

### Deaths of women of reproductive age in the municipalities of Eunápolis, Porto Seguro, and Teixeira de Freitas – BA, between 2018 and 2022

Camille Ferraz Galvão<sup>1</sup>

Camila Soares Nascimento¹ 🕡 Rayane de Oliveira Ferreira Albuquerque¹ 🕡 Anna Vitória Ferreira Viana Baia¹ 🕡

Esther Albares Pagung¹ (n) Henika Priscila Lima Silva¹ (n) Sabrina Bastos de Lima Portugal¹ (n)



<sup>1</sup>Faculdade Pitágoras de Medicina de Eunápolis. Eunápolis/BA, Brasil. E-mail: afonso1317@gmail.com

#### Highlights

- · A total of 918 deaths of women of reproductive age occurred in the extreme south of Bahia between 2018 and 2023.
- · There was a predominance of mixed-race women aged 40-49 years.
- Socioeconomic factors and failures in access to healthcare were associated with the deaths.
- · Approximately 35% of deaths occurred outside hospital settings, revealing structural barriers.
- · Strengthening the Unified Health System (SUS) is essential to reduce regional and racial inequalities.

#### **Graphical Abstract**

Deaths of Women of Reproductive Age in the Municipalities of Eunápolis, Porto Seguro, and Teixeira de Freitas - BA, Between 2018 and 2022

#### CONTEXT

Female mortality in reproductive age (10-48 years) reflects structural inequalities and failures in access to healthcare. Regions in the Northeast, such as the extreme south of Bahia, exhibit greater vulnerability.

#### **METHODS**

Descriptive, cross-sectional. observational study. Secondary obtained from SIM/ Datasus and IBGE (2018-). Variables: age group, race/skin color, place of death, and municipality of residence.

#### MAIN RESULTS

- · 918 deaths were recorded across the three municipalities analyzed.
- · Highest prevalence among mixed-race women
- Most affected age group: 40-49 years (29.7%).
- · 35% of deaths occurred outside hospital settings Circulatory diseases and neoplasms stood out as the main causes.

#### CONCLUSIONS

Mortality among women of reproductive age is strongly associated with social vulnerabilities and regional inequalities. There is an urgent need for intersectoral policies, strengthening of the Unified Health System (SUS), and expansion of obstetric and reproductive healthcare.The study contributes to monitoring the Sustainable Development Goals (SDGs) in Brazil.

#### Abstract

Although women constitute the majority of the Brazilian population, several epidemiological, demographic, and political factors directly and significantly influence their health, lives, and deaths - most often in a negative way. The aim of this study is to analyze the factors contributing to the deaths of women of reproductive age, based on data from the Brazilian Institute of Geography and Statistics (IBGE) census for the years 2018-2022, specifically in the municipalities of Porto Seguro, Eunápolis, and Teixeira de Freitas, located in the extreme south of Bahia. This descriptive, cross-sectional, and observational study was conducted using secondary data on female mortality and related variables obtained from the Department of Informatics of the Unified Health System (DATASUS), using information from the Mortality Information System (SIM). Population estimates were retrieved from the IBGE. Results indicate that in the municipalities analyzed, the highest crude mortality rates among women of reproductive age were observed among mixed-race women aged 40-49 years, who, paradoxically, have greater access to public healthcare services. Female mortality in reproductive age in Brazil reflects deep structural and social challenges that extend beyond the limits of public health. An intersectoral approach and the strengthening of reproductive health policies are essential steps toward achieving the Sustainable Development Goals (SDGs) and ensuring the right to health for all women.

Keywords: Women. Mortality. Reproductive Age. Women's Health. Health Policies.

Associate Editor: Edison Barbieri Mundo Saúde. 2025.49:e16832024 O Mundo da Saúde, São Paulo, SP, Brasil. https://revistamundodasaude.emnuvens.com.br

Received: 19 november 2024. Accepted: 06 october 2025. Published: 07 november 2025.



#### INTRODUCTION

Mortality among women of reproductive age (10-49 years) is a public health issue that reflects multiple social, economic, cultural, and health-related factors. The causes of these deaths are often preventable, and monitoring mortality rates is essential to assess the quality of healthcare services and the living conditions of women in this group<sup>1</sup>.

According to the Brazilian Ministry of Health<sup>2</sup>, several factors contribute to female mortality in reproductive age in Brazil, including complications related to pregnancy and childbirth, infectious and chronic diseases, gender-based violence, and inadequate access to healthcare services. Understanding and recognizing these determinants are crucial for the development of effective public policies.

