Journal of Nursing
Revista de Enfermagem
UFPE On Line
ISSN: 1981-8963

ORIGINAL ARTICLE

SOCIODEMORGRAPHICAL AND CLINICAL PROFILE OF MATERNAL MORTALITY

PERFIL SOCIODEMOGRÁFICO E CLÍNICO DE MORTALIDADE MATERNA

PERFIL SOCIODEMOGRÁFICO Y CLÍNICO DE MORTALIDAD MATERNA

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ABSTRACT

Objective: to know the sociodemographic and clinical profile of maternal mortality. ***Method:*** this is a quantitative, cross-sectional and descriptive study, the research universe being composed of all maternal deaths occurring in the period from 2004 to 2015 in the State of Bahia / Brazil. Data collection was done through secondary data available online in the Mortality Information System of the Ministry of Health. The data was tabulated and analyzed by the Microsoft Office Excel program, version 2016, the results in the form of tables and figures. ***Results:*** it was found that the number of maternal deaths in the analyzed period corresponded to 1,907, with a higher prevalence in the age group between 20 and 29 years (39.12%), in women of brown color (59.25%), single 50.87%) and the occurrence in a hospital setting (88.99%). Direct obstetric causes (61.46%) were found to have occurred significantly due to eclampsia (12.89%). ***Conclusion:*** the results show that maternal mortality is a serious public health problem and that knowledge about the circumstances and occurrences of maternal deaths is fundamental for the planning of health actions and strategies. ***Descriptors*:** Maternal Mortality; Pregnancy Complications; Epidemiological Monitoring; Unified Health System; Pregnancy Rate; Pregnancy, High-Risk.

RESUMO

Objetivo*:** conhecer o perfil sociodemográfico e clínico sobre a mortalidade materna. ***Método*:** trata-se de estudo quantitativo, transversal e descritivo, sendo o universo da pesquisa composto por todos os óbitos maternos ocorridos no período de 2004 a 2015 no Estado da Bahia/Brasil. Deu-se a coleta de dados por meio de dados secundários disponíveis *on-line* no Sistema de Informação de Mortalidade do Ministério da Saúde. Utilizaram-se para a tabulação e a análise dos dados, o programa *Microsoft Office Excel*, versão 2016, apresentando-se os resultados em forma de tabelas e figuras. ***Resultados*:** constatou-se que **o** número de mortes maternas no período analisado correspondeu a 1.907, com maior prevalência na faixa etária entre 20 e 29 anos (39,12%), em mulheres de cor parda (59,25%), solteiras (50,87%) e a ocorrência em ambiente hospitalar (88,99%). Viu-se que as causas obstétricas diretas (61,46%) ocorreram significativamente por eclâmpsia (12,89%). ***Conclusão: evidenciam-se nos resultados que a mortalidade materna é um grave problema de saúde pública e que o conhecimento sobre as circunstâncias e ocorrências das mortes maternas é fundamental para o planejamento de ações e estratégias de saúde. ***Descritores*:** Mortalidade Materna; Complicações na Gravidez; Monitoramento Epidemiológico; Sistema Único de Saúde; Taxa de Gravidez; Gravidez de Alto Risco.

RESUMEN

Objetivo: conocer el perfil sociodemográfico y clínico sobre la mortalidad materna. ***Método:*** se trata de un estudio cuantitativo, transversal y descriptivo, siendo el universo de la investigación compuesto por todas las muertes maternas ocurridas en el período de 2004 a 2015 en el Estado de Bahía / Brasil. Se dio la recolección de datos a través de datos secundarios disponibles on line en el Sistema de Información de Mortalidad del Ministerio de Salud. Se utilizaron para la tabulación y el análisis de los datos, el programa Microsoft Office Excel, versión 2016, presentando los resultados en forma de tablas y figuras. ***Resultados:*** se constató que el número de muertes maternas en el período analizado correspondió a 1.907, con mayor prevalencia en el grupo de edad entre 20 y 29 años (39,12%), en mujeres de color parda (59,25%), solteras (50, 87%) y la ocurrencia en ambiente hospitalario (88,99%). Se vio que las causas obstétricas directas (61,46%) ocurrieron significativamente por eclampsia (12,89%). ***Conclusión:*** se evidencian en los resultados que la mortalidad materna es un grave problema de salud pública y que el conocimiento sobre las circunstancias y ocurrencias de las muertes maternas es fundamental para la planificación de acciones y estrategias de salud. ***Descriptores*:** Mortalidad Materna; Complicaciones del Embarazo; Monitoreo Epidemiológico; Sistema Único de Salud; Índice de Embarazo; Embarazo de Alto Riesgo.

