

THE PROFILE OF MATERNAL MORTALITY IN THE STATE OF MARANHÃO

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Abstract: Maternal mortality is the death that occurs during the gestational period or 42 days after the end of this period, not taking into account its place of development or the elapsed time, excluding causes external to the physiological process, such as accidental causes. or incidentals. Therefore, the question arose about the epidemiological profile of maternal mortality in the state of Maranhão in the period from 2015 to 2019. Indeed, this article had as general objective: to analyze the epidemiological profile of maternal mortality in the state of Maranhão; and as specific objectives: Identify the reason for maternal mortality due to direct and indirect causes in the state of Maranhão in the period from 2015 to 2019, describe the absolute number of maternal deaths by age group. Therefore, a descriptive epidemiological study with a quantitative and exploratory approach was used. At the end of the research, the following data were found: Maternal Mortality Ratio by direct causes is 68.41; while the RMM, due to indirect causes, is 18.19. Therefore, in a concentrated data, the total MMR is 86.61 per 100,000 live births in the state of Maranhão. It is concluded, therefore, that the direct causes are the majority in this state and are in line with national statistics. The need to improve the labor offered, as well as greater use of primary care services by the public addressed based on the diagnostic profile of the pathologies that surround them are fundamental factors to reduce the disastrous statistics that lead the debate worldwide and that, at the national level, are evidenced daily.

Keywords: Maternal Mortality, Health Profile, Obstetric Nursing.

INTRODUCTION

The term maternal mortality is the death that occurs during the gestational period or after 42 days of the end of this period, not taking into account the place of development of the same

or the elapsed time, excluding causes external to the physiological process such as accidental or incidentals (FERRAZA, 2012). And this term corroborates the idea expressed in the word 'Maternity', since pregnancy expresses genesis, creation and beginning, making the contrast with the epigraph of mortality a conflicting situation and suggesting an inadequacy that is not allowed or subject to anticipation (VANDERLEI, 2015).

Among the most relevant causes of maternal death are those of a direct nature, such as those that occur due to obstetric complications in pregnancy, childbirth and the puerperium due to interventions, omissions, incorrect treatment or a chain of events resulting from any of these causes, and indirect as being issues foreign to the gestational physiology or that caused an abrupt interruption of the evolutionary process in question (SOUZA, 2015).

In this context of effective care for the mother-child bond, mortality is defined by the WHO and by the International Classification of Diseases (ICD - 10) as an event that leads to the death of a woman in the period comprising pregnancy or up to 42 days after the delivery, not taking into account the place of pregnancy or its duration (VANDERLEI, 2015).

The term mortality comes to endorse the negative factors that accumulate in women's lives to the point of being evident in a time of physiological, emotional and social metamorphosis, as is the case of pregnancy, bringing severe implications for families. These causes can be avoidable with effective monitoring and joint work of the different management areas with the population, bringing, in this sense, the fundamental need for articulation between health, education, social assistance and public safety (VICTÓRIA, 2011).

On maternal death, Lopes (2017) brings in his study the epigraph that this event

can be classified as a direct cause when it results from complications occurring during pregnancy, childbirth or the puerperium due to inefficiency of care; and in indirect cause when characterized by the worsening of pre-existing comorbidities during the gestational period or during its course, associated with the physiological changes that this period imposes on the maternal body.

This final event is a reflection of the ineffectiveness of assistance to women, as well as exemplifying, when in these causes, the disrespect for sexual and reproductive rights. This issue then becomes an alarming factor in our country, requiring the adoption of energetic and immediate public measures to reduce it, as this maternal death can be avoided in 92% of cases (MARTINS, 2018).

Sociodemographic factors can be listed as aids to greater evidence of relevant causes of maternal death, since the environment experienced, low education, young age associated with physiological issues or even advanced age, domestic violence that could exist, in addition existing psychological conditions are situations evaluated as issues that permeate the negativity in the outcome of this event (BIANO, 2017).

Patient safety in the context of maternal and neonatal health is of fundamental importance, given the high number of clients involved and the catastrophic diversity of undue events. The World Health Organization (WHO) estimates that of the 130 million births that occur each year, around 303,000 result in the mother's death, 2.6 million are stillborn and another 2.7 million newborns die in the first 28 days after birth. Faced with this imbroglio, Dr. Marie-Paule Kieny, deputy director general of the WHO, says that "women and children die in childbirth from preventable causes, often linked to poor quality of care" (BRASIL, 2017).

