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# Analysis of maternal mortality as a management indicator of nurse in primary health care

Análisis de la mortalidad materna como indicador de gestión del enfermero en la atención primaria a la salud

Análise da mortalidade materna como indicador de gestão do enfermeiro na atenção primária à saúde

## ABSTRACT

**Objective** To reflect on the factors that contribute to maternal mortality. **Methodology:** Descriptive type, with a quantitative approach and for data analysis, the Mortality Information System (SIM), the SIM Investigation Module and the DATASUS Live Birth Information System (SINASC) were consulted. (SIM), Health Sciences (LILACS). The study revealed that the Maternal Mortality Ratio (RMM) in Rio de Janeiro had an ascendancy in the year 2017 and that mortality remains a worrying aspect where it affects developing countries, in women of less favored economic class. There is a need for adequate prenatal care, a qualified multidisciplinary team, measures to prevent unwanted pregnancies, improvement in the referral system and counter referral and equity in the care of pregnant women.

**DESCRIPTORS:** Maternal Mortality; Pregnancy Complications; Women's Health; Vital Statistics.

## RESUMEN

**Objetivo:** Reflexionar sobre los factores que contribuyen a la mortalidad materna. **Metodología:** Tipo descriptivo, con abordaje cuantitativo y para análisis de los datos, fueron consultados el Sistema de Información sobre Mortalidad (SIM), el Módulo de Investigación del SIM y el Sistema de Información sobre Nacidos Vivos (SINASC) del DATASUS. (SIM), Ciencias de la Salud (LILACS). El estudio reveló que la Razón de Mortalidad Materna (RMM) en Río de Janeiro presentó una ascendencia en el año 2017 y que la mortalidad sigue siendo un aspecto preocupante donde la misma afecta a los países en desarrollo, en mujeres de clase económica menos favorecida. Se observa la necesidad de asistencia prenatal adecuada, equipo multiprofesional calificado, medidas para impedir el embarazo no deseado, mejora en el sistema de referencia y contra referencia y equidad en la atención a las gestantes.

**DESCRIPTORES:** Mortalidad Materna; Complicaciones em el Embarazo; Salud de la Mujer; Estadísticas Vitales.

## RESUMO

**Objetivo** Refletir acerca dos fatores que contribuem para a mortalidade materna. **Metodologia:** Tipo descritiva, com abordagem quantitativa e para análise dos dados, foram consultados o Sistema de Informação sobre Mortalidade (SIM), o Módulo de Investigação do SIM e o Sistema de Informação sobre Nacidos Vivos (SINASC) do DATASUS. (SIM), Ciências da Saúde (LILACS). O estudo revelou que a Razão de Mortalidade Materna (RMM) no Rio de Janeiro apresentou uma ascendência no ano de 2017 e que a mortalidade continua sendo um aspecto preocupante onde a mesma atinge os países em desenvolvimento, em mulheres de classe econômica menos favorecida. Observa-se a necessidade de assistência pré-natal adequada, equipe multiprofissional qualificada, medidas para impedir a gravidez indesejada, melhora no sistema de referência e contra referência e equidade no atendimento as gestantes.

**DESCRIPTORIOS:** Mortalidade Materna; Complicações na Gravidez; Saúde da Mulher; Estatísticas Vitais.

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### Halene Cristina Dias Armada e Silva

PhD student at UERJ. Master's in Nursing. PAC Coordinator 5.2. RJ, Brazil. <https://orcid.org/0000-0003-0850-8493>

### Maria Regina Bernardo da Silva

Master in Family and Community Health. MBA in Health Management. Professor at the University of Castelo Branco. RJ, Brazil. <https://orcid.org/0000-0002-3620-3091>

