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PROFILE OF CARE FOR CHILDREN IN THE FIRST YEAR OF LIFE IN HIGH-RISK HEALTHCARE SERVICES

PERFIL DE ATENDIMENTOS DE CRIANÇAS NO PRIMEIRO ANO DE VIDA EM SERVIÇO DE SAÚDE DE ALTO RISCO

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ABSTRACT: Objective: to analyze the profile and reasons for caring for children in the first year of live in a high-risk maternal and child healthcare service. Method: a cross-sectional, retrospective study, using medical records data from children who began care at a high-risk service between May 2021 and April 2022. Data from 236 children and their mothers were analyzed. Results: of the children, 33.1% were premature, 29.3% had low birth weight, and 30.5% had congenital malformations. The main complications during pregnancy were urinary tract infection, syphilis, hypothyroidism, and vaginal bleeding. Prematurity was the main reason for referral to the service and was statistically associated with gestational complications, congenital infection, hypertensive disorders of pregnancy, exposure to syphilis, neonatal infection, neonatal sepsis and congenital malformations. Conclusion: the importance of Primary Care and network action for maternal and child healthcare is highlighted.

KEYWORDS: Ambulatory Care. Child. Pediatrics. Health Services. Maternal and Child Health.

RESUMO: Objetivo: analisar o perfil e os motivos de atendimento de crianças no primeiro ano de vida em um serviço de saúde materno-infantil de alto risco. Método: estudo transversal, retrospectivo, mediante acesso a dados de prontuário de crianças que iniciaram atendimento no serviço de alto risco entre maio/2021 e abril/2022. Dados de 236 crianças e suas mães foram analisados. Resultados: Das crianças, 33,1% eram prematuras, 29,3% com baixo peso ao nascer e 30,5% malformação congênita. As principais intercorrências na gestação foram infecção do trato urinário, sífilis, hipotireoidismo e sangramento vaginal. A prematuridade foi o principal motivo de encaminhamento para o serviço e esteve estatisticamente associada às intercorrências gestacionais, infecção congênita, doença hipertensiva específica da gestação, exposição à sífilis, infecção neonatal, sepse neonatal e malformações congênitas. Conclusão: destaca-se a importância da Atenção Primária e da atuação em rede para o cuidado à saúde materno-infantil.

PALAVRAS-CHAVE: Assistência Ambulatorial. Criança. Pediatria. Serviços de Saúde. Saúde Materno-Infantil.

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INTRODUCTION

The Maternal and Child Care Network in the Brazilian Health System (SUS - *Sistema Único de Saúde*) comprises a set of actions and services that seek to ensure women have access to safe, quality and humanized care during prenatal care, pregnancy, childbirth, the postpartum period and in situations of pregnancy loss as well as the right of children to a safe birth, healthy growth and development.[1] Among these services, Primary Care stands out, which works in family planning, monitoring pregnant women and women in situations of pregnancy loss, providing guidance and care focused on childbirth, birth, the postpartum period and childcare.[1,2]

In certain situations, with a higher degree of risk and which require access to specialized knowledge or procedures not available within the scope of Primary Care, it is up to Primary Care teams to share the care of women and/or children with specialized services.[3] Specialized Outpatient Care (SOC) is a component of the maternal and child care network responsible for specialized care for pregnant women, newborns and/or children whose follow-up in these services is indicated.[1,4]

When it comes to specialized care for children at birth, risk stratification in Paraná considers as high risk those with low birth weight (< 2,000 g) or with weight ≥ 4,000 g, who suffered perinatal asphyxia (APGAR < 7 in the 5th minute of life), with gestational age ≤ 34 weeks, who present hyperbilirubinemia with the need for exchange transfusion, severe congenital malformation with clinical repercussions or presence of genetic diseases or chromosomal abnormalities.[4]

Among children aged one month to two years, those with birth weight less than 2,000 g or greater than or equal to 4,000 g, presence of perinatal conditions and congenital malformations, prematurity (≤ 34 weeks), perinatal asphyxia and/or APGAR < 7 in the 5th minute of life, hyperbilirubinemia with exchange transfusion, exposure to infections such as syphilis, toxoplasmosis, rubella, cytomegalovirus, herpes simplex virus, Human Immunodeficiency Virus and Zika confirmed or under investigation, altered neonatal screening tests, genetic disease, chromosomal abnormalities, severe congenital malformation or metabolic disease with clinical repercussions, unsatisfactory psychomotor development for age, with signs of violence or mistreatment, severely malnourished or obese children or with repeated complications after a second hospitalization, with clinical repercussions.[4]