The lack of access to quality prenatal care, inadequate medical assistance during childbirth, and deficiencies in managing obstetric emergencies are key determinants in this context. These often preventable complications highlight inequalities in access to healthcare services, particularly in poorer regions<sup>3</sup>.

Another relevant factor is the prevalence of infectious and chronic diseases that affect women of reproductive age. HIV/AIDS, tuberculosis, and sexually transmitted infections (STIs) remain significant contributors to morbidity and mortality, especially in developing countries. In addition, noncommunicable chronic diseases — such as hypertension, diabetes, cardiovascular diseases, breast cancer, cervical cancer, and brain neoplasms — also have a substantial impact on this population. Many of these conditions are aggravated by delayed diagnosis and inadequate treatment, underscoring the need for preventive interventions and continuous healthcare<sup>4</sup>.

Gender-based violence and social inequality directly impact the mortality of women of reproductive age. Inadequate access to quality healthcare services is also a key factor. Barriers such as lack of infrastructure, shortage of qualified professionals, high costs, and long distances from healthcare centers make access to basic and emergency care extremely difficult<sup>5</sup>.

This scenario can be even more alarming in regions with high seasonal population flows, such as coastal and tourist cities - for example, the extreme south of Bahia, the setting of this study. Given the magnitude of this public health problem, it is essential to conduct studies that identify the main causes of death among women of reproductive age and the socioeconomic and demographic conditions associated with these deaths. The selected municipalities - the three largest in the extreme south of Bahia - are notable for their specialized healthcare services and regional reference role. Understanding these factors can guide the formulation of public policies aimed at reducing female mortality, improving healthcare access, and promoting safer and more equitable environments.

Vulnerable regions suffer from a lack of medical infrastructure and information, while cultural barriers further increase the risk of death during critical periods such as pregnancy, childbirth, and the postpartum phase<sup>2</sup>. Investigating the causes of mortality in this age group is essential for developing effective public policies and preventive actions that reduce disparities and promote health equity. Therefore, this study seeks to answer the following research question: "What are the mortality outcomes of women aged 10–49 years in the extreme south of Bahia between 2018 and 2022?"

The main objective of this study was to analyze the factors contributing to the deaths of women of reproductive age, based on data available from the IBGE for the years 2018–2022, specifically in the municipalities of Porto Seguro, Eunápolis, and Teixeira de Freitas, located in the extreme south of Bahia.

#### **METHODOLOGY**

This study was designed as a descriptive, cross-sectional, and observational research based on secondary data. Information on the mortality of women of reproductive age and its related variables in the municipalities of Eunápolis, Porto Seguro, and Teixeira de Freitas, Bahia, was obtained for the period between 2018 and 2022 through the Department of Informatics of the Unified Health System (DATASUS), using data from the Mortality Information System (SIM). Population estimates were retrie-

ved from the Brazilian Institute of Geography and Statistics (IBGE).

The study population consisted of women of reproductive age (WRA), defined as those between 10 and 49 years old, according to the guideline document "Diretrizes, Objetivos, Metas e Indicadores" of the Ministry of Health, established on June 19, 2013, by the Tripartite Interagency Committee (CIT). This age group was selected because it represents a period of greater vulnerability and encom-



passes different stages of a woman's life, including those affected by situations of violence.

Statistical analysis was conducted through the organization and processing of data obtained from the SIM and IBGE secondary databases. Initially, a descriptive analysis was performed to characterize the profile of the studied population, considering variables such as age, race/skin color, age group, and municipality of residence. Mortality rates were calculated according to the number of deaths in relation to the population of women of reproductive age, based on the population estimates for the period from 2018 to 2022.

To compare groups and identify possible asso-

ciations among variables, statistical tests such as the chi-square test  $(\chi^2)$  for categorical variables and the Student's t-test for continuous variables were applied when appropriate. In situations requiring greater control of confounding factors, logistic regression models adjusted for age and municipality were used. The level of statistical significance was set at 5% (p < 0.05). All analyses were performed using the statistical software SPSS (Statistical Package for the Social Sciences), version 25.0, and Microsoft Excel was employed for verification and graphical presentation. The sociodemographic variables considered included age group, race/skin color, and place of death.

#### **RESULTS**

In the Northeast region of Brazil, where the municipalities of Eunápolis, Porto Seguro, and Teixeira de Freitas are located, with the exception of the inversion observed in mortality rates related to respiratory system diseases and other morbidities — whose percentage of deaths was higher than previously reported at the national level — the mortality rates in other categories remained in the same ranking positions, although all of them showed an overall increase in value<sup>2</sup>.

