

MAIN CAUSES OF MATERNAL MORTALITY IN THE STATE OF GOIÁS, FROM 2017 TO 2021

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ABSTRACT

Objective: To describe the number of cases, sociodemographic data involved, and causes of maternal mortality in the state of Goiás between 2017 and 2021. **Methods:** This is an ecological, descriptive, quantitative study, based on the secondary analysis of data, covering the period from 2017 to 2021, using information from the Department of Informatics of the Unified Health System (DATASUS). **Results:** The present study described risks and vulnerabilities related to maternal mortality in Goiás, as well as the main causes, observing an upward curve in relation to the number of deaths and various associated epidemiological profiles, especially from the year 2020. In addition, the main causes of maternal death were described according to ICD-10, providing greater knowledge on the subject. **Conclusion:** It was concluded that social inequalities are related to the increase in maternal mortality cases in the state of Goiás and that further investigation of the causes is necessary, especially those recorded by ICD-10, so that the upward curve of maternal mortality does not persist, enabling specific interventions in cases of complications.

Keywords: Maternal Mortality; Women's Health; Comprehensive Health Care; Pregnancy.

INTRODUCTION

Maternal mortality refers to any death occurring during pregnancy or within 42 days of its termination, regardless of location or duration, due to any cause related to complications of pregnancy, whether direct or indirect obstetric causes (OMS, 2008).

Direct obstetric causes are those related to complications that may arise during pregnancy, childbirth, or the puerperium, due to inadequate treatment, malpractice, or omissions. Indirect causes are those resulting from pre-existing diseases or conditions aggravated by the physiological changes of pregnancy (PINTO, 2022).

Pregnancy-, childbirth-, and postpartum-related complications are responsible for more than half a million female deaths per year and represent a growing public health concern, especially in developing countries, where approximately 99% of these deaths occur (BRASIL, 2021).

Another aggravating factor is that maternal deaths in Brazil are historically poorly declared on death certificates. The poor quality of information is related to errors in declaring the cause of death by physicians; errors in completing death certificates;

incorrect selection of the underlying cause (underreporting); and non-registration of death (MOTTA; MOREIRA, 2021).

Therefore, this study aims to describe the main causes of maternal mortality, as well as the number of cases and associated sociodemographic factors, specifically in the state of Goiás, in order to identify weaknesses in obstetric care and understand how to intervene (MARTINS; SILVA, 2018).

METHODOLOGY

This is an ecological, descriptive study with a quantitative approach, based on the secondary description of data, covering the period from 2017 to 2021, using health information available in the database of the Department of Informatics of the Unified Health System (DATASUS).

Data regarding maternal deaths in the state of Goiás were collected from the Mortality Information System (SIM), through Tabnet – DATASUS. Maternal mortality was estimated according to the definition recommended by the World Health Organization (WHO) and corresponds to Chapter XV of ICD-10 — “Pregnancy, Childbirth, and Puerperium” — as well as other deaths considered maternal but classified in other chapters. Numbers of maternal deaths were selected according to the five health macroregions of the state of Goiás, regardless of age.

The data were submitted to statistical analysis, using graphical representation of the trend curve for temporal evolution, absolute and relative frequency distribution for categorical variables, measures of central tendency (mean), and proportion ratios for numerical variables, using Microsoft Excel. All analyses were based on public domain data, with unrestricted access and no individual identification.

RESULTS

Understanding the factors related to the main causes of maternal mortality in Goiás is essential for developing management and planning strategies. This reflects the socioeconomic level, quality of care, gender inequality, and existing public health promotion policies.

The study showed that maternal mortality cases increased considerably during the analyzed period. Between 2017 and 2021, there were 425 cases of maternal and late maternal deaths, with a marked increase in 2020 and 2021 (Table 1).

Table 1. Maternal and late maternal deaths, deaths related to labor complications, childbirth, and puerperium, in Goiás, 2017–2021.

Ano	Óbitos maternos e maternos tardios	Mortes relacionadas ao trabalho de parto, parto e puerpério	%
2017	54	10	18,5
2018	70	14	20
2019	72	16	22,2
2020	89	24	27
2021	140	15	10,7
Total	425	79	18,6

Fonte: MS/SVS/CGIAE - Sistema de Informações sobre Mortalidade - SIM

Considering the years 2020 and 2021, maternal deaths accounted for 29% of cases, representing a considerable increase, given that, of the total number of cases (n=425), the year 2017 accounted for only 10%. This substantial increase calls for a more detailed investigation of maternal mortality in the State of Goiás. Therefore, after examining the data available in DATASUS, it was found that, from 2017 to 2021, the most affected age group was 30–39 years, totaling 43.7% of cases, as shown in Table 2 below:

Table 2. Sociodemographic data (age group, ethnicity, education, marital status) of maternal mortality victims in Goiás, 2017–2021.

Dados Sociodemográficos	Ano					
	2017	2018	2019	2020	2021	Total
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Idade 10 a 14 anos	0 (0)	1 (0,2)	1 (0,2)	1 (0,2)	0 (0)	3 (0,7)
Idade 15 a 19 anos	9 (2,1)	5 (1,2)	7 (1,6)	4 (0,9)	7 (1,6)	32 (7,5)
Idade 20 a 29 anos	23 (5,4)	29 (6,8)	26 (6,1)	35 (8,2)	51 (12)	164 (38,6)
Idade 30 a 39 anos	17 (4)	29 (6,8)	32 (7,5)	39 (9,2)	69 (16,2)	186 (43,7)
Idade 40 a 49 anos	5 (1,2)	6 (1,4)	6 (1,4)	9 (2,1)	13 (3,0)	39 (9,2)
Idade 50 a 59 anos	0 (0)	0 (0)	0 (0)	1 (0,2)	0 (0)	1 (0,2)
Etnia Branca	18 (4)	20 (4,7)	22 (5,2)	30 (7,0)	50 (11,7)	140 (32,9)
Etnia Preta	9 (2,1)	10 (2,3)	7 (1,6)	9 (2,1)	16 (3,8)	51 (12)
Etnia Parda	25 (5,9)	39 (9,2)	42 (9,9)	45 (10,6)	71 (16,7)	222 (52,2)
Etnia Ignorada	2 (0,5)	1 (0,2)	1 (0,2)	5 (1,2)	3 (0,7)	12 (2,8)
Escolaridade 1 a 3 anos	7 (1,6)	1 (0,2)	4 (0,9)	65 (1,4)	1 (0,2)	19 (4,5)