**Francisca Reginele de Sousa Barros**Nursing Student at Castelo Branco University. RJ, Brazil. <https://orcid.org/0000-0002-7963-0501>**Daniel Ribeiro Soares de Souza**Master's in Health and Technology. Professor at Castelo Branco University and Uni São José. RJ, Brazil. <https://orcid.org/0000-0002-9170-6193>**Claudia da Silva de Medeiros**Master in Family Health. Professor at Castelo Branco University. RJ, Brazil. <https://orcid.org/0000-0003-0471-0731>**Raquel Bernardo da Silva**Master's student in Primary Health Care. Preceptor of Nursing Residency UFRJ. RJ, Brazil. <https://orcid.org/0000-0003-0850-8493>**INTRODUCTION**

**M**aternal mortality is the picture of the number of deaths that occurred due to different situations that vary from the beginning of the gestational period to one year of the baby's life<sup>(1)</sup>. With this view, the World Health Organization (WHO) and the United Nations (UN) have taken measures to combat the incidence, however, initially there was no significance in the numbers obtained<sup>(2)</sup>.

WHO<sup>(3)</sup> defines maternal mortality as death during pregnancy or after 42 days of termination of pregnancy (puerperium), regardless of the duration or location of the pregnancy, for any cause related or aggravated by the pregnancy, or through related conduct, including accidental factors or incidental. Thus, we identify maternal death, based on its causes, defining them, as direct or indirect<sup>(4)</sup>.

Direct obstetric maternal death is that resulting from obstetric complications of pregnancy, childbirth and / or puerperium, interventions, omissions, incorrect treatment or chain of events resulting from the mentioned causes, for example: hypertension, obstetric hemorrhage or complications from anesthesia, are classified as death direct maternal<sup>(4,5)</sup>. Indirect obstetric maternal death is the result of pre-existing or developing diseases during pregnancy. In this case, death from complications of heart or kidney diseases<sup>(4,6)</sup>.

Based on the data from the declara-

tions, the Live Birth Information System (SINASC) manages to point out to the Ministry of Health what are the intervention priorities related to the well-being of the mother and baby, in addition to providing health indicators on pre-birth assistance, vitality at birth, infant and maternal mortality<sup>(4)</sup>.

For epidemiological calculation and evaluation, the Maternal Mortality Ratio (RMM) is calculated, which compares the number of direct and indirect obstetric deaths, in relation to the number of live births, multiplied by 100,000, calculated as:  $RMM = (\text{Number of Maternal Deaths} / \text{Number of Live Births}) \times 100,000$ .

The guiding question: What are the factors that contribute to maternal mortality? And the aim of the study is to reflect on the factors that contribute to maternal mortality. The interest in the research took place in discussing how public policies should be implemented so that there is an adequate care follow-up aimed at reducing cases of maternal death.

**METHODOLOGY**

This study was of the descriptive type, with a quantitative approach whose objective was to reflect on the factors that contribute to maternal mortality. For data analysis, the Mortality Information System (SIM), the SIM Investigation Module and the DATASUS Live Birth Information System (SINASC) were consulted. The time for data collection, treatment, and

analysis, combined with the finalization of the article, was from February 2017 to March 2019. The population of this study was the deaths that occurred in the city of Rio de Janeiro and duly registered in the official databases. The studied sample represented 100% of the population. As this is data available in a publicly accessible database, the study does not require submission to the Research Ethics Committee.

**RESULTS**

The description of deaths paired by the years followed as follows: 61 deaths in 2015, which rose to 155 maternal deaths declared in 2016. In the following year, in 2017, this amount increased to 173 and subsequent in the year 2018 there was a drop in these numbers to 107 cases<sup>(4)</sup>.

The Maternal Mortality Ratio (RMM) of the Municipality of RJ in 2016 reached the index of 74.7 presenting an increase in the year 2017, reaching 82.9 deaths/ 100,000 live births. It was found that the programmatic area with the highest RMM was Area 5.3. in Santa Cruz and surroundings. Nevertheless, it has one of the worst Social Development Indexes in the city, characterizing the difficulty of low-income women having access to prenatal health services, especially when necessary referral to another specialist. In parallel, the areas of greatest social development (program areas 2.1 and 2.2) show rates up to three times lower than the aforementioned segment<sup>(7)</sup>.