In the sample of 918 participants, the majority were between 30 and 49 years of age: 142 individuals (15.47%) were aged 30–39 years, and 263 (28.66%) were aged 40–49 years. Together, these two groups accounted for 44.13% of the sample, characterizing a predominantly young adult population. The youngest group (10–19 years) represented only 2.39% (n = 22), suggesting low representation of this age range in the study. When considering the cumulative proportion of adults aged 20–49 years, this group comprised 49.79% of the analyzed population.

According to data from the Mortality Information System (SIM) presented in Table 1, among women of reproductive age who died in hospital settings within the municipalities studied, there was a pronounced predominance of mixed-race (parda) women (65.00%), followed by white women (17.42%). Combined, these two categories accounted for 82.42% of hospital deaths, indicating that most deaths occurred among these two population groups.

However, when analyzing not only absolute frequencies but also specific hospital mortality rates in relation to the total number of women in the sample, it was found that mortality proportions were high across all race/skin color strata. The hos-

pital mortality rate was 68.9% among white women, 61.8% among Black women, 64.3% among mixed-race women, and 66.7% among Indigenous women. Although absolute numbers differ, the percentage mortality rates are of similar magnitude, suggesting that the risk of hospital death is generally high regardless of race/skin color. It should be noted, however, that the group of women identified as Yellow (Asian) presented a 100% mortality rate; this finding must be interpreted with caution due to the extremely small number of cases (n = 2), which may lead to overestimation bias.

According to the Mortality Information System<sup>7</sup>, during the study period for the analyzed municipalities, approximately 597 women died in hospitals. Thus, among the 918 women included in the study, around 321 died without gaining access to the public healthcare system. The deaths of women in the reproductive period, even when relatively few, represent an important public health concern, as the analysis of these deaths provides essential information to explain their occurrence and, consequently, to identify their specific characteristics and establish strategies for prevention<sup>5</sup>.

According to the Mortality Information System<sup>6</sup> presented in the table above and referring to the municipalities analyzed, maternal deaths predominantly occurred among mixed-race (parda) women (65.68%), followed by white women (16.44%). Together, these two ethnic categories accounted for 82.12% of recorded maternal deaths. Regarding age distribution, mortality among women of reproductive age was highest among those aged 40–49 years (28.66%), followed by the 30–39-year group (15.47%). Only 2.39% of deaths occurred among women aged 10–19 years.



To assess whether there was a statistically significant association between race/skin color and hospital deaths, Pearson's chi-square test was applied. The results showed no significant difference (p > 0.05), suggesting that the variation observed among racial groups may be attributed to chance rather

than a real effect of the race/skin color variable on the occurrence of deaths<sup>8</sup>. Therefore, the greater representation of mixed-race women among deaths mainly reflects the higher proportion of this group within the study population, rather than an inherently increased risk of hospital mortality.

**Table 1 -** Deaths of women of reproductive age in the municipalities of Eunápolis, Porto Seguro, and Teixeira de Freitas, from 2018 to 2022.

Variables	N°	0/0
Age group (years)		
10–19	22	2.39
20–29	52	5.66
30–39	142	15.47
40–49	263	28.66
Total	918	100.0
Race/skin color*		
White	151	16.44
Black	110	11.98
Yellow (Asian)	2	0.21
Mixed-race (Parda)	603	65.68
Indigenous	12	1.31
Ignored (IG)	40	4.35
Total	918	100.0
Deaths occurring in hospital settings		
White	104	17.42
Black	68	11.39
Yellow (Asian)	2	0.34
Mixed-race (Parda)	388	65.00
Indigenous	8	1.34
Ignored (IG)	27	4.51
Total	597	100.0

Source: Official DATASUS webpage (2024)6.

**Table 2 -** Characterization of notifications by Race/Skin Color in the municipalities of Eunápolis, Porto Seguro, and Teixeira de Freitas, from 2018 to 2022.

Number of reported cases by municipality							
Category Race/Skin	Eunápolis	Porto Seguro	Teixeira de Freitas	n°	0/0		
White	39	53	59	151	16.44		
Black	30	40	40	110	11.98		
Yellow	0	1	1	2	0.21		
Mixed-race	140	236	227	603	65.68		
Indigenous	1	11	0	12	1.31		
IG	20	11	9	40	4.35		
Total Notifications	230	352	336	918	100.00		

Results expressed through MS/SVS/CGIAE - Mortality Information System (SIM).