Escolaridade 4 a 7 anos	13 (3,1)	14 (3,3)	17 (4)	16 (3,8)	13 (3,1)	73 (17,2)
Escolaridade 8 a 11 anos	22 (5,2)	29 (6,8)	36 (8,5)	33 (7,8)	68 (16)	188 (44,2)
Escolaridade 12 e mais	6 (1,4)	13 (3,0)	12 (2,8)	18 (4)	40 (9,4)	89 (20,9)
Escolaridade Ignorada	6 (1,4)	13 (3,0)	3 (0,7)	16 (3,8)	18 (4,2)	56 (13,2)
Estado Civil (EC) Solteira	20 (4,7)	22 (5,2)	34 (8)	33 (7,8)	40 (9,4)	149 (35)
EC Casada	17 (4)	31 (7,3)	25 (5,9)	26 (6,1)	60 (14,1)	159 (37,4)
EC judicialmente	0 (0)	0 (0)	1 (0,2)	4 (0,9)	6 (1,4)	11 (2,6)
EC Viúvo	3 (0,7)	1 (0,2)	0 (0)	0 (0)	0 (0)	4 (0,9)
EC Outro	11 (2,6)	8 (1,9)	8 (1,9)	14 (3,3)	22 (5,2)	63 (14,8)
EC Ignorado	3 (0,7)	8 (1,9)	4 (0,9)	12 (2,8)	12 (2,8)	39 (9,2)

Fonte: MS/SVS/CGIAE – Sistema de Informações sobre Mortalidade – SIM

In addition, it is observed that, in the State of Goiás, the main cause of maternal death from 2017 to 2021 was maternal infectious and parasitic diseases classified elsewhere but complicating pregnancy, childbirth, and the puerperium, represented by ICD-10 O98, totaling 104 cases (24% of cases), with a significant increase in 2021, a fact that may be associated with the emergence of the COVID-19 pandemic, as shown in Table 3 below.

Table 3. Causes of maternal death in Goiás, 2017–2021, according to ICD-10 categories.

Categoria CID-10	2017	2018	2019	2020	2021	TOTAL	%
O14 Hipertensão gestacional c/proteinúria signif	3	4	5	6	4	22	5%
O15 Eclampsia	7	8	5	2	2	24	6%
O72 Hemorragia pos-parto	4	4	1	8	6	23	5%
O98 Doen inf paras mat COP compl grav part puerp	4	2	2	17	79	104	24%
O99 Outr doenc mat COP compl grav parto puerp	18	12	16	15	18	79	19%
TOTAL	36	30	29	48	109	252	59%

Fonte: MS/SVS/CGIAE - Sistema de Informações sobre Mortalidade – SIM.

CONCLUSION

The study described the high number of maternal deaths and the main associated causes and factors, concluding that maternal mortality remains a major public health problem. It is clear that strengthening healthcare networks and improving healthcare professionals' knowledge about the most affected age groups and socioeconomic

levels is necessary. Moreover, it is essential to improve ICD-10 records, addressing both investigation and underreporting, to enhance knowledge about classified causes of maternal mortality, allowing earlier classification and rapid treatment to prevent worse outcomes.

Focusing greater attention on this issue, especially in the state of Goiás, may change the upward trend of maternal mortality and achieve better maternal health outcomes, providing more favorable results in cases of complications.

REFERENCES

BRASIL. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Ações Programáticas Estratégicas. **Manual dos comitês de mortalidade materna / Ministério da Saúde, Secretaria de Atenção à Saúde, Departamento de Ações Programáticas Estratégicas**. Brasília: Editora do Ministério da Saúde, 2007.

BRASIL. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Ações Programáticas Estratégicas. **Política Nacional de Atenção Integral à Saúde da Mulher: princípios e diretrizes**. Brasília: Editora do Ministério da Saúde, 2009.

BRASIL. Ministério da Saúde. Secretaria de Vigilância em Saúde. **Guia de Vigilância Epidemiológica do Óbito Materno**. Brasília: Ministério da Saúde, 2009.

BRASIL. Ministério da Saúde. Secretaria de Vigilância em Saúde. **Mortalidade Materna no Brasil**. Brasília; Editora do Ministério da Saúde, 2012.

MARTINS, A.C.S.; SILVA, L.S. Perfil epidemiológico de mortalidade materna. **Rev Bras Enferm**, v. 71, n. 1, p. 725-31, 2018.

MOTTA, C.T.; MOREIRA, M.R. O Brasil cumprirá o ODS 3.1 da Agenda 2030? Uma análise sobre a mortalidade materna, de 1996 a 2018. **Ciênc. saúde coletiva**, v. 26, n. 10, 2021.

OMS - Organização Mundial da Saúde. **Classificação estatística internacional de doenças e problemas relacionados à saúde (CID-10)**. 8. ed. São Paulo: Edusp, 2008.

PINTO K.B., *et al.* Panorama de Mortalidade Materna no Brasil por Causas Obstétricas Diretas. **Research, Society and Development**, v. 11, n. 6, e17111628753, 2022.