According to Chart 1 below, according to the programmatic areas of Rio de Janeiro, the ratio of maternal mortality in 2016 and 2017 is observed.

In 2010, 2015 and 2017 direct obstetric deaths were responsible for more than 60% of maternal deaths, always being the main cause of deaths. In 2013 and 2014 there was an increase in indirect obstetric deaths, however, in 2015 these deaths were again overcome by direct obstetricians, thus remaining responsible for 30-40% of maternal deaths. Deaths classified as unspecified obstetric deaths are those in which the investigation was not sufficient to determine a direct or indirect cause.

The causes classified in the Abortion category (ectopic pregnancy, legal abortion) showed a decreasing profile from 2016 to 2017, while the causes classified in the categories of Toxemia Gravidarum (Hypertension, Eclampsia and Preeclampsia) and Complications in the Puerperium - puerperal infection) increased in the same period. Deaths from undetermined causes, placenta disorders and AIDS fluctuated between 2015 and 2017. Causes such as abortion and pregnancy toxics may reflect the assistance provided during prenatal care in the city of RJ. As shown in Chart 2 below, the distribution by grouped causes of maternal death

of the municipal secretary of Rio de Janeiro from 2015 to 2017 is observed.

Even though it seems to be a distant reality, according to a nationwide survey, prenatal care is a practice among pregnant women in the country, however, some tasks that compete with the services leave something to be desired, among them the number of consultations performed and basic procedures established by the Ministry of Health<sup>(8)</sup>.

## DISCUSSION

### Public management inserted in Maternal Mortality

SUS management is implemented by management teams that deliberate health policies, planning is the means of evaluation that takes place through the database and Health Information Systems - SIS<sup>(9)</sup>.

Thus, the work of the state manager becomes fundamental in the planning of health services, which is responsible for coordinating and implementing the plans of the municipalities, providing technical support<sup>(10)</sup>.

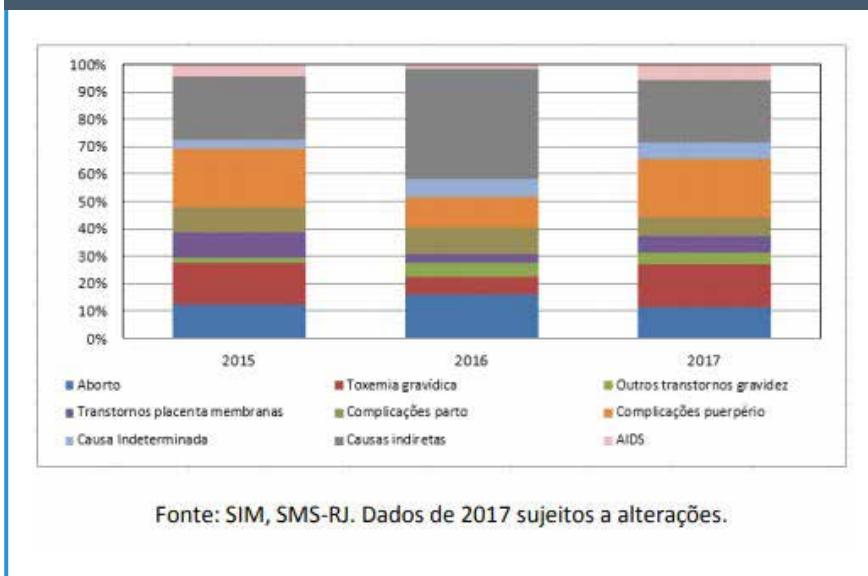
In other words, one of the roles of health management is the association, through state commissions for the integration of teaching and services (CIES), which in turn is responsible for formulating, conducting and developing the education policy provided for in Article 14 of the Law 8080/90 and NOB/RH - SUS<sup>(10)</sup>.

The National Council for the Rights of Women (CNDM) has become an important milestone in history, having achieved basic rights in strengthening democracy<sup>(11)</sup>. As of the 1988 Constitution, public health policies began to provide coverage, guaranteeing the conduct of gender equity as the protection of women's human rights<sup>(11)</sup>. In addition to these guarantees, it is necessary for the government to be aware of the situation that health is in, as this opinion makes it essential in terms of planning and carrying out improvement actions for the society in question<sup>(12)</sup>.

