

FETAL DEATHS IN THE CENTRAL-WEST REGION OF BRAZIL, 2008-2019: A DESCRIPTIVE STUDY

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Abstract: Fetal deaths constitute a relevant public health problem in the world and are defined by the World Health Organization (WHO) as deaths from products of conception, before expulsion or complete extraction from the mother's body, regardless of the duration of the pregnancy. In Brazil, there are few systematic assessments of fetal deaths in different regions, in addition to their high underreporting. In recent years, a trend towards an increase in the number of these deaths has been observed in the Center-West Region of Brazil. Considering the need for longitudinal monitoring, in order to strengthen prenatal planning and public and universal health care, the present study aimed to describe fetal deaths in the Midwest Region, from 2009 to 2018. This is a study with a quantitative approach, of the descriptive type, carried out with data obtained through the Department of Informatics of the Unified Health System (DATASUS). In the period from 2009 to 2018, 22,630 fetal deaths were confirmed, with the highest percentage in the state of Goiás (23%, n=5,231). However, the state of Mato Grosso do Sul had the highest mortality rates over time. Despite the relevant advances in fetal health policies, there is a need to face the challenges that still persist, through access to prenatal care, humanized childbirth and overcoming socioeconomic barriers.

Keywords: Fetal mortality, Maternal and child health, Obstetric care.

INTRODUCTION

Fetal deaths constitute a relevant public health problem in the world and are defined by the World Health Organization (WHO) as deaths from products of conception, before expulsion or complete extraction from the mother's body, regardless of the duration of the pregnancy. In 2016, approximately 2 million fetal deaths were recorded worldwide, 98% of which in

developing countries (BARROS; AQUINO; SOUZA, 2019). One of the indicators of the quality of health care provided to pregnant women and during childbirth is the Fetal Mortality Rate (FMR), which can be calculated using fetal deaths that occur after the 22nd week of complete gestation, with fetuses of normal weight, equal to or greater than 500 grams or height from 25 centimeters, per thousand total births of the resident population, in a given geographic space (BRASIL, 2009).

Infant mortality has declined in the last decade, but fetal survival remains vulnerable (SILVA; BARBOSA, 2019). Despite its importance, the indicator of fetal deaths was not included by the United Nations (UN) as one of the Millennium Development Goals (MDGs), remaining invisible in global policy agendas. Among the main causes of fetal deaths, there are those of maternal etiology, both previous related to obesity and drug use, as well as obstetric ones, such as Specific Hypertensive Disease of Pregnancy (DHEG), Gestational Diabetes Mellitus (GDM), placental complications, congenital anomalies and asphyxia (BRITO, 2019).

Added to the high underreporting, there are few systematic assessments of fetal deaths in different regions of Brazil. In recent years, a trend towards an increase in the number of these deaths has been observed in the Center-West Region of Brazil. However, few studies have been published in recent decades on the epidemiological profile of fetal deaths in this region (LIMA; OLIVEIRA JÚNIOR; TAKANO, 2016). Considering the need for a longitudinal follow-up of these deaths, in order to strengthen the planning of prenatal care and public and universal health care, the present study aimed to describe fetal deaths in the Midwest Region of Brazil, in the period 2009 to 2018.

METHODOLOGY

This is a quantitative, retrospective and descriptive study. The data come from the Department of Informatics of the Unified Health System (DATASUS), with the selection of the Midwest Region as the location of the study, which comprises the Federative Units (UF) of Goiás (GO), Mato Grosso (MT), Mato Grosso do Sul (MS) and Federal District (DF).

The variables used in the study were: number of fetal deaths and causes of death by federative unit. The period outlined was between 2009 and 2018, due to the need for visibility of the temporal distribution of fetal deaths since the first vital statistic added on the DATASUS website. The basic calculations, tables and graphs were performed in the *Excel (Microsoft Office Home and Student, 2013)*. The MMR calculation was performed by surveying fetal deaths and the frequency of live births by the Live Births Information System (SINASC), also with data available in DATASUS. It must be noted that this study only presents public and publishable data, which does not require the opinion of the Research Ethics Committee (C.E.P.).

RESULTS AND DISCUSSION

Between the years 2009 and 2018, in the Federated Units (UF) of the Central-West region, 22,630 fetal deaths were confirmed that occurred after the 22nd week of complete gestation, with fetuses weighing 500 grams or more or height after the 22nd week of pregnancy. of 25 centimeters (cm), of which 40% (n=8,948) occurred in the state of Goiás, 23% (n=5,231) in Mato Grosso, 20% (n=4,479) in Mato Grosso do Sul and 17% (n=3,972) in the Federal District. Although discreet, the trend towards an increase in fetal deaths can be observed between 2009 and 2018, from 2,196 deaths in 2009 to 2,368, respectively (Table 1).

The State of Mato Grosso do Sul had the highest MPT when compared to other FUs, and the State of Goiás had the highest frequency of deaths. The State of Mato Grosso had an MPT that was similar to that of Mato Grosso do Sul, but with a decline from 2012 onwards. With regard to the Federal District (DF), it was the FU that recorded the lowest number of cases in the period studied (n=3,972), also with a decrease in the TMF from 2012 onwards.

Table 2 presents fetal deaths according to the main causes of mortality. Deaths due to maternal factors (involving age, number of previous deliveries, weight, obstetric history, smoking habit, alcohol use and preexisting pathologies) represented the first cause of the studied deaths (50%, n=11,268), among the years of 2009 and 2018.

The record of deaths from maternal factors in the Midwest Region was lower in 2010, with 915 cases. While, in 2018, the number of deaths increased to 1,277, with little variation between 2014 and 2017. With regard to perinatal conditions, 581 deaths were reported in 2011, the highest number when compared to other years. In the years 2013 to 2018, cases showed a reduction, going to 478 deaths in the last year studied. Among the three main causes, intrauterine hypoxia and asphyxia at birth were the least expressive, showing a decline throughout the study period.