This set of conditions may require different interventions, and most of them are preventable. Profiling the main reasons for seeking care at a high-risk service reflects the community's health needs and can guide the health network in directing efforts towards continuous improvement of practices in maternal and child healthcare, with an emphasis on preventing, above all, preventable conditions.[5-7]

Data from the World Health Organization (WHO) indicate that, in 2017, more than 2.5 million newborns died due to preventable causes, and prematurity was among the main causes of mortality.[8] Promoting maternal and child health is among the Sustainable Development Goals (SDGs), identifying itself as one of the goals of nations to radically reduce preventable deaths among newborns and children under 5 years of age by 2030.[2]

The fact that reducing mortality among children under five years of age is among the 2030 Agenda global goals has helped Brazil to make further progress and achieve good results in this direction.[2] Social and healthcare indicators have contributed to reducing the infant mortality rate in recent years, but challenges remain related to the maintenance and evolution of public policies and continuous improvement of these indicators.[2] Internationally, the importance of access to appropriate child care actions is highlighted to ensure good quality care and achieve the global goal of health for all.[8]

In this regard, it is recognized that the social determinants of health influence childhood development and can contribute to higher mortality rates.[9-10] This aspect justifies the importance of

studies that assess health issues at the local and/or regional level. Such studies tend to contribute to the proposition of more assertive actions, considering the possibility of analyzing the strengths and aspects to be improved in the implementation of healthcare networks at the local and/or regional and/or state level. From the perspective of the Maternal and Child Care Network in SUS, SOC, for instance, should be responsible for specialized care for high-risk conditions, observing the epidemiological profile, the regional health system organization, population density and distance to access healthcare.[1] In view of this, this study aimed to analyze the profile and reasons for care of children in the first year of life in a high-risk maternal and child healthcare service.

METHODOLOGY

This is a cross-sectional, retrospective study aimed at analyzing medical record data of 236 children up to one year of age, who started care between May 2021 and April 2022 in a high-risk maternal and child health outpatient service, located in a municipality in western Paraná, Brazil. Data from mothers' medical records were also collected and analyzed.

The specialized maternal and child healthcare service targeted by the study provided a list containing 316 child patients, of which 79 were excluded because they did not meet the criteria for starting care (age ≤ 1 year) and one child for which no medical record data was available. Among the 236 remaining children, five of their mothers did not have data in their medical records or did not have any records registered in the system, a fact that allowed access to detailed medical record data of 231 mothers of children included.

Data collection was carried out by the first author and occurred through access to electronic medical records of children and their respective mothers, available in the registry system for healthcare service care in the municipality. The variables studied among children were sex, color/race, gestational age at birth, birth weight, APGAR score in the first and fifth minutes of life, presence of congenital malformations, presence of congenital or neonatal infections, type of breastfeeding and reason for referral to the high-risk healthcare service. Regarding maternal variables, data were collected on age, education, marital status, profession, prenatal care, type of pregnancy and complications and/or diseases during pregnancy. Data were collected between June and October 2022.

The data were entered into a Microsoft Excel® spreadsheet and subsequently analyzed. Qualitative data were presented in tables as absolute frequency (n) and proportion (%), and for quantitative data, median, minimum and maximum were calculated. To identify factors related to prematurity, which was the main reason for referral to the high-risk service, the chi-square test was used for categorical variables, and the Mann-Whitney test was used to compare two groups (premature vs. non-premature children) for quantitative variables. The tests were conducted using Statistical Analysis System for Windows® version 9.4 and SAS® Institute Inc, 2002-2008, Cary, NC, USA. The level of statistical significance adopted was $p < 0.05$.

The study comes from an undergraduate course completion project, which met ethical aspects for conducting research with human beings, being authorized by the Municipal Health Department, and was approved by the *Universidade Federal do Paraná* Research Ethics Committee, under Protocol 5,414,946/2022 and CAAE (*Certificado de Apresentação para Apreciação Ética* - Certificate of Presentation for Ethical Consideration) 57506022.0.0000.0102.

