the registered births took place at home, it is worth noting that they were only registered by family members who were determined to take the parturient woman to the health institution. This number may be underestimated, as it is believed that other births were not recorded because the woman in labor did not seek hospital care. It is also noteworthy that 18.2% of the parturients were adolescents between 11 and 14 years old. This study found a prevalence of 10 premature births per 100 births, i.e., which is equivalent to the national average, however, twice as high as in some regions of Europe.

It is important to emphasize that adherence to assisted childbirth and prevention of prematurity begins even before pregnancy, with adequate family planning followed by prenatal care, as all this seeks to ensure the development of the pregnancy, allowing the delivery of a healthy

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newborn without impact on maternal health, including psychosocial aspects and educational and preventive activities. Therefore, it is necessary to provide health, prevent and early identify possible complications with the fetus so that prematurity does not occur. The aim is to reduce the prevalence of premature births by emphasizing health promotion actions, prevention and early identification of possible complications with the fetus to minimize risk factors for prematurity.

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