#### DISCUSSION

## Main factors contributing to maternal mortality among women aged 10 to 49 years

In Brazil, from 2018 to 2022, the leading causes of death among women of reproductive age were neoplasms and diseases of the circulatory system, according to data from the Mortality Information System for women of reproductive age<sup>6</sup>. In the Northeast region, the situation was similar, with the same cause ranking observed as in other regions. The age group between 40 and 49 years is considered a high-risk period for fertility due to a combination of biological and social factors. Biologically, a woman's reproductive capacity begins to decline significantly after age 35 because of the reduction in both the quantity and quality of oocytes, as well as the decrease in hormonal levels, particularly estrogen and progesterone<sup>4</sup>.

Between 2018 and 2022, mortality surveillance activities were carried out in the state of Bahia, resulting in a downward trend in the maternal mortality ratio during the first three years of the historical series. During this period, reductions were observed in several Regional Health Centers (NRS), including the Central-East, Extreme South, East, North, and South regions. However, in 2020 and 2021, the influence of the COVID-19 pandemic was evident, producing an upward trend in the indicator, with the Western NRS standing out<sup>8</sup>.

According to data from the Mortality Information System<sup>7</sup>, during the years 2018 to 2022, a total of 918 deaths among women of reproductive age occurred in the municipalities of Eunápolis, Porto Seguro, and Teixeira de Freitas. These events can be analyzed according to race/skin color, age group, and location of death, as shown in the tables above. These findings are consistent with the national literature, which highlights the predominance of mixed-race and Black women in the healthcare system due to their greater demographic representation and increased exposure to socioeconomic vulnerabilities and barriers to healthcare access3. Although specific mortality rates do not show statistically significant differences in risk among racial groups, the predominance of mixed-race women among deaths warrants attention in public health policy. This pattern reinforces long-standing health inequities and underscores the need to strengthen women's healthcare, particularly during pregnancy and the postpartum period.

Moreover, the risk of gestational complications such as spontaneous abortion, preterm birth, and genetic abnormalities increases considerably within this age group. From a social perspective, wo-

men in this age range have often completed their family planning, reducing the likelihood of intended pregnancies. Thus, as previously noted by other authors, both biological limitations and social factors contribute to reduced fertility at this stage of life, making it a biologically and socially high-risk age range for reproduction<sup>4</sup>.

According to the Mortality Information System (SIM), analysis of deaths among women of reproductive age in the municipalities under study revealed that most belonged to the mixed-race group (65.0%), followed by white women (17.42%). Together, these two categories accounted for 82.42% of total hospital deaths, confirming their predominance in the mortality profile. However, when specific hospital death rates were analyzed in relation to the total number of women within each group, the proportions were found to be high and relatively homogeneous: 68.9% among white women, 61.8% among Black women, 64.3% among mixed-race women, and 66.7% among Indigenous women, whereas the Yellow (Asian) group showed a 100% rate although this figure is statistically unstable due to the very small number of cases (n = 2).

The application of Pearson's chi-square test did not indicate a statistically significant association between race/skin color and the occurrence of hospital deaths (p > 0.05), suggesting that the observed differences among groups may be attributed to the demographic distribution of the sample rather than a specific increased risk associated with race/skin color. Therefore, the higher frequency of deaths among mixed-race (parda) women primarily reflects the greater demographic representation of this population group in the studied territory, rather than a distinct biological vulnerability.

Despite the absence of statistical significance, these findings should not be disregarded, as they align with the literature indicating that mixed-race and Black women are more dependent on the Brazilian Unified Health System (SUS) and often experience greater social vulnerability, which may affect both access to and quality of healthcare services<sup>6</sup>. In this sense, although the data suggest a proportional distribution among racial groups, the concentration of deaths among mixed-race women calls for public policy attention, reinforcing the importance of racial equity and the strengthening of women's healthcare in Brazil.

The access of mixed-race women to the public health system, particularly during their reproductive years, reflects structural and demographic dynamics in Brazil. This population represents a significant



portion of the country's female demographic and has historically been associated with lower income levels and limited access to private healthcare resources<sup>8</sup>. Consequently, the Unified Health System (SUS) plays a central role in providing medical care for this group, including prenatal follow-up, family planning, and services related to sexual and reproductive health<sup>9</sup>.

Several studies indicate that most mixed-race women reside in urban and peripheral areas where SUS is the primary source of healthcare<sup>10,11</sup>. The greater demand for public health services among this group may be related to the lack of alternatives such as private health insurance, as well as to heightened exposure to socioeconomic vulnerabilities that directly affect health, including housing, nutrition, and working conditions. This greater reliance on SUS thus underscores the importance of the public healthcare system in guaranteeing basic health rights for mixed-race women of reproductive age, directly contributing to reducing health and mortality disparities among this population<sup>12</sup>.