RESULTS

Among the 236 children included in the study, 52.5% were male. There was a predominance of brown skin color or race (20.8%) and age between one and three months at the beginning of follow-up in the high-risk service (43.2%). Table 1 shows the sociodemographic data of children and their mothers.

Table 1. Sociodemographic data of mothers and children treated at a high-risk outpatient clinic in the first year of life

Variable	n	%
Sex		
Male	124	52.5
Female	112	47.5
Color or race		
Brown	49	20.8
White	30	12.7
Black	30	12.7
Others	2	0.8
No information	125	53.0
Age of child at admission to service		
< 1 month	27	11.4
1 to 3 months	102	43.2
4 to 6 months	60	25.4
7 to 9 months	31	13.1
10 to 12 months	16	6.8
Maternal age		
10 to 19 years	35	14.8
20 to 34 years	159	67.4
≥ 35 years	39	16.5
No information	3	1.3
Maternal education		
Illiterate	1	0.4
Incomplete elementary school	25	10.6
Complete elementary school	12	5.1
Incomplete high school	32	13.6
Complete high school	68	28.8
Incomplete higher education	9	3.8
Complete higher education	17	7.2
No information	72	30.5
Marital status		
Single	28	11.9
Married	106	44.9
Stable union	60	25.4
Widow	1	0.4
No information	41	17.4
Maternal profession		
Housewife	79	33.5
Production assistant	17	7.2
Saleswoman	8	3.4
Student	7	3.0
Machine operator	7	3.0
Housekeeper	6	2.5
Administrative assistant	5	2.1
Cashier	5	2.1
Sales promoter	3	1.3
Receptionist	3	1.3
Nursing technician	3	1.3

Self-employed	2	0.8
Cook	2	0.8
Production operator	2	0.8
Receptionist	2	0.8
Secretary	2	0.8
General services	2	0.8
Pig farmer	2	0.8
Store supervisor	2	0.8
Others*	19	8.1
No information	58	24.6

*Other professions include the work activities of administrator, laboratory analyst, network analyst, laboratory assistant, kitchen assistant, office assistant, laundry assistant, oral health assistant, wallet, confectioner, seamstress, pharmacist, civil servant, credit operator, teacher, psychologist, merchandise replenisher, security guard, and administrative technician. All professions were presented with a frequency of 1 case each.

Regarding gestational data, prenatal care was performed in 91.1% of cases. There was a predominance of singleton pregnancies (80.5%), and 75.4% of mothers presented some type of complication during pregnancy, the most recurrent being diabetes mellitus, urinary tract infection, syphilis, hypothyroidism, vaginal bleeding and hypertensive disorders of pregnancy (Table 2).

Table 2. Characteristics related to pregnancy and childbirth of children up to one year of age treated at a reference service for high-risk outpatient care

Variable	n	%
Prenatal care		
Yes	215	91.1
No	1	0.4
No information	20	8.5
Type of pregnancy		
Single	190	80.5
Multiple	32	13.6
No information	14	5.9
Complications/illnesses during pregnancy		
Yes	178	75.4
No	44	18.6
No information	14	5.9
Gestational complications/diseases (which ones)*		
Insulin-dependent GDM/previous DM/decompensated DM	56	16.4
UTI	55	16.1
Syphilis	43	12.6
Gestational hypothyroidism	40	11.7
Vaginal bleeding	30	8.8
HDP	26	7.6
COVID-19	16	4.7
Pre-eclampsia	16	4.7
Anemia	12	3.5
Gestational toxoplasmosis	9	2.6
Placental abruption	6	1.8
PPROM	3	0.9
Genital herpes	2	0.6
Renal lithiasis	2	0.6
PTL	2	0.6
Abortion of one of the embryos	1	0.3
Hepatic cholestasis	1	0.3
Genital warts	1	0.3
Hypertension decompensation	1	0.3
Hepatitis B	1	0.3
HIV positive	1	0.3
Cervical incompetence	1	0.3
Severe liver failure	1	0.3
Pyelonephritis	1	0.3
No information	14	4.1

*More than one complication may have occurred during the gestational period, which explains a greater number of records than the sample analyzed. In this case, % was calculated considering the number of complications.
Caption: COVID – coronavirus disease; HDP – hypertensive disorders of pregnancy; DM – diabetes mellitus; GDM – gestational diabetes mellitus; HT – hypertension; HELLP – hemolytic anemia, elevated liver enzymes, low platelet count; HIV – human immunodeficiency virus; UTI – urinary tract infection; PPROM – premature rupture of membranes; PTL – preterm labor.