Given the above, the question arose about the profile of maternal mortality in the state of Maranhão from 2015 to 2019. For the development of this research, the general objective was: to analyze the epidemiological profile of maternal mortality in the state of Maranhão; as specific objectives: Identify the reason for maternal mortality due to direct and indirect causes in the state of Maranhão in the period from 2015 to 2019, and describe the absolute number of maternal deaths by age group in that period. The demanded topic is of fundamental importance for professionals and students in the health area and for the public involved, as it improves the quality of life and the provision of services to women.

METHODOLOGY

The information used was extracted from the Mortality Information System (SIM) database, made available by the TABNET tool through electronic access on the DATASUS platform. Furthermore, as the aforementioned database is in the public domain and does not involve a physical approach to human resources, this research was not submitted to the Ethics and Research Committee (CEP).

About the nature of the research, it is a descriptive epidemiological study with a quantitative and exploratory approach.

For the development of the research, the platform of the Mortality Information System (SIM) and the Live Birth Information System (SINASC) were used as a scenario, by consulting the DATASUS database, in order to explore the quantitative profile of the data that form the basis for discussion. The study was conducted using data obtained from the DATASUS platform on direct and indirect maternal mortality of women in the state of Maranhão.

Data were extracted in the period of August 2021 after searching the database of the Information System on Mortality (SIM) and

Information System on Live Births (SINASC) through the DATASUS platform.

The data obtained through DATASUS were grouped and arranged in electronic spreadsheets in the Microsoft Excel 2016 program, and then organized into pie-type and column-type graphs and, finally, distributed in tables.

RESULTS AND DISCUSSIONS

The epidemiological profile of maternal mortality prerogative points to a need for further research in order to elucidate where are the negative points of care or the issues inherent to each case and seek a reduction in numbers and, consequently, a better quality of life for the public addressed.

The data obtained through applied research and focused on the temporal profile of the occurrence of maternal deaths in the state of Maranhão in the period from 2015 to 2019 were shown in Graph 1.

According to what was shown in the graph above, the maternal mortality ratio for direct causes (in the period in question) was higher in 2016, with 76.92 deaths for every 100,000 live births; followed by 74.85 in 2015; 2017 with 64.61 deaths; 2018 with 64.01; finally, the year 2019 with 61.77 deaths per 100,000 live births.

The full analysis of the values shown in Graph 1 and obtained after applying the mortality ratio formula showed that, in the state of Maranhão, there was a reduction, even if still far from what was expected for this indicator, and points to a positive future, however too far away.

In order to clarify the general maternal mortality ratio for direct causes, the formula for obtaining these data has been added below:

$$\text{Mortality Ratio} = \frac{391}{571.515} \times 100.000$$

Formula 1: Calculation for the Total Maternal Mortality Ratio for Direct Causes in the State of Maranhão between 2015 – 2019. Teresina – PI 2021.

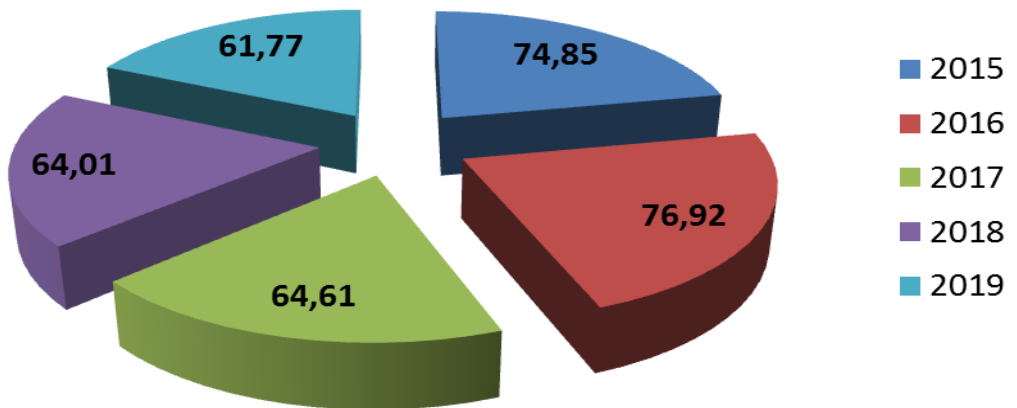
From these data, it is concluded that the MMR for direct causes in the State of Maranhão is 68.41 per 100,000 live births.

Retracing what the United Nations suggests in 2015, the Maternal Mortality ratio must not be higher than 70 deaths for every 100,000 live births, as this expresses a warning, as the data indicate superiority initially followed by a slight reduction in this indicator. Regarding the national prerogative, the numbers are even more worrying, since the goal stipulated by Brazil in front of the United Nations negotiation was to reduce to a maximum of 20 deaths for every 100,000 live births. We must also consider that this target is established for the period 2016 – 2030, and refers to the premise of a positive evolution for this outcome, despite demonstrating a considerable amplitude between the notified number and the agreed value (BRASIL, 2016).