The data analyzed in this work indicate that, in general, the occurrence of fetal deaths in the Midwest Region is still established as a public health concern. However, in the Federal District and Mato Grosso, the TMF showed to be declining or stable in the studied period, being probably the result of efforts and initiatives that include the Programa de Humanização do Pré-Natal e do Nascimento (PHPN), with the main objective to reduce the high rates of maternal, perinatal and neonatal morbidity and mortality in the

Year	Federative Units of the Midwest Region									
	Mato Grosso do Sul		Mato Grosso		Goiás		Federal District		Total	
	N	TMF	N	TMF	N	TMF	N	TMF	N	TMF
2009	478	11,9	536	11,1	766	8,8	416	9,5	2.196	10,0
2010	432	10,8	485	9,9	782	8,9	417	9,4	2.116	9,6
2011	467	11,1	527	10,3	878	9,8	412	9,5	2.284	10,1
2012	399	9,4	481	9,4	862	9,2	377	8,7	2.119	9,2
2013	464	11,0	533	10,0	946	10,0	369	8,3	2.312	9,9
2014	450	10,2	500	8,8	966	9,7	353	7,9	2.269	9,3
2015	457	10,4	568	10,0	987	9,8	420	9,1	2.432	9,8
2016	426	10,0	529	9,9	851	8,9	395	9,1	2.201	9,4
2017	480	10,7	533	9,3	919	9,4	401	9,0	2.333	9,6
2018	426	9,6	539	9,2	991	10,0	412	9,3	2.368	9,6

Table 1 - Number of deaths and fetal mortality rate in the Federated Units of the Midwest Region from 2009 to 2018

Source: Ministry of Health/DATASUS (2009-2018). Self elaboration.

Year	Causes of fetal deaths					
	Fetus and newborn affected by maternal factors		Intrauterine hypoxia and birth asphyxia		Rest of perinatal conditions	
	N	%	N	%	N	%
2009	940	8,34	549	12,99	497	9,84
2010	915	8,12	538	12,73	486	9,62
2011	1.024	9,09	506	11,97	581	11,50
2012	1.072	9,51	428	10,13	454	8,99
2013	1.212	10,76	434	10,27	492	9,74
2014	1.155	10,25	391	9,25	511	10,12
2015	1.258	11,16	388	9,18	564	11,17
2016	1.162	10,31	318	7,52	512	10,14
2017	1.253	11,12	347	8,21	476	9,43
2018	1.277	11,33	328	7,76	478	9,47
Total	11.268	100	4.227	100	5.050	100

Table 2 - Number of fetal deaths by cause of death in the Midwest Region, from 2009 to 2018

Source: Ministry of Health/DATASUS (2009-2018). Self elaboration.

country; as well as the Stork Network (RC), which constitutes an important governmental strategy, since it aims to implement a new model of attention to the health of women and children, which guarantees access, reception and resolution; and also the National Policy for Integral Attention to Children's Health (PNAISC), created with the aim of developing programs and actions aimed at children's health in Brazil, to guide and qualify strategies that protect health and improve conditions of life and birth. of the fetus (SILVA, 2020).

Among the possible explanations for a higher risk of fetal death, socioeconomic issues and access to health services stand out (SANTOS, 2019). In the case of developed countries, these problems have already been satisfactorily resolved and fetal and infant mortality are basically restricted to deaths caused by congenital anomalies that are difficult to prevent or treat. In developing countries, such as Brazil, there is a substantial reduction in TME, especially in the Midwest region, but there are still factors to be overcome. From the perspective of access to health services, the late recognition of the susceptibilities of the fetus and also of the woman in the experience of motherhood, can make it difficult to guide care and direct interventions to reduce the risk of death (FERREIRA et al., 2019).

When comparing fetal mortality indicators in the Midwest with other regions, the values are lower than those presented in the Southeast and Northeast regions. The article by Barros, Aquino and Souza (2019), based on the research called "Fetal Mortality and the challenges for women's health care in Brazil", demonstrates that the Southeast and Northeast Regions in the years 1996 to 2015, presented the highest numbers of fetal deaths, with 218,858 and 175,591 deaths, respectively. These data express the need for greater focus on the Southeast and Northeast

regions (LIMA et al., 2017). This scenario does not change the fact that there is a lack of actions aimed at the Midwest Region, with the objective of investigating the occurrence of fetal deaths and preventing them, since the region has internal socioeconomic and geographic disparities.

Considering the main causes of fetal deaths, it is clear that the consequences of these deaths are directly related to the care directed to women, the quality and access to primary health care offered, as well as the quality of intrapartum care. Thus, the excess of fetal deaths is justified by the less attention to the prevention of these deaths, as well as the high underreporting (SILVA; BARBOSA, 2018; RODRIGES et al., 2020). Thus, the correct completion of the notification of these deaths can contribute to the analysis of the conditions of access and quality of childbirth care, especially when it includes determinants such as race/color, housing, education, income, etc. (MENEZZI et al., 2016).

CONCLUSION

In this study, it was observed that, in the Center-West region, the State of Goiás had the highest frequency of fetal deaths, and that of Mato Grosso do Sul, the highest FMR. The main cause of these deaths was related to maternal factors, which depend on primary health care services. Despite the implementation of maternal and fetal health programs and policies, fetal mortality is neglected in terms of a systematic assessment at the national, regional, state and municipal levels. Furthermore, it is known that most of these deaths can be avoided if there is a contribution from a qualified and comprehensive health service. More studies are needed to investigate the distribution of these deaths among the population, considering social determinants, especially race/color, income, housing and education.

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