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INTRODUCTION

It is known that maternal death still represents a public health problem, with the mortality index being one of the indicators of human and socioeconomic development of a country. It is reported that in the world, every minute, a woman dies from complications of childbirth and with a higher proportion of deaths in developing countries, such as Brazil, and it is noticeable that this problem unequally affects the regions of the country.[1]

Maternal death is defined as the death of women during pregnancy or within a period of 42 days after termination of pregnancy due to any cause related to or aggravated by the pregnancy or measures taken in connection therewith, but not due to causes accidental or incidental.[2]

The risk factors in this context during pregnancy are divided into five groups: a) individual characteristics and unfavorable sociodemographic conditions; b) previous reproductive history; c) pre-existing clinical conditions; d) undue or accidental exposure to teratogenic factors; e) Obstetric illness in the current pregnancy and clinical intercurrences.[3]

The causes of obstetric deaths in direct and indirect are classified. The direct ones result from complications arising from pregnancy, childbirth or the puerperium due to interventions, omissions, incorrect treatments or a chain of events resulting from any of these causes. It is emphasized that direct obstetric causes are more avoidable than indirect ones because they are related to the quality of care during the pregnancy-puerperal cycle. On the other hand, indirect causes are due to preexisting diseases or that developed during the period of pregnancy and which were aggravated by the physiological effects of pregnancy.[2,4]

In order to reduce inequalities and improve the Human Development Index (HDI), Brazil has made the commitment through eight initiatives identified as "Millennium Development Goals (MDGs)", among which the maternal mortality.[5] It is highlighted that the country is named by the World Health Organization (WHO) as one of eleven Latin American countries that have made significant progress in reducing pregnancy-related deaths or childbirth in the period 1990 to 2015.[6]

However, in spite of the reduction of the maternal mortality ratio of 141, in 1990, to 68 deaths / 100,000 live births in 2010, Brazil is still far from meeting the target of 35 deaths, agreed in the Millennium Development Goals, [6,7] and a Maternal Mortality Ratio (MMR) equivalent to 56 per 100,000 live births is higher (70%) than the estimated 47 per 100,000 live births.[8]

It is a challenge, therefore, to reduce maternal mortality for health managers, since preventable deaths reach populations with less access to social facilities. It is emphasized that this requires the elaboration of public policies to improve women's access to prenatal care, with qualified assistance from the professionals who care for these women, as well as actions that seek to improve the quality of life and increase the quality of life and spread of health culture of the population in general and of health professionals, in particular.

It is therefore relevant to know the aspects related to maternal deaths from the characterization of socio-demographic and clinical factors for the health area, since it can make it possible to identify the population groups most vulnerable to maternal death, since this understanding is essential for the structuring of public policies and the implementation of interventions aimed at reducing the number of cases.

OBJECTIVE

- To know the sociodemographic and clinical profile of maternal mortality.