Most children who started receiving care at the high-risk service up to 1 year of age were full-term newborns (66.1%), with adequate weight (64.8%) and with an APGAR score between 8 and 10 (Table 3).

Table 3. Clinical characteristics associated with the care of children in the first year of life in a high-risk outpatient maternal and child healthcare service

Variable	n	%
Gestational age at birth		
28 to 31 weeks and 6 days	13	5.5
32 to 36 weeks and 6 days	65	27.5
37 weeks to 41 weeks and 6 days	156	66.1
No information	2	0.8
Weight at birth		
< 1,000 g	2	0.8
1,000 to 1,499 g	11	4.7
1,500 to 2,499 g	56	23.7
2,500 to 4,000 g	153	64.8
> 4,000 g	11	4.7
No information	3	1.3
APGAR Scale score at 1st minute		
0 to 2	5	2.1
3 to 4	10	4.2
5 to 7	40	16.9
8 to 10	175	74.2
No information	6	2.5
APGAR Scale score at 5th minute		
3 to 4	2	0.8
5 to 7	13	5.5
8 to 10	215	91.1
No information	6	2.5
Congenital malformation		
No	162	68.6
Sim	72	30.5
No information	2	0.8
Congenital infection		
No	179	75.8
Yes	55	23.3
No information	2	0.8
Type of congenital infection		
Exposure to syphilis	43	78.2
Exposure to toxoplasmosis	7	12.7
Exposure to syphilis and toxoplasmosis	2	3.6
Exposure to HIV	3	5.5
Neonatal infection		
No	207	87.7
Yes	27	11.4
No information	2	0.8
Type of neonatal infection		
Sepsis	15	55.6
Potential infection	5	18.5
Meningitis	1	3.7
Meningitis and sepsis	1	3.7
Pneumonia	1	3.7
Congenital pneumonia and sepsis	1	3.7
Pneumonia and sepsis	1	3.7
Enterocolitis and sepsis	1	3.7
Impetigo	1	3.7
Type of breastfeeding		
Mixed breastfeeding	100	42.4
Exclusive breastfeeding	93	39.4

Variable	n	%
Infant formula	41	17.4
Cow's milk	1	0.4
No information	1	0.4

Caption: exclusive breastfeeding – feeding only with breast milk; mixed breastfeeding – supplementing breast milk with another type of milk; APGAR – appearance, pulse, grimace, activity, respiration; HIV – human immunodeficiency virus.

Mean birth weight was 1,336 g, for infants born at gestational ages between 28 and 31 weeks and six days (very preterm), 2,254 g, for infants born at 32 and 36 weeks and six days (moderately to late preterm), and 3,247 g, for those born at 37 and 41 weeks and six days (full-term). Mean Apgar scores at 1 and 5 minutes of life were 6.5 vs 7.9 for very preterm infants, 7.6 vs 9.0 for moderately to late preterm infants, and 8.0 vs 9.3 for full-term infants.

Among children with congenital malformations (30.5%), the most frequent malformations were patent foramen ovale (n=23), abdominal wall hernias (n=19), patent ductus arteriosus (n=9), atrial septal defect (n=7) and ventricular septal defect (n=7). The following were also identified in records: craniosynostosis; developmental dysplasia of the hip; hydronephrosis; polydactyly; reflux of cardiac valves; enlarged cardiac chambers; stenosis of cardiac valves; cleft palate; ankyloglossia; laryngomalacia; stenosis of pulmonary branches; bronchopulmonary dysplasia; malformations of the corpus callosum; microcephaly; congenital torticollis; vascular malformations; heart failure; tricuspid insufficiency; pulmonary hypertension; encephalomalacia; absence of septum pellucidum; arachnoid cyst; scoliosis; deformities of vertebral bodies; pectus excavatum; osteopenia of prematurity; retinopathy of prematurity; and cryptorchidism. In 26.4% of children, there were multiple malformations.

Prematurity was the main reason for referral to the high-risk outpatient service, followed by exposure to syphilis (Table 4).