The numerical demonstration mentioned above points to a particular and stratified analysis for each year surveyed. In 2015, there was a predominance of notifications of maternal deaths from direct causes in the age group of 20 to 29 years with 39 cases, followed by the period of adolescence (10 - 19 years) with 27 cases, and the female mature phase (30 – 39 years) with 19 notifications, while the age group of 40 – 49 years had the lowest number of records with only 3 notified cases.

In Barreto 2021 survey, in which the same temporal profile was analyzed, but with national coverage, it was found that in 2015 the direct causes of maternal deaths were mostly in the 40-49 age group, which contradicts the study developed. in the state of Maranhão

Razão de Mortalidade Materna por causas Diretas

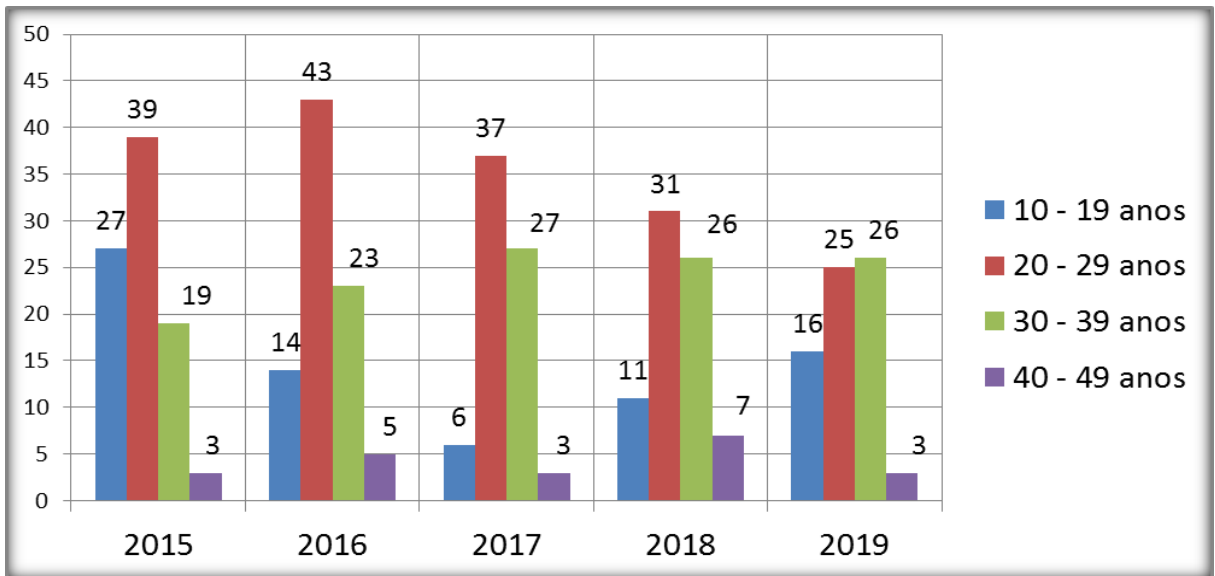


Razão de mortalidade materna por causas diretas = Reason for maternal mortality from direct causes

Graph 1: Maternal Mortality Ratio due to Direct Causes in the State of Maranhão between 2015 – 2019.

Teresina – PI 2021.

Source: Gonçalves, 2021.



Anos = years old

Graph 2: Stratification of the Absolute Number of Maternal Deaths by Direct Causes in the State of Maranhão between 2015 – 2019. Teresina – PI 2021.

Source: Gonçalves, 2021.

and emphasizes the prerogative of increased gestational risk with increasing age.

The chart above also shows that in 2016, the age group 20 - 29 years old continues to be the most notified among maternal deaths from direct causes in which there is an alternation in the age that occupies the second position in the records, being the age of 30 - 39 years (23 cases), followed by 10 - 19 years with 14 records, ending with the extreme of the researched age, we have (40 - 49 years) with 5 cases.

For the year 2017, the numbers show a predominance of death records in the same age group (20 - 29 years) with 37 records, followed by 27 notifications in the older age group (30 - 39 years), 6 notifications for the younger age group (10 - 19 years) and 3 records at the age of 40 - 49 years.

In the year 2018, the growth in death records for women in the extreme of reproductive age (40 - 49 years) in relation to previous years is noteworthy. In the other records, they point to the majority of notifications in the age of 20 - 29 years, followed closely this time with 26 records of the older age (30 - 39 years) and 11 notifications of the younger age (10 - 19 years).