METHOD

This is a quantitative, cross-sectional and descriptive study, in which secondary data were collected through the Department of Informatics of the Unified Health System (DATASUS), based on the Mortality Information System (MIS). It should be noted that the research with secondary data represents the use of existing data to investigate issues other than those for which data were collected.[9]

Data was collected to obtain information on maternal mortality by accessing the item "Health Information (TABNET)" in "Vital Statistics" and selecting the topic "Mortality - 1996 to 2015, according to the ICD-10. ICD-10 was established to standardize and catalog diseases and health-related problems established by the World Health Organization and has as a reference the International Classifications of Diseases for access to information on "Deaths of women of age fertile and maternal deaths "by year of occurrence, in addition to correlated epidemiological data referring to the State of Bahia.[3] Compôs-se a amostra foi composta por todos os óbitos maternos registrados no SIM, no período de 2004 a 2015, totalizando 1.907 óbitos.[10]

The diagnoses of women's deaths from direct and indirect obstetric causes were coded using the International Classification of Diseases (ICD), proposed by the WHO, currently in the Tenth Revision (ICD-10).[3]

As inclusion criteria, deaths of women of childbearing age, deaths that had direct obstetric causes as the main factor, and deaths coded in ICD-10, such as: Postpartum haemorrhage (O72) were selected as inclusion criteria; puerperal infection (O85); gestational hypertension without significant proteinuria (O13); gestational hypertension with significant proteinuria (O14) and eclampsia (O14).[3]

Indirect obstetric deaths: AIDS (B20-B24), pre-existing hypertension (O10), maternal infectious and parasitic diseases (O98) and other maternal diseases (O99) were also included in the study, which, although classifiable in another part, can lead to complications in pregnancy, childbirth and the puerperium.[3] In addition, external causes of death were excluded from the study.

For the tabulation and analysis of the data, Microsoft Office Excel software, version 2016 was used, favoring the exploratory analysis of the presented variables in the form of tables and figures.

The study of the Course Completion Work (CBT), from the postgraduate course in Health Management, entitled "sociodemographic and clinical profile of maternal mortality in the State of Bahia / Brazil", was cut. It is noteworthy that the development of this research respected the ethical aspects according to Resolution nº 466/12.[11]

RESULTS

The sociodemographic and clinical profile of maternal mortality occurred in the state of Bahia / Brazil, from 2004 to 2015, with the analysis of secondary data on direct and indirect obstetric causes, is presented. It is revealed that, in this period, the State presented a total of 1,907 maternal deaths.

Table 1. Sociodemographic profile of maternal mortality by age and color / race in the State of Bahia, from 2004 to 2015. Bahia, Brazil, 2017

Age group	n	%	Colour/race	n	%
10 to 14	18	0.94	White	267	14.00
15 to 19	222	11.64	Blakck	302	15.84
20 to 29	746	39.12	Yellow	4	0.21
30 to 39	712	37.34	Brown	1130	59.25
40 to 49	193	10.12	Indigenous	9	0.47
50 to 59	15	0.79	Ignored	195	10.23
Ignored	1	0.05			
Total	1907	100	Total	1907	100

Source: MH/DATASUS/MIS (2004-2015).

Table 2. Sociodemographic profile of maternal mortality by schooling and marital status in the State of Bahia, from 2004 to 2015. Bahia, Brazil, 2017.

Education	n	%	Marital status	n	%
None	127	6.66	Single	970	50.87
1 to 3 years	285	14.94	Married	464	24.33
4 to 7 years	384	20.14	Widow	10	0.52
8 to 11 years	360	18.88	Separated	13	0.68
12 and more	102	5.35	Other	105	5.51
Ignored	649	34.03	Ignored	345	18.09
Total	**1907**	**100**	**Total**	**1907**	**100**

Source: MH/DATASUS/MIS (2004-2015).

Table 3. Sociodemographic profile of maternal mortality in the State of Bahia, from 2004 to 2015. Bahia, Brazil, 2017.

Place of occurrence	n	%
Hospital	1.697	88.99
Another health facility	33	1.73
Residence	71	3.72
Public highway	47	2.46
Others	52	2.73
Ignored	7	0.37
Total	**1907**	**100**

Source: MH/DATASUS/MIS(2004-2015).

Table 4. Causes of direct and indirect obstetric maternal death by ICD 10. Bahia, Brazil, 2017.