Table 4. Reasons for referring children in the first year of life to the high-risk outpatient service

Reasons for referral	n	%
Prematurity	44	18.6
Exposure to syphilis	39	16.5
Altered neonatal screening	14	5.9
Insufficient weight gain	10	4.2
Twin births	10	4.2
Twin births and prematurity	10	4.2
Jaundice	9	3.8
Exposure to toxoplasmosis	6	2.5
Early term	6	2.5
Ethnicity (black/brown)	5	2.1
Craniosynostosis	4	1.7
Insulin-dependent GDM	4	1.7
Seizures	3	1.3
Exposure to HIV	3	1.3
Syndromic investigation	3	1.3
Macrocrania	3	1.3
SGA	3	1.3
Genetic syndromes	3	1.3
Alteration in intrauterine examination	2	0.8
Neonatal anoxia	2	0.8
CMPA	2	0.8
Delay in NPMD	2	0.8
Exposure to syphilis and toxoplasmosis	2	0.8

Reasons for referral	n	%
Twin birth and maternal death during childbirth	2	0.8
Umbilical hernia	2	0.8
Neonatal infection	2	0.8
Investigation of urinary malformation	2	0.8
Skin lesions	2	0.8
Thoracic nodulation	2	0.8
Obesity	2	0.8
Prematurity and trigeminy	2	0.8
Changes in laboratory tests	1	0.4
Changes in vision	1	0.4
Changes in CT of the skull	1	0.4
Acute tonsillitis	1	0.4
Low risk	1	0.4
Congenital heart disease	1	0.4
Assessment for neurosurgery	1	0.4
Cryptorchidism	1	0.4
GDM	1	0.4
Erythroblastosis fetalis with exchange transfusion	1	0.4
Exposure to hepatitis B	1	0.4
Cystic fibrosis	1	0.4
Anal fissure	1	0.4
Cleft lip and palate	1	0.4
Short lingual frenulum	1	0.4
Subdural hematoma with neurosurgery	1	0.4
Liver disease	1	0.4
Investigation of DDH	1	0.4
Investigation of genital malformation	1	0.4
Recurrent UTI	1	0.4
Laryngomalacia	1	0.4
Macrosomia	1	0.4
Microcephaly	1	0.4
Benign sleep myoclonus	1	0.4
Upper airway obstruction	1	0.4
Prematurity and chromosomal abnormalities	1	0.4
Prematurity and exposure to toxoplasmosis	1	0.4
Prematurity and insufficient weight gain	1	0.4
Ptosis of the eyelids	1	0.4
Heart murmur	1	0.4
Suspected Rh isoimmunization	1	0.4

Caption: CT – computed tomography; CMPA – cow's milk protein allergy; NPMD – neuropsychomotor development; GDM – gestational diabetes mellitus; HIV – human immunodeficiency virus; DDH – developmental dysplasia of the hip; UTI – urinary tract infection; SGA – small for gestational age; Rh – Rhesus factor.

The factors that were statistically significantly related to prematurity were pregnancy-specific hypertensive disease (p=0.0001), congenital infection (p=0.0012), exposure to syphilis (p=0.0081), neonatal infection (p=0.0024), neonatal sepsis (p=0.0178) and congenital malformations (p=0.0009). A statistically significant difference was identified in the Apgar scale scores at 1 and 5 minutes between the groups of premature and full-term infants, with premature infants presenting lower medians. A statistically significant relationship was also observed between prematurity and the number of complications during pregnancy (p=0.0048) (Table 5).