In the last year analyzed (2019), we found for the first time the inversion in most notifications of deaths from direct causes in Maranhão, with the age group of 30 - 39 years old with 26 reported cases followed by the age of 20 - 29 years old with 25 cases ; then appears the age of 10 - 19 years with 16 cases, and finally, the age of 40 - 49 years with 3 notifications.

In the end, it can be seen that there is volatility among the records of deaths notified in the state of Maranhão, but with a predominance of the age between 20 and 29 years old, lasting up to 39 years old. These numbers express that the extremes of age are not conditions for the occurrence of a large number of deaths.

Using the comparative profile and seeking the consonance of data that in another category was adverse, the study by Barreto 2021 points to the same categorization mentioned above, which expresses that 139,994 women died from preventable causes in Brazil in the period of 2015 - 2019. If we take into account the issue of the lack of notification of many cases associated with the low in the investigation of deaths, issues that are commonplace in the public service in general, this number may be even higher and expresses, in the end, how much the public in question is exposed to risk by purely avoidable situations.

According to Graph 3 above, it is possible to conclude that the maternal mortality ratio due to indirect causes represents a smaller number when compared to the same temporal profile of the maternal death ratio due to direct causes, but with a vertical reduction, that is, without oscillation between the years surveyed, and still follow a line of direct and important reduction for the national indicator explained above, a factor that is pointed out as positive and expected.

Therefore, the data shown point to a stratified analysis of the RMM in each year, analyzed and seeking to consolidate these numbers. In effect, below is the formula for obtaining this data.

$$\text{Mortality ratio} = \frac{104}{571.515} \times 100.000$$

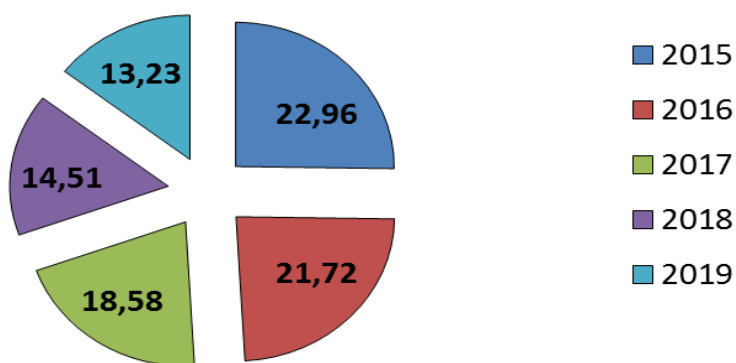
Formula 2: Calculation for Obtaining Total Maternal Mortality Ratio from Indirect Causes in the State of Maranhão between 2015 - 2019.

Teresina - PI 2021.

In the meantime, it is concluded that the MMR for indirect causes in the State of Maranhão is 18.19 per 100,000 live births.

The chart below stratifies the clustered data on the numbers of deaths by age group - from indirect causes - and provides a basis for their analytical temporal profile.

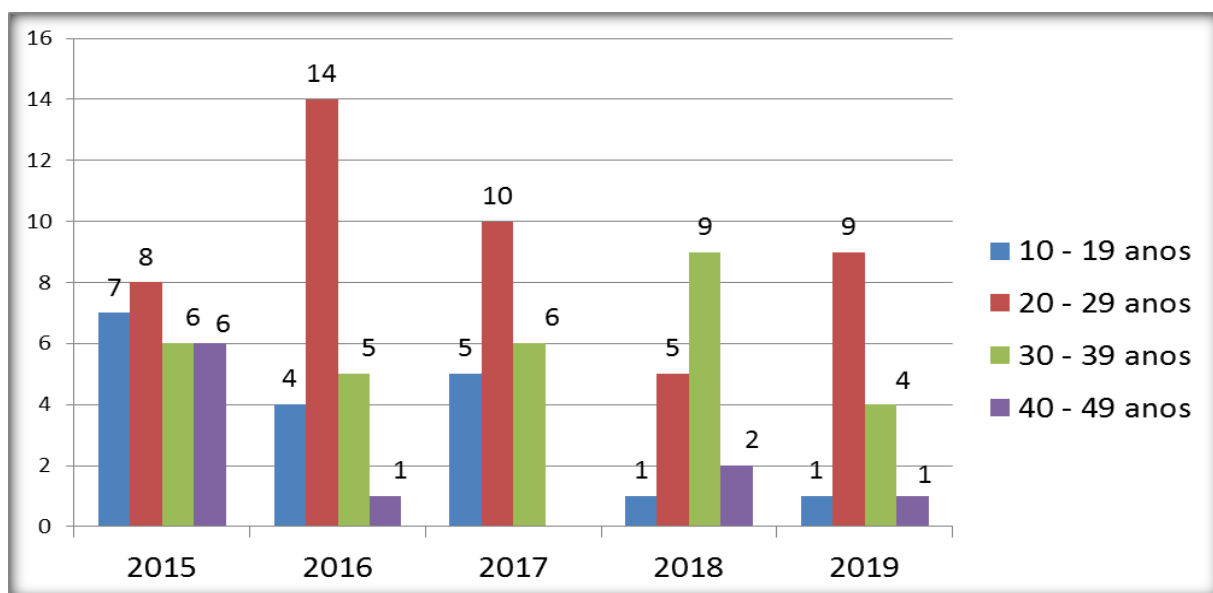
Razão da Mortalidade Materna por causas Indiretas