Chart 1. Ratio of maternal mortality by PA. Rio de Janeiro, RJ, Brazil, 2016-2017



Chart 2. Proportional distribution of the grouped causes of maternal death. Rio de Janeiro, RJ, Brazil, 2015-2017



The objective is not only isolated from those described above, the Rede Cegonha brings in its objectives the desire to enhance the model of health care for women, its main purpose is to ensure access and simplify care for these people<sup>(13)</sup>. Based on this information, some measures were taken to decrease maternal mortality rates, WHO invests in strengthening obstetric services, aiming at professional training and contributing to the reduction of mortality rates<sup>(14)</sup>. Rede Cegonha was another strategy launched by the Ministry of Health/ Secretariat of Health Surveillance (MS/SVS) in 2011, with the aim of guaranteeing mothers and children the right to childbirth and safe birth<sup>(15)</sup>.

Civil, cultural, socioeconomic and political rights deliberately ensure the right to a free life of Maternal Death, thus, they oblige the State to obtain concrete ways to prevent and carry out actions that may have concrete impacts, ensuring the primary, which is life<sup>(16)</sup>.

Therefore, the discernment of risk factors associated with Maternal Mortality is totally relevant to conduct health actions and interventions. Emphasizing also the importance of nurses in the face of maternal emergencies, they become protagonists in individual and collective care, being assigned to the functions of care, which starts from educational measures to administrative measures<sup>(17)</sup>.

### The main consequences of maternal mortality

The main registered causes of Maternal Mortality in Brazil are: hypertension, hemorrhage, postpartum infections and abortions<sup>(18)</sup>. According

to official data, Brazil has high rates of maternal mortality, these numbers range from 50 to 149 per 100,000 births. However, in the case of unreliable references, it is clear that the process observed in the face of the data is far superior to that reported<sup>(7)</sup>.

Even though it seems to be a distant reality, according to a nationwide survey, prenatal care is a practice among pregnant women in the country, however some tasks that compete for this service leave something to be desired, including the number of consultations carried out and the basic procedures established by the Ministry of Health<sup>(8)</sup>. The difficulty of submitting the mother to another specialist who needs follow-up, especially if she belongs to the low-income group. Based on some of these reasons, some pregnant women seek medical advice only when they are affected by strong and constant contractions<sup>(7)</sup>.

Reproduction and sexuality must be protected by the State, with the effective participation of society. There is a need to produce legislation and public policies aimed at this care. When comparing maternal death with these policies, we realize that it is necessary to work on social development to combat inequalities, constitutionally SUS provides quality services, such as the FHS, which enables the necessary quality in health.

Maternal mortality continues to be a worrying aspect within Brazilian society, where it affects developing countries, a reality in women of less favored economic class. Prevention and protection measures must be developed, such as: adequate prenatal care, a qualified multidisciplinary team, measures that will prevent unwanted preg-

nancies, which are increasingly absent, surveillance in the puerperal period. The proper filling of death certificates must be done to identify deaths and consequent prevention of them. Still evaluating, it is concluded that the Municipality of RJ needs to intensify its political, economic, and social efforts to try to reduce the impact of maternal deaths within its State.

It is based on these health policies that the Maternal Mortality statistics point to new directions to contribute and face this process<sup>(19)</sup>.

### CONCLUSION

It is important to organize an effective referral and counter referral system; the aim is to reduce inequalities in access to the service imposed by socioeconomic differences. However, depending on how this option is implemented, it may increase the equity of access for users with unfavorable socioeconomic conditions, regarding access to obstetric referral services. When implementing this option, it is necessary to regulate services, such as: clinical management, human resources, conditions of access to health services and the guarantee of adequate transport in a timely manner.