Variable	n	%
Main causes of direct maternal obstetric death *	1172	61.46
072 Postpartum haemorrhage	87	7.42
085 Puerperal infection	44	3.75
013 Gestational hypertension with proteinuria signifi.	50	4.27
014 Gestational hypertension with proteinuria signifi.	102	8.70
015 Eclampsia	151	12.89
Other direct causes	738	62.97
Indirect maternal obstetric death *	673	35.29
B20-B24 AIDS	36	5.35
098 Maternal infectious and parasitic diseases classifiable elsewhere, but which complicate pregnancy, childbirth and the puerperium	79	11.74
010 Pre-existing hypertension complicating pregnancy, childbirth and the puerperium	29	4.31
099 Other diseases of the mother, classified elsewhere but complicating pregnancy, childbirth and the puerperium	516	76.67
Other indirect causes	13	1.93
Maternal obstetric death not specified *	62	3.25
Total*	**1907**	**100**

Source: MH/DATASUS/MIS (2004-2015).

Table 5. Moment of Death. Bahia Brazil, 2017.

Variable	n	%
During pregnancy, delivery or abortion	806	42.27
During the puerperium, up to 42 days	693	36.34
During the puerperium, from 43 days to less than one year	97	5.09
Not during pregnancy or puerperium	26	1.36
Inconsistent Informed period	42	2.20
Not informed or ignored	243	12.74
Total	1907	100

Source: MH/DATASUS/MIS (2004-2015).

DISCUSSION

In relation to age (Table 1), the highest number of deaths occurred in the 20-29 age group (39.12%) and the lowest in the age group of ten to 14 (0, 94%). It should be noted that the maternal mortality rate in the State of Bahia in the analyzed period is higher than that recommended by the Ministry of Health, in which the target is 35 deaths per 100,000 live births, as agreed in the Millennium Development Goals.[6-7]

The results of a study carried out in the city of Fortaleza, Northeast of Brazil, from 2008 to 2010, which presented a percentage of 50% of maternal deaths in the age group of 20 to 29 years.[4] On the other hand, in the State of Maranhão, different results were found, with a higher frequency of maternal deaths in the age group 40-49 (42.26%) followed by the age group between 30 and 39 years (27.13%).[12]

The color / race variable was highlighted (Table 1) with the highest prevalence of maternal deaths in brown women (59.25%) followed by black women (15.84%). It is stated that similar findings were found in the state of Piauí, where the highest number of deaths occurred in brown women (61.1%).[13]

Data regarding schooling (Table 2) were found to be more prevalent in women who had between four and seven years of schooling (20.14%) and lower number of deaths in women with 12 or more years of schooling (5.35 %). It is reinforced that those who have between eight and eleven years of schooling presented an approximate percentage (18.88%). We highlight the high percentage of schooling ignored (34.03%), a factor that impairs the trustworthiness of the data.

In this context, the association between low schooling and precarious socioeconomic conditions is a potentially risky situation for the mother and the newborn, which, in addition to hindering access to health information, restricts the capacity for care and attention the health.[14-5]

As for marital status (Table 2), there is a marked difference in the percentage of maternal deaths in single women compared to the other civilian states. It is reported that, when crossing the variables age and marital status, it was found a higher percentage of deaths in single women (50.87%) and age between 20 and 29 years (39.12%). On the

other hand, a study carried out in the city of Teresina-PI showed that most of the women participants presented a favorable situation to the evolution of pregnancy, being married women (35%), single women (27.5%) or in ignored civil status 37.5%).[16]

The socioeconomic status of family income could be directly influenced by facilitating / contributing to the access to health services. It is shown that women who are married or in stable union would have better conditions of access to health, besides receiving support and emotional support from their companions.[16]

It was demonstrated that the place of occurrence (Table 3) with the highest number of deaths was the hospital environment, with 1,697 deaths (88.99%), which corroborates the study of the maternal deaths occurred in Piauí, which also verified the hospital as the main scenario of the occurrence of maternal deaths (85.7%). The guidelines of health professionals during the prenatal consultations become important, as well as the adequate follow-up of pregnant women in reference maternity hospitals.[13]