Razão da mortalidade por causas indiretas = Reason for mortality from indirect causes

Graph 3: Maternal Mortality Ratio from Indirect Causes in the State of Maranhão between 2015 – 2019. Teresina – PI 2021.

Source: Gonçalves, 2021.



Anos = years old

Graph 4: Stratification of the Absolute Number of Maternal Deaths from Indirect Causes in the State of Maranhão between 2015 – 2019. Teresina – PI 2021.

Source: Gonçalves, 2021.

Observing the figures shown above, the low variation between the records of deaths from indirect causes in the state of Maranhão, in 2015, is noteworthy, compared to other years. The year 2016 has the highest peak of notifications in the age group of 20 – 29 years old, while the year 2018 is the only year whose notifications of deaths of age (ranging from 30 to 39 years old) were higher than the others.

In order to arrive at the value corresponding to the mortality ratio in the period covered by this research, the table below points to the number of maternal deaths in the years 2015 to 2019.

The mortality ratio is calculated based on the number of maternal deaths in the chosen period and geographic space, divided by the number of live births with the same specifications. The result of this division must also be multiplied by 100,000.

$$\text{Mortality Ratio} = \frac{495}{571.515} \times 100.000$$

Formula 3: Calculation for Obtaining Total Maternal Mortality Ratio by Causes Direct and Indirect in the State of Maranhão between 2015 – 2019. Teresina – PI 2021.

The result of this equation then expresses the maternal mortality ratio covering the years 2015 to 2019 in the state of Maranhão, which is 86.61/100,000 live births.

This number contradicts what was agreed in the Millennium Pact, whose value is, at most, 35 deaths per 100,000 live births and also brings a worrying look at how these women are being assisted in the state as a whole.

CONCLUSION

After a detailed analysis of the theme “Maternal Mortality”, it is concluded that direct causes are the majority in the state of Maranhão and are in line with national statistics since, given the data exposed and

discussed, direct causes are the majority in Brazil.

At the end of the discussion, based on the quantitative epidemiological profile associated with the theoretical basis, it was realized that the presupposed theme must be further discussed and debated by the research community, in order to increase the range of information to the target audience of this theme, in favor of a greater supply of skilled labor. In addition to this initiative, there is a greater financial incentive to subsidize this efficient assistance, which would bring better conditions of care and add to the reduction of this negative index of Brazilian society.

The need to improve the labor offered, as well as greater use of primary care services by the public addressed based on the diagnostic profile of the pathologies that surround them are fundamental factors to reduce the disastrous statistics that lead the debate worldwide and that, at the national level, are evidenced day by day.

The promotion of a healthy environment for pregnancy is a conduct that must be valued in this context, since the relationship between the pregnant women’s living environment is also a determining factor for the negative outcome. In addition to the influence of the environment, the complexity of the mother-child bond associated with factors inherent to women, such as low education, low socioeconomic status, little use of primary care services and physical and emotional instability, elevate the risk classification for the occurrence of deaths. which, after theoretical analysis, could be avoidable in more than 80% of cases.

	2015	2016	2017	2018	2019	Total
Nascidos Vivos	117.564	110.493	112.985	117.156	113.317	571.515

Nascidos vivos = born alive

Table 1: Numerical and stratified representation of the absolute number of live births per year in the State of Maranhão 2015 – 2019. Teresina – PI 2021.

Source: Gonçalves, 2021.

	2015	2016	2017	2018	2019	Total
Óbitos Maternos	115	109	94	92	85	495

Óbitos maternos = maternal deaths

Table 2: Numerical and Stratified Representation of the Absolute Number of Maternal Deaths per year in the State of Maranhão 2015 – 2019. Teresina – PI 2021.

Source: Gonçalves, 2021.

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