

PREVALENCE OF MORBIDITY FROM CERVICAL CANCER IN BRAZIL

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Abstract: Malignant alterations in the cervix have been presented as one of the main causes of morbidity and mortality among the female public over the years. This is an aggravating factor since its diagnosis can be easily detected in the initial phase through Pap smears and cytology. The objective of this study was to identify the profile of cervical cancer morbidity in the Brazilian population from 2008 to 2017. An ecological study, which goes back to the past in observations made sequentially over time, starting with secondary data, collected in the DATASUS, exposing the trend of incidence of cervical cancer in Brazil and regions and in the age group from 25 to 64 years in the period between 2008 and 2017. The results found point to a significant downward trend throughout Brazil ($r^2= 0.96$) over the years. This can be analyzed with high numbers of decrease in malignancy presented, with respect to age between 45 and 64 years ($r^2=0.97$ and 0.98) and 25 to 44 years ($r^2=0.86$ and $r^2= 0.90$). In the regions of Brazil, Southeast and South ($r^2= 0.95$ and 0.93), North, Northeast and Midwest ($r^2= 0.73$, $r^2= 0.89$, $r^2= 0.84$), also take this important fall title. This study demonstrates a public health problem among women. More dedication from health professionals is necessary, improving prevention actions, meeting the demand of this population with the intention of reducing the occurrence of mortality due to malignant changes in the uterine cervix.

Keywords: Cervical Cancer, Women's Health, Prevention of diseases, Neoplasms.

INTRODUCTION

Cancer indicates a set of genetic alterations that can be found at different times in its evolution, some of which are in transition to aggressiveness. The site of origin of this cellular alteration is what characterizes the differences in neoplasms found, providing differentiated progression, specific therapies

and unique prognoses. Saying that cancer exists and that it is real in a person's life is not enough to know what they are dealing with, and it is important to research the place where it is installed and the type of cellular alteration found (MINAS GERAIS, 2013).

Cancer is a disease that cannot be characterized as a single condition or with a specific reason. It must be treated as a set of different alterations and for different reasons, symptoms, forms of treatment and varied prognoses. This disease can originate in any system of the body and its form of treatment has effects throughout the body (HINKLE; CHEEVER, 2016).

Intraepithelial lesions can turn into cervical cancer, which is a chronic disease and can become metastatic when it becomes an invader. It usually starts in the squamous tissue of the ectocervix and can give rise to squamous cell carcinoma, or convert into a cervical adenoma that occurs when it originates in the columnar squamous epithelium (INCA, 2011).

This type of cancer presents as a predisposition, women with the presence of chronic infection by some types of Human Papillomavirus (HPV), which is usually acquired in the sexual act, commonly at the beginning of sexual life (INCA, 2016).

Cancer in the incipient period or precursor alterations does not present symptoms, but with the progression of epithelial alterations, signs and symptoms such as pain, discharge and vaginal bleeding can be presented, in different orders of appearance (HORTA, 2018).

Most infections by the HPV virus can spontaneously regress between six and eighteen months. In recurrent infections, the lesion may progress to cervical cancer. Of these, about 99.07% of the cases of progression are found to be high-risk HPV. This process of intraepithelial transformation is slow and can

take years to develop, about 10 to 20 years, subsequent to infection (INCA, 2016).

According to BARBOSA et al. (2016), cervical cancer is among the diseases that most affect women in the world, occupying the position of third incidence, which characterizes almost 10% of cases in regions that are in the process of development, with the opinion of 529,000 cases and 275,000 deaths annually worldwide. There is a notable variation of cervical cancer between countries, with a value above 85% of cases of the pathology shared between regions of medium and low profitability. The disparity in the rates of occurrence found between countries and different regions of the world, point to the prevalence of infection by the Human Papillomavirus (HPV) and the quality of the coverage of the screening plan that deals with the Pap smear (Pap smear) as a screening scheme.

In Brazil, since 1988, cervical cytopathological examination has been the main strategy for detecting uterine cancer. The Pap smear consists of tracking the cervix and allows the evaluation, with the aid of a speculum, of the entire structure of the vaginal canal, cervix, ectocervix and endocervix, tracking sexually transmitted diseases, inflammatory and cellular changes. It is a sensitive, safe and low-cost method that makes it possible to detect precursor lesions and early forms of cervical cancer (MORAES; JERÔNIMO, 2015).

The morbidity attributed is due to the fact of non-adherence to the routine cytopathological examination, since most women only seek the examination when they have gynecological complaints. The lack of adequate knowledge makes them have many doubts about the real value of the screening test and, consequently, a late diagnosis and well-evolved lesions. Behavioral, cultural, social and economic factors, as well as the

organization of health services, interfere in prevention and promotion practices (REIS et al., 2010).