The results observed in this study are consistent with those reported by Leal et al. (2022)13 in research conducted in Bahia, which also identified a predominance of maternal deaths among mixed-race women, followed by white women - a pattern that mirrors the demographic composition and structural inequalities of the Northeast region. In that study, the authors emphasized that Black and mixed-race women exhibited not only a higher frequency of deaths but also greater exposure to risk factors related to delayed access to healthcare services and the quality of care received, highlighting racial disparities in obstetric care. These findings are consistent with those of the present study, as although specific hospital mortality rates did not show statistically significant differences across racial/skin color categories, the overrepresentation of mixed-race women in death records reinforces the persistence of social and healthcare access inequalities that directly affect the female reproductive-age population in the Northeast<sup>14</sup>.

# Impact of Regional Disparities on Public Policies and the Prevention of Mortality Among Women of Reproductive Age

Mortality among women of reproductive age is a crucial public health indicator that directly reflects the quality of healthcare services provided to women during the pregnancy-postpartum cycle. Addressing this issue is particularly challenging in regions characterized by poor infrastructure and pronounced social inequality<sup>7</sup>.

Regional and economic disparities directly in-

fluence mortality rates among women of reproductive age. Women living in rural or less developed areas — such as the municipalities analyzed in the extreme south of Bahia — face significant barriers to accessing emergency obstetric care, often leading to tragic outcomes in situations that could have been prevented through timely intervention<sup>14</sup>.

The lack of qualified professionals, adequate equipment, and transportation to specialized health services are additional factors contributing to the rise in maternal deaths. This scenario is further aggravated by underreporting and the scarcity of reliable data on maternal mortality, which hinders effective planning and implementation of public health policies<sup>14</sup>.

Given the results presented, which demonstrate that the distribution of causes of death varies by age group, it is necessary to plan health interventions specifically tailored to each demographic segment. The development of public policies addressing different life stages — aimed at promoting healthcare access and encouraging healthy lifestyles — may help reduce the risk of developing neoplasms, cerebrovascular diseases, and circulatory disorders<sup>8</sup>.

According to the Ministry of Health (2022), although financial incentives have been allocated to implement a new network-based model of care focused on cervical and breast cancer within local health territories, many challenges remain in overcoming the fragmentation of care. The transition toward a comprehensive, longitudinal model that includes screening, early detection, timely diagnosis and treatment, and dignified, humanized follow-up for women continues to be a critical goal<sup>2</sup>.

In this age group, women undergo natural physiological changes related to aging that may affect the body's ability to cope with the physiological demands of pregnancy<sup>1</sup>. The same authors emphasize that the presence of these conditions increases the likelihood of complications such as preeclampsia, hemorrhage, and preterm delivery, which, if not properly managed, may result in maternal death. Furthermore, reproductive capacity and ovarian reserve decline, leading to an increased use of assisted reproductive technologies, which can further elevate the risks associated with pregnancy<sup>1</sup>.

Another relevant factor concerns access to adequate healthcare for pregnant women aged 40 to 49 years. Even though some women in this age range may have better financial conditions and access to medical services, many still face barriers such as lack of information, underestimation of risks by healthcare professionals, or limited access to specialized healthcare facilities. This situation may be worsened in vulnerable populations where prena-



tal care is insufficient or unavailable. The combination of advanced maternal age, comorbidities, and limited access to high-quality obstetric care makes women in this age group more susceptible to severe complications, reinforcing the need for rigorous and personalized prenatal monitoring<sup>15</sup>.

## Policies and Programs for Combating Maternal Mortality

In recent years, several policies and programs have been implemented to reduce maternal mortality, particularly in developing countries. In Brazil, initiatives such as the Rede Cegonha (Stork Network) and the Programa de Humanização no Pré--Natal e Nascimento (PHPN - Program for the Humanization of Prenatal and Birth Care) have aimed to improve access to and the quality of maternal healthcare services. These programs seek to ensure comprehensive care for pregnant women, from prenatal follow-up to delivery and the postpartum period, through the provision of examinations and specialized medical assistance. Data from DATA-SUS indicate that in regions where these programs have been strengthened, a significant reduction in maternal deaths has occurred, underscoring the importance of robust and sustained public health policies8.