Table 5. Assessment of factors associated with prematurity in the sample studied

Factors	Non-premature (n=156) n (%)	Premature (n=78)* n (%)	p-value
Marital status			0.9379[1]
Single	20 (15.0)	8 (13.1)	
Married	72 (54.1)	34 (55.7)	
Stable union	41 (30.8)	19 (31.1)	
Congenital infection			0.0012[1]
No	110 (70.5)	69 (89.6)	
Yes	46 (29.5)	8 (10.4)	
Neonatal infection			0.0024[1]
No	145 (92.9)	62 (79.5)	
Yes	11 (7.1)	16 (20.5)	
Congenital malformation			0.0009[1]
No	119 (76.3)	43 (55.1)	
Yes	37 (23.7)	35 (44.9)	
Urinary tract infection			0.7352[1]
No	83 (69.7)	39 (67.2)	
Yes	36 (30.3)	19 (32.8)	
Exposure to syphilis			0.0081[1]
No	83 (69.7)	51 (87.9)	
Yes	36 (30.3)	7 (12.1)	
HDP			0.0001[1]
No	110 (92.4)	41 (70.7)	
Yes	9 (7.6)	17 (29.3)	
Neonatal sepsis			0.0178[1]
No	148 (94.9)	67 (85.9)	
Yes	8 (5.1)	11 (14.1)	
APGAR Scale score at 1st minute			0.0001[2]
Median (minimum-maximum)	9.0 (0.0-10.0)	8.0 (2.0-9.0)	
APGAR Scale score at 5th minute			< 0.0001[2]
Median (minimum-maximum)	10.0 (4.0-10.0)	9.0 (4.0-10.0)	
Maternal age			
Median (minimum-maximum)	26.0 (13.0-43.0)	27.0 (16.0-44.0)	0.6350[2]

Caption: HDP – hypertensive disorders of pregnancy.
*Includes children born between 28 and 36 weeks and 6 days. No information: 2.
[1]Chi-square test. [2]Mann-Whitney test.

DISCUSSION

Some findings identified in the study, such as the predominance of males among children under one year of age and with adequate birth weight, are in line with state data on the general population of live births in the state of Paraná.[11] However, when analyzing the data on color or race, in this study there was a predominance of brown color or race (20.9% of children). Children declared as white and black represented 12.7% each. Although there was a significant proportion of missing data in this variable (53.0%), existing results differ from the state data, in which, in Paraná, from 2009 to 2019, live births of white color or race prevailed, with a proportion close to 80%.[11]

Data on live births in the state of Paraná also indicate a higher incidence of congenital foot deformities, cleft lip and cleft palate, congenital malformations of the circulatory system, other congenital malformations and deformities of the musculoskeletal system, and other congenital malformations of the nervous system.[11] A similar result was found in another national study, carried out

in the state of Rio Grande do Sul, in which congenital musculoskeletal malformations and deformities were among the most prevalent.[12] A survey of data on live births in maternity hospitals in the Brazilian city of São Paulo also points to the predominance of congenital osteoarticular malformations, followed by malformations of the circulatory system.[13] In the present study, on the other hand, malformations of the cardiovascular system were the most prevalent.

In relation to sample characteristics, a higher frequency of mothers with complete high school and between 20 and 34 years of age was observed, with the minimum age being 13 and the maximum being 44 years. Based on these data, the main gestational complications were analyzed, with diabetes mellitus, urinary tract infection and syphilis being the three most recurrent. The fact that diabetes mellitus is among the main complications during pregnancy may reflect the increase in chronic health conditions in the general population.[14-15] The 2013 Brazilian National Health Survey (PNS - *Pesquisa Nacional de Saúde*) indicated a weighted prevalence of gestational diabetes in prenatal care equivalent to 6.6%.[16] On the other hand, data from the Vigitel survey indicated a higher frequency of medical diagnosis of diabetes reported by adults when comparing 2019 and 2023.[14-15] In 2019, frequencies varied between 4.6% and 8.6% in state capitals, while in 2023 they were between 5.6% and 12.1%.[14-15] In the context of pregnancy, it is known that diabetes mellitus is most often associated with clinical complications that include respiratory disorders, meconium-stained gastric aspirate, genital problems, septicemia, cardiac malformations, among others.[17] Urinary tract infection was another predominant complication in the clinical-epidemiological profile of the sample studied. It is one of the most frequent clinical complications during pregnancy and is prevalent in other national health contexts.[18-19]

Understanding these profiles brings together an important set of information that allows us to identify occurrences or situations that are highly relevant to local, regional and/or national health systems, providing a basis for defining priority actions, improving care practices and reducing maternal and child morbidity and mortality.[6-7,18-19] It is worth highlighting that both diabetes mellitus, urinary tract infection and syphilis are considered conditions that are sensitive to Primary Care actions,[20] understanding that the work of teams and the strengthening of these services in integration with other points of the health network is fundamental for preventing and managing these conditions.