As for the clinical profile on maternal mortality, 61.46% of the deaths in the period from 2004 to 2015 were due to direct obstetric causes (Table 4). These findings are corroborated with the results of direct obstetric causes in Brazil, which correspond to 66.7% of maternal deaths, mainly hypertensive diseases, hemorrhagic syndromes, abortion complications and closely related puerperal infections to socioeconomic factors.[17]

It was found that the highest percentage of maternal deaths from direct causes (Table 4) was motivated by eclampsia (12.89%). In a study carried out in the city of Recife, Brazil, hypertensive disorders were the main cause of death during gestation and eclampsia as the main cause of hospitalization, confirming the results of this research, 18 nevertheless, The finding was also observed in another country, finding that the disease is strongly associated with severe maternal morbidity, affecting several cultures.[19]

It is understood that hypertensive syndromes are the most relevant complications during the pregnancy-puerperal period. It is reported that, faced with this reality, hypertensive pregnant women require special attention, differentiated prenatal care, with specific laboratory tests, in order to reduce the associated maternal and fetal risks. It is noted that the risky pregnancy that culminates in the death of the woman is an indication of late prenatal initiation, with unsatisfactory number of appointments or lack of prenatal follow-up, which would probably not occur if there was early and adequate identification follow-up of a risky pregnancy from the gestational period until delivery in a reference unit.[8,20]

The main causes of maternal death from indirect causes (Table 4) were other diseases of the woman / woman who caused complications during pregnancy, childbirth and the puerperium (76.67%). It can be noticed that the differences in the causes of maternal death were observed in the Northeast, Southeast, South and Central-West regions. It should be noted that the causes that prevailed equally in this study were other diseases of the woman / pregnant woman, which, although classified elsewhere, bring complications from pregnancy to puerperium.[21]

It should be noted that 42.27% of deaths occurred during pregnancy, childbirth or abortion in relation to the time of death (Table 5). It is also worth noting that, in the face of research, it was noticed that, in the city of Recife-PE, most of the deaths occurred during the precocious puerperium (52.3%).[18]

Measures are involved to reduce the percentage of maternal deaths as an adequate prenatal care, contributing to the early detection and treatment of conditions, as well as identifying and controlling risk factors for pregnant women's health / puerperal, fetus or newborn.[22]

CONCLUSION

Throughout this research, sociodemographic and clinical aspects of women who died during the gestational period were shown by this research, pointing out that women in situations of social vulnerability, characterized by low income and little schooling added to the difficulties of access to health services, were more prone to falling ill and dying from causes directly and indirectly associated with gestation. It is understood that the knowledge of the circumstances in which maternal deaths occur is indispensable for the planning of actions that intend to reduce the percentage of maternal deaths.

In this study, the main causes of death were direct obstetrics, notably those caused by hypertensive disorders during pregnancy, childbirth and the puerperium, occurring during the puerperium or up to 42 days after delivery in women with aged between 20 and 29 years, of color / race, single, with low level of education and who died in a hospital environment.

Clinical and educational programs should be agreed in health planning to reduce the mortality rate and this should be avoided through actions that do not require high technologies such as: family planning, linking prenatal care to childbirth, sex education and health education. It is emphasized that government investments and planning in this area are still hampered by not knowing the real magnitude of maternal mortality due to high levels of underreporting of deaths and / or underreporting.

It is concluded that knowledge about the occurrence and circumstances of maternal deaths is fundamental for the planning of public health actions and strategies in order to reduce such occurrences and of paramount importance for health professionals. The material presented has its usefulness as a theoretical reference to be consulted by the health team, in the attention to the pregnant woman, from a perspective of multidisciplinary care.

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Submission: 2018/07/09
Accepted: 2018/09/26
Publishing: 2018/12/01

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