In addition to initiatives by national institutions, various international organizations such as the World Health Organization (WHO) and the Pan American Health Organization (PAHO) have directly influenced the formulation of maternal health policies. Brazil has adopted global guidelines aligned with the Sustainable Development Goals (SDGs), which include the target of reducing the maternal mortality ratio to fewer than 70 per 100,000 live births by 2030. The integration of these international frameworks into local policies has fostered coordinated actions across different levels of government and non-governmental orga-

nizations, enhancing the reach and effectiveness of reproductive health programs<sup>16</sup>.

The Ministry of Health<sup>2</sup>, however, acknowledges that despite the progress achieved, significant challenges remain. Inequality in access to healthcare services continues to be a major barrier, particularly in rural and peripheral areas where hospital infrastructure is limited. The shortage of specialized healthcare professionals and the lack of adequate medical equipment exacerbate this situation, resulting in a high number of preventable deaths. Moreover, regional disparities in Brazil — where the North and Northeast present higher maternal mortality rates compared to the South and Southeast — underscore the urgent need for more targeted strategies for vulnerable areas.

Another critical issue is maternal mortality related to adolescent pregnancies, especially among low-income and less-educated groups. Sexual education policies and access to contraceptive methods still face cultural and political resistance in certain regions, preventing these initiatives from achieving their full potential. The consequence is a persistent cycle of vulnerability, in which adolescents experience high-risk pregnancies without adequate medical follow-up, leading to increased rates of complications and maternal deaths<sup>17</sup>.

Furthermore, although existing programs and policies aimed at reducing maternal mortality have shown positive results, much remains to be done. The consolidation of an integrated healthcare network and the expansion of health services, especially in underserved regions, are essential to ensure the success of these initiatives<sup>18</sup>. Additionally, an intersectoral approach is required — one that involves education, basic sanitation, and the prevention of gender-based violence. Only through such coordinated efforts will it be possible to significantly reduce maternal mortality rates and guarantee the right to health for all women<sup>19</sup>.

#### CONCLUSION

An analysis of the data presented on the factors contributing to mortality among women of reproductive age (10-49 years) reveals the complexity of this issue and the urgent need for intersectoral actions to mitigate the high death rates among this population. Biological and social factors, such as reproductive limitations at older ages and inequalities in access to healthcare, have a direct impact on increased maternal mortality, particularly in regions with insufficient infrastructure. In addition to direct

and indirect causes, regional disparities exacerbate the challenges women face in accessing prenatal and emergency care.

In the Northeast region of Brazil, for instance, the distribution of resources allocated to public health has been limited, negatively affecting women's health. Socioeconomic inequalities and precarious infrastructure contribute to the elevated mortality rates among women of reproductive age. This context underscores the need for more regionally tailo-



red strategies and healthcare programs supported by adequate resources and infrastructure capable of addressing local demands. Although the Unified Health System (SUS) plays a crucial role, its capacity to provide high-quality care for women of reproductive age still requires strengthening, particularly for those in vulnerable conditions.

Programs and policies such as the Rede Cegonha (Stork Network) and the Program for the Humanization of Prenatal and Birth Care (PHPN), although promising, face barriers to full implementation — especially in rural and peripheral areas. Fragmented care delivery and shortages of health-care professionals and equipment limit the reach of these programs, preventing many women, particularly those from low-income or adolescent groups, from receiving the necessary assistance. The goal of reducing maternal mortality in Brazil, aligned with the Sustainable Development Goals (SDGs), continues to face operational and cultural challenges that must be addressed in the development of long-term strategies.

Given this scenario, it is recommended that healthcare system managers implement operatio-

nal measures to strengthen obstetric and neonatal care, such as expanding and improving prenatal coverage, ensuring an adequate number of consultations and standardized risk assessment protocols, investing in continuous training for healthcare teams — particularly in obstetric emergencies — to guarantee rapid and effective hospital responses, and reinforcing maternal health surveillance through more active mortality review committees that provide data feedback to services and continuously monitor indicators. It is also essential to implement culturally sensitive approaches that consider race/skin color, age, and socioeconomic status to reduce inequalities in access and care.

Therefore, reducing mortality among women of reproductive age in Brazil depends not only on maintaining existing policies but on their effective implementation with a territorial and intersectoral focus. Investments in professional training, strengthening of the obstetric care network, and active surveillance are essential for Brazil to advance toward achieving the Sustainable Development Goals (SDGs), promoting greater equity and safety in women's reproductive healthcare.