Some considerations on the promotion of equity, according to the choice of the option to be implemented, are necessary, given the possibility of some groups not being contemplated by the interventions. The present work had an important role in the recognition of maternal mortality since measures must be adopted to significantly reduce the current situation. ■

### REFERENCES

1. Ferreira EA. Epidemiologia da Mortalidade Materna segundo cor ou raça na região Norte do Brasil, 2006 a 2014. Trabalho de Conclusão de Curso apresentado ao Curso de Graduação em Enfermagem - Universidade Federal

Fluminense [Internet]. Niterói, Brasil 2016 [acesso em 20 fev 2017]. Disponível em: <https://app.uff.br/riuff/bitstream/1/3471/1/TCC%20C3%89dria%20Aparecida%20Ferreira.pdf>.

## REFERENCES

2. Tavares LT, Albergaria TFDS, Guimarães MDAP, Pedreira RBS, Junior EPP. Mortalidade Infantil por causas evitáveis na Bahia, 2000-2012. RECIIS [Internet]. 2016 jul.-set. [acesso em 25 jul 2017]; 10(3). Disponível em: [www.reciis.icict.fiocruz.br](http://www.reciis.icict.fiocruz.br).
3. Martins EF, Almeida PFBD, Paixão CDO, Bicalho PG, Errico LDSPD. Causas múltiplas de mortalidade materna relacionada ao aborto no Estado de Minas Gerais, Brasil, 2000-2011. Cad. Saúde Pública [Internet]. 2017 [acesso em 27 jul 2017]; 33(1):e00133115. Disponível em: <http://www.scielo.br/pdf/csp/v33n1/1678-4464-csp-33-01-e00133115.pdf>.
4. Resende LV, Rodrigues RN, Fonseca MDC. Mortalidade materna: a violação dos direitos sexuais e reprodutivos e suas consequências. Associação de Estudos Brasileiros Populacionais [Internet]. [acesso em 08 abr 2018]. Disponível em: <http://www.abep.org.br/publicacoes/index.php/anais/article/viewFile/2076/2033>. 5. Dias JMG, Oliveira APSD, Cipolotti R, Monteiro BKSM, Pereira RDO. Mortalidade materna. Rev Med Minas Gerais [Internet]. 2015 [acesso em 18 fev 2018]; 25(2):173-179. Disponível em: <http://www.rmmg.org/artigo/detalhes/1771>.
6. Mascarenhas PM, Silva GRD, Reis TT, Casotti CA, Nery AA. Análise da mortalidade materna. Rev enferm UFPE on-line [Internet]. 2017 nov. [acesso em 19 mai 2018]; 11(Supl. 11):4653-62. Disponível em: <https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/231206>.
7. Pereira LM. Mortalidade materna: como o descaso com a saúde da mulher impede a igualdade de gênero. Sau. & Transf. Soc. 2016; 6(1):70-78.
8. Nunes JT, Gomes KRO, Rodrigues MTP, Mascarenhas MDM. Qualidade da assistência pré-natal no Brasil: revisão de artigos publicados de 2005 a 2015. Cad. Saúde Colet [Internet]. 2016 [acesso em 28 mai 2018]; 24(2):252-261 253. Disponível em: <http://www.scielo.br/pdf/cadsc/v24n2/1414-462X-cadsc-24-2-252.pdf>.
9. Pinheiro ALS, Andrade KTS, Silva DDO, Zacharias FCM, Gomide MFS, Pinto CP. Gestão da Saúde: O uso dos sistemas de informação e o compartilhamento de conhecimento para a tomada de decisão. Texto Contexto Enferm [Internet]. 2016 [acesso em 02 mar 2018]; 25(3):e3440015 Disponível em: [http://www.scielo.br/pdf/tce/v25n3/pt\\_0104-0707-tce-25-03-3440015.pdf](http://www.scielo.br/pdf/tce/v25n3/pt_0104-0707-tce-25-03-3440015.pdf).