The results observed regarding the main gestational complications may be associated with the outcomes of neonatal and congenital infection, when neonatal sepsis and congenital syphilis are identified as frequent in these variables. In the literature, urinary tract infection is described as one of the factors related to the occurrence of neonatal sepsis.[21]

Exposure to syphilis in pregnant women is also associated with prematurity.[22-23] In this study, prematurity was one of the main reasons for referral to the high-risk maternal and child health outpatient service, representing a public health concern.[8,24-28] Previous studies have sought to understand factors associated with prematurity, including pregnancy-specific hypertensive disease, vaginal losses or bleeding, urinary tract infection, placental alterations, maternal infectious or chronic diseases, and failure to perform prenatal care.[8,24-28] In this study, the factors related to prematurity were pregnancy-specific hypertensive disease, exposure to syphilis, congenital malformation, number of complications during pregnancy and congenital infection. A relationship was identified between prematurity and the occurrence of neonatal sepsis, neonatal infection and lower medians on the Apgar scale in the first and fifth minutes of newborns' life.

Thus, it is understood that strategies that integrate prevention and health promotion with a focus on choosing self-care practices and reducing risk factors and vulnerability are important to ensure the health of the mother-baby dyad and minimize possible unfavorable perinatal outcomes.[29-30] Within the scope of health promotion actions, it is considered important to consider the social determinants of

health and the possibility of intersectoral articulation.[2] It is known that socioeconomic, health and educational factors interfere with the search for, access to and healthcare practices so that better indicators in this sense tend to allow achieving better health results in childhood.[2] This scenario represents a challenge in terms of sustainability and the proposal of new public policies to reduce childhood morbidity and mortality as well as promoting health in the general population.[2]

Due to its actions based on the territory and close to the community, Primary Care is decisive for promoting health and providing care to maternal, child and family health, as, through a broad scope of actions, it contributes to adopting healthier behaviors, carries out family planning and prenatal and postpartum follow-up, monitors the growth and development of children, among others, independently or integrated with the health and social network.[29-30]

It is important to note that the study has limitations. It was not possible to assess the clinical outcome of cases treated, since it is an outpatient service implemented in 2021 in the municipality, and many children in the sample remained in outpatient follow-up during the data collection period. In addition to this, certain data (ethnicity or race, marital status, education level, and mother's occupation) had a considerable number of missing items. The data were not detailed in medical records, which limits a more accurate analysis and demonstrates the importance of qualifying records in care, since they can serve not only for survey purposes, but, above all, support comprehensive healthcare, clinical follow-up, and shared care among teams.

Despite these limitations, the study gathers and analyzes characteristics of the profile of care provided to children in the first year of life in high-risk specialized care, providing a basis for practical implications. By determining a set of conditions or complications that are associated with prematurity or other health outcomes, both maternal and infancy, and that are influenced by Primary Care actions,[20] the importance of these teams in maternal and child healthcare stands out. The possibility of longitudinal care for individuals' and families' health allows for actions aimed at promoting health and preventing diseases not only in the period immediately before or during pregnancy, but throughout life, in order to minimize risk factors or those that make people more prone to metabolic, hypertensive and transmissible diseases. This may require expanding health education strategies, strengthening ties with the community by identifying their needs, adopting strategies in partnership with community spaces and understanding that achieving good health results in the community requires sharing responsibilities among the entire team, in accordance with professional attributions. Thus, new studies on possible strategies for promoting maternal and child health within the scope of Primary Care, and their results can contribute to the incorporation of new technologies into work processes or the improvement of existing flows and actions in individual, family and community healthcare.

CONCLUSION

Of the children in the sample, most began follow-up at the service between one and three months of age. The frequency of congenital malformations was 30.5%, with cardiovascular diseases being the most frequent. In 75.4% of pregnancies of these children, mothers presented at least one complication or disease during pregnancy, with diabetes mellitus, urinary tract infection and syphilis being the most frequent.

Prematurity was the main reason for referral to the high-risk service, indicating a statistically significant relationship with exposure to syphilis, pregnancy-specific hypertensive disease, congenital infection, neonatal infection, neonatal sepsis, congenital malformations and number of complications

during pregnancy. Premature children presented significantly lower (median) APGAR scores at 1 and 5 minutes when compared to non-premature children.

The data demonstrate the importance of strategies aimed at preventing harm and reducing risk factors, before, during and after pregnancy, given the complications observed, which often represent unfavorable outcomes for maternal and child health.

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