#### CRediT author statement

Conceptualization: Galvão, CF; Baia, AVFV. Methodology: Nascimento, CS; Albuquerque, ROF. Validation: Portugal, SBL; Pagung, EA. Statistical analysis: Portugal, SBL; Pagung, EA. Formal analysis: Nascimento, CS; Albuquerque, ROF. Investigation: Galvão, CF; Baia, AVFV. Resources: Portugal, SBL; Pagung, EA. Data curation: Portugal, SBL; Pagung, EA. Writing – original draft preparation: Galvão, CF; Baia, AVFV. Writing – review and editing: Nascimento, CS; Albuquerque, ROF. Visualization: Galvão, CF; Baia, AVFV. Supervision: Silva, HPL. Project administration: Galvão, CF; Baia, AVFV.

All authors have read and agreed to the published version of the manuscript.

#### Acknowledgments

We thank the Pitágoras School of Medicine in Eunápolis for the institutional support provided for the development of this study.

#### **Declaration of competing interest**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the workreported in this paper.

#### REFERENCES

- 1. Coelho R, Mrejen M, Remédios CG. Desigualdades raciais na saúde: cuidados pré-natais e mortalidade materna no Brasil, 2014-2020. Nota Técnica n. 27. São Paulo: IEPS; 2022. Disponível em: https://ieps.org.br/nota-tecnica-27. Acesso em: 26 set. 2024.
- 2. Brasil. Ministério da Saúde. Mortalidade materna: um desafio para a saúde pública mundial. Colaboradores: Bezerra KKS, Andrade MSPB. Brasília (DF): Ministério da Saúde; 2022. Disponível em: https://www.gov.br/ebserh/pt-br/hospitais-universitarios/regiao-nordeste/hujb-ufcg/comunicacao/noticias/parto-seguro. Acesso em: 26 set. 2024.
- 3. Martin JC. Mortalidade de mulheres em idade fértil no Brasil: enfoque na evitabilidade das causas [dissertação]. Rio de Janeiro: Instituto Nacional de Saúde da Mulher, da Criança e do Adolescente Fernandes Figueira, Fundação Oswaldo Cruz; 2018. Disponível em: https://www.scielo.br/j/rbepop/a/CP6YdG3RxTqzXDBmyCRJK9x. Acesso em: 24 set. 2024.
- 4. Souza AMG, Andrade FB. Qual cenário da mortalidade de mulheres em idade reprodutiva no Brasil? Mundo Saúde. 2020;44(3):421-32. Disponível em: https://bvsms.saude.gov.br/bvs/periodicos/mundo\_saude\_artigos/cenario\_mortalidade\_mulheres\_reprodutiva.pdf. Acesso em: 26 set. 2024.
- 5. Oliveira TJ, Rios MA, Teixeira PN. Mortalidade de mulheres em idade fértil na região de saúde de Guanambi/BA. Mundo Saúde. 2017;41(4):711-9. Disponível em: https://www.revistamundodasaude.com.br/uploads/20160235.PDF. Acesso em: 27 set. 2024.
- 6. Brasil. Ministério da Saúde. DATASUS TabNet. Óbitos em mulheres em idade fértil e óbitos maternos, 2018-2022. Disponível em: http://tabnet. datasus.gov.br/cgi/deftohtm.exe?sim/cnv/mat10ba.def. Acesso em: 3 out. 2024.
- 7. Brasil. Ministério da Saúde. Boletim Epidemiológico Secretaria de Vigilância em Saúde. Mortalidade proporcional por grupos de causas em mulheres no Brasil. Bol Epidemiol. 2021;52(29). Disponível em: https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/boletins/epidemiologicos/



edicoes/2021/boletim\_epidemiologico\_svs\_29.pdf. Acesso em: 28 set. 2024.

- 8. Brasil. Ministério da Saúde. Secretaria da Saúde do Estado da Bahia (SESAB). Vigilância Epidemiológica do Óbito (VEO). Bol Epidemiol. dez. 2023. Disponível em: https://www.saude.ba.gov.br/wp-content/uploads/2018/05/BoletimVEO\_No01\_-2023-1.pdf. Acesso em: 15 set. 2024.
- 9. Lessa MSA, Nascimento ER, Coelho EAC, Soares IJ, Rodrigues QP, Santos CAST, et al. Pré-natal da mulher brasileira: desigualdades raciais e suas implicações para o cuidado. Cien Saude Colet. 2022;27(10):3881-90. Disponível em: https://rbsp.sesab.ba.gov.br/index.php/rbsp/article/download/3908/3236/28508. Acesso em: 27 set. 2024.
- 10. Barbosa IR, Aiquoc KM, Souza TA. Raça e saúde: múltiplos olhares sobre a saúde da população negra no Brasil. Natal (RN): EDUFRN; 2021. Disponível em: https://repositorio.ufrn.br/jspui/bitstream/123456789/44949/3/Ra%C3%A7aeSaude\_Barbosa\_Aiquoc\_Souza\_2021.pdf. Acesso em: 26 set. 2024.