10. Mendes A, Louvison MCP, Lanni AMZ, Leite MG, Feuerwerker LCM, Tanaka OU, Duarte L, Weiller JAB, Lara NCC, Botelho LDAM, Almeida CAL. O processo de construção da gestão regional da saúde no estado de São Paulo: subsídios para a análise. Saúde Soc. São Paulo. 2015; 24(2):427-437.
11. Gomes AVDM, Silva DRC, Sá MAAFD, Oliveira MDCB, Barboza NA, Mendes PMV. Políticas públicas de atenção à saúde da mulher: uma revisão integrativa. Rev. Interd. Ciên. Saúde [Internet]. 2017 [acesso em 18 mar 2018]; 4(1):26-35. Disponível em: <https://www.google.com.br/search?q=quais+as+políticas+publicas>.
12. Lima MM, Aguiar AMM. Análise dos Indicadores de Saúde Materna Infantil de um Município do Estado do Mato Grosso. J Health Sci [Internet]. 2017 [acesso em 01 abr 2018]; 19(2):183-0. Disponível em: <http://www.pgsskroton.com.br/seer/index.php/JHealthSci/article/view/4319/367>.
13. Oliveira FAMD, Leal GCG, Wolff LDG, Rabelo MX, Poliquesi CB. Reflexões acerca da atuação do enfermeiro na rede cegonha. Rev enferm UFPE on-line. 2016 fev.; 10(Supl.2):867-74.
14. Mamede FV, Prudencio PS. Contribuições de programas e políticas públicas para a melhora da saúde materna. Contribuições de programas e políticas públicas para a melhora da saúde materna. Rev Gaúcha Enferm [Internet]. 2015 [acesso em 30 jun 2017]; 36(esp):262-6. Disponível em: <http://www.scielo.br/pdf/rgenf/v36nspe/0102-6933-rgenf-36-spe-0262.pdf>.
15. Santos AKDO, Caveião C. A importância da assistência de enfermagem no puerpério para redução da morbimortalidade materna. Revista Saúde e Desenvolvimento [Internet]. 2014 jul.-dez. [acesso em 01 abr 2018]; 6(3):11. Disponível em: <https://www.uninter.com/revistasauade/index.php/saudeDesenvolvimento/article/viewFile/327/220>.
16. Galli B, Rocha H, Queiroz J. Relatório sobre Mortalidade Materna no contexto do processo de implementação da decisão do Comitê CEDAW contra o Estado brasileiro no caso Alyne da Silva Pimentel [Internet]. Plataforma Dhesca Brasil (Curitiba) 2014 [acesso em 05 abr 2018]. Disponível em: [http://www.unfpa.org.br/Arquivos/Relatorio\\_caso\\_alyne\\_pimentel.pdf](http://www.unfpa.org.br/Arquivos/Relatorio_caso_alyne_pimentel.pdf).
17. Reganassi C, Barros KCS, Katch M, Nogueira DP. Mortalidade materna: desafios para enfermagem no enfrentamento da assistência. Revista Fafibe On-Line [Internet]. 2015 [acesso em 10 abr 2018]; 8(1):319-331. Disponível em: <http://unifafibe.com.br/revistasonline/arquivos/revistafafibeonline/sumario/36/30102015190327.pdf>.
18. Silva TCD, Varela PLR, Oliveira RRD, Mathias TADF. Morbidade materna grave identificada no Sistema de Informações Hospitalares do Sistema Único de Saúde, no estado do Paraná, 2010. Epidemiol. Serv. Saúde [Internet]. 2016 jul.-set. [acesso em 07 jun 2016]; 25(3):617-628. Disponível em: <https://www.scielosp.org/pdf/ress/2016.v25n3/617-628/pt>.
19. Viana RDC, Novaes MRGC, Calderon IMP. Mortalidade Materna - uma abordagem atualizada. Com. Ciências Saúde [Internet]. 2014 [acesso em 15 nov 2018]; 22(Sup.1):S-141-S152. Disponível em: [http://bvsm.sau.gov.br/bvs/artigos/mortalidade\\_materna.pdf](http://bvsm.sau.gov.br/bvs/artigos/mortalidade_materna.pdf).