Expanded care, bringing integrality to the user, reflects not only on illness, but on prevention. It is through qualified listening that the user can be linked to the service, increasingly improving the approach and facilitating care, since the patient becomes more confident in health care and thus shows a greater commitment at the moment. to remove doubts and expose your problem (INCA, 2016).

The permanence of cervical cancer in Minas Gerais has a differentiated division between the localities of the state and appears as an important determinant of death among women, pointing to an obligation to improve the way of disseminating information, guaranteeing health management. with better quality (RODRIGUES et al., 2016).

It is important for primary care to comply with what is determined in the health care network so that the population is aware of the follow-up unit closest to their residence, allowing them to search for solutions to problems involving the health of this public. The network plays a considerable role in terms of care for the population, as the user can be linked to other services, if necessary. This is possible by performing qualified listening and quality reception (BRASIL, 2016).

Prevention is instituted in order to reduce new cases and at the same time certify that existing cases are taken care of, reducing the evolution, leading to a focus on the area of health education, offering an understanding of the disease, thus arousing interest in the importance in caring for the health of the population (SILVA et al., 2015).

Based on such observations, this study was guided by the following question: What was the trend of incidence and prevalence of

morbidity from cervical cancer in Brazil in the period 2008 - 2017?

Thus, this work becomes relevant considering how serious this disease is and how important it is to monitor it through epidemiological information. A survey of the trend of incidence and prevalence of morbidity is necessary for planning appropriate strategies to reduce the disease in the population.

Through prevention programs that work on health promotion and education with quality and effectiveness, the risks can be considerably reduced from the early detection of precursor lesions with the objective of treating them and, thus, controlling the development of this disease. type of cancer. Such a neoplasm is considered a disease with high curative potential when detected in early stages.

Therefore, the general objective of this work is to identify the profile of morbidity from cervical cancer in the Brazilian population from 2008 to 2017.

METHODOLOGY

STUDY TYPE

Ecological study, which goes back to the past in observations made sequentially over time, starting with secondary data, exposing the trend of incidence of cervical cancer in Brazil and its regions, and in women aged 25 to 64 years, from 2008 to 2017. The ecological time series study has as its central point of investigation the population of a specific location, with the objective of producing etiological hypotheses regarding the disease addressed. The benefits are classified by the low cost and the facilitation of the search for information, corresponding to accessible secondary data. It makes it possible to provide the effects of a description by presenting a slight variation in the study site and by comparing them (PRODRONOV; FREITAS, 2013).

Observations made over time are also called historical series, where the analysis is exposed based on the order of data spaced regularly in time during a given period (LATORRE; CARDOSO, 2001).