  11. Silva ERA, Peliano AM, Chaves JV. Cadernos ODS: ODS 5 Alcançar a igualdade de gênero e empoderar todas as mulheres e meninas. Brasília (DF): Ipea; 2019. Disponível em: https://repositorio.ipea.gov.br/bitstream/11058/9378/1/Cadernos\_ODS\_Objetivo\_5\_%20Alcan%C3%A7ar%20a%20 Igualdade%20de%20G%C3%AAnero%20e%20Empoderar%20Todas%20as%20Mulheres%20e%20Meninas.pdf. Acesso em: 29 set. 2024.
- 12. Batista NC, Figueiredo HAC. Comissões de heteroidentificação racial para acesso em universidades federais. Cad Pesqui. 2020;50(177):865-81. Disponível em: https://rbsp.sesab.ba.gov.br/index.php/rbsp/article/download/3908/3236/28508. Acesso em: 27 set. 2024.
- 13. Leal, M. C., Granado, S., Bittencourt, S., Esteves, A. P., & Caetano, K. (2023). Nascer no Brasil II: pesquisa nacional sobre aborto, parto e nascimento 2022-2023. Fiocruz. https://nascernobrasil.ensp.fiocruz.br/wp-content/uploads/2023/11/Dados-preliminares-da-pesquisa-Nascer-no-Brasil-2.pdf.
- 14. Gomes MNA, Santos LKO. Guia de orientação para secretarias estaduais e municipais de saúde: saúde da mulher na gestação, parto e puerpério. Brasília (DF): Ministério da Saúde; 2019. Disponível em: https://rbsp.sesab.ba.gov.br/index.php/rbsp/article/view/3476/3080. Acesso em: 25 set. 2024. 15. Alves NCC, Feitosa KMA, Mendes MES, Caminha MFC. Complicações na gestação em mulheres com idade maior ou igual a 35 anos. Rev Gaúcha Enferm. 2017;38(4):e2017-0042. Disponível em: https://rbsp.sesab.ba.gov.br/index.php/rbsp/article/view/3476/3080. Acesso em: 28 set. 2024.
- 16. Nogueira SBA, et al. Mortalidade materna no Brasil: uma revisão de literatura. Premissas Iniciação Científica. 2018;4:47-53. doi: 10.22533/at.ed.1141911026. Disponível em: http://dx.doi.org/10.22533/at.ed.1141911026. Acesso em: 25 set. 2024.
- 17. Costa ES, Oliveira RB, Lopes GS. As principais causas de morte materna entre mulheres no Brasil. Rev Eletr Acervo Saude. 2021;13(1):e5826. doi: 10.25248/reas.e5826.2021. Disponível em: https://doi.org/10.25248/reas.e5826.2021. Acesso em: 23 set. 2024.
- 18. Fundação Oswaldo Cruz. Instituto Nacional de Saúde da Mulher, da Criança e do Adolescente Fernandes Figueira. Portal de Boas Práticas em Saúde da Mulher, da Criança e do Adolescente. Tendências na mortalidade materna 2000-2020. Rio de Janeiro: Fiocruz; 2023. Disponível em: https://portaldeboaspraticas.iff.fiocruz.br/atencao-mulher/tendencias-na-mortalidade-materna-2000-2020. Acesso em: 23 set. 2024.
- 19. Gomes JO, Vieira MCA, Mistura C, Andrade GG, Barbosa KMG, Lira MOSC, et al. Perfil sociodemográfico e clínico de mortalidade materna. Rev Enferm UFPE on line. 2018;12(12):3165-71. Disponível em: https://rbsp.sesab.ba.gov.br/index.php/rbsp/article/view/3476/3080. Acesso em: 24 set. 2024.

How to cite this article: Nascimento, C.S., Albuquerque, R.O.F., Baia, A.V.F.V., Galvão, C.F., Pagung, E.A., Silva, H.P.L., Portugal, S.B.L.. (2025). Deaths of women of reproductive age in the municipalities of Eunápolis, Porto Seguro, and Teixeira de Freitas – BA, between 2018 and 2022. *O Mundo Da Saúde*, 49. https://doi.org/10.15343/0104-7809.202549e16832024l. Mundo Saúde. 2025,49:e16832024.