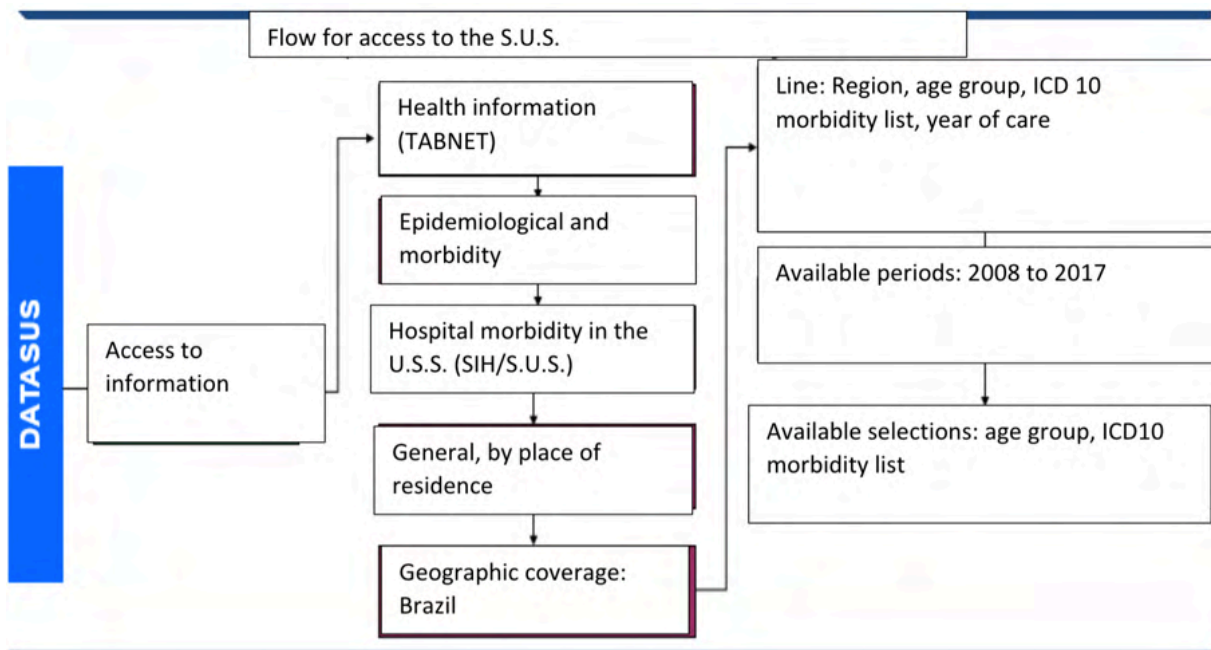
STUDY PLACE

This study was carried out using data collected at the Information Department of the Unified Health System (DATASUS). As this is a morbidity survey that assesses the incidence and prevalence of cervical cancer hospitalizations, the information was taken from the Epidemiological Information System and Hospital Morbidity of the Unified Health System (SIS/SUS) of the Ministry of Health created in 1981., in Curitiba "AIH" system, whose purpose is to record all care that comes from hospitalizations in hospitals financed by the SUS, generating reports so that administrators can pay the health foundations (BRITO, 2016).

SAMPLE SELECTION

In the composition of the sample, data were selected considering the following inclusion criteria:

- Women aged 25 to 64 years. This age group is a priority as a target of the screening program, justified by being among the period where there is a higher frequency of cellular changes with high-grade lesions, being susceptible to treatment effectively to the point of not progressing to a cancerous anomaly. According to INCA (2016), there is an increase in the incidence of cervical cancer in the age group between 30 and 39 years, reaching the apex at 50 or 60 years of life. In the period preceding 25 years, HPV infections and low-grade cell alterations remain, which will possibly spontaneously regress in most cases, and can be followed up with clinical recommendations. Over 65 years of age, if the woman presents the Pap smear



result regularly, without changes, the chance of developing cervical cancer is low, as its evolution is of slow progression.

- Residents in Brazil. Cervical cancer is present as the second most common cancer in Brazilian women. Almost 6% of women in the general public are considered to have HPV 16 or 18 at some point in their lives and 68.2% of invasive cervical cancer can be attributed to this infection (INFORMATION CENTER HPV, 2017).

- Basic cause of morbidity: Cervical cancer, which is classified in the sixth common type of cancer among the Brazilian population and occupies the second place among the female population, thus justifying the study in question (AYRES; SILVA, 2010).

- Period comprised: 2008 – 2017, as it is the period available in the public consultation body, DATASUS.

INSTRUMENT AND DATA ANALYSIS

An electronic mechanism that was built by researchers in the Excel program to obtain

data that calculated the mortality coefficients per 100,000 people per year, by age grouping and by regions of Brazil.

For the realization of this coefficient, in the given period, the following formula was used:

- Number of cervical cancer morbidity in the defined year, divided by the number of people residing in the scheduled year, multiplying the result by 100,000.

The population information was obtained from the Brazilian Institute of Geography and Statistics (IBGE), being the denominators of the rate calculations corresponding to the population by age group according to the data from 2008 to 2017.

The age groups from 25 to 34 were used; 35 to 44; 45 to 54; 55 to 64 years, according to the DATASUS criteria, which groups the population every 10 years.

To investigate the temporal trend of morbidity coefficients, linear regression analysis was performed and the determination coefficients (r^2) were determined through calculations. The variables linked to the

study were the morbidity coefficients and the variables that do not depend on the years of study. The Microsoft Office Excel® program, version 2010, was used to define descriptive analysis, the computation of coefficients, analysis of the temporal slope of the coefficients by linear regression and illustration of images, and for the determination of statistical relevance, the program SPSS (Statistical Package for the Social Sciences®), version 23. Because it addresses a secondary domain, found in the public domain, available on the internet.

PETERNELLI and MELO (2013), exposes that in simple linear regression research, a sequential mathematical account is established that presents the relationship of two variables, one that is dependent and the other that is not, with the intention of calculating the number for a variable, supporting already established values of the other. In the determination given by the coefficient that can be known as r^2 , an auxiliary knowledge is provided to the answer of the regression variance research, as a way of analyzing the recommended example, whether it fits or not to narrate this phenomenon.

Checking the ratio coefficient, we used the references as DAVIS (1971) proposed, where he states that the ideal ratio is $r^2=1.0$, that is, the closer the coefficient of determination approaches one, the better the regression validation. References at intervals of $r^2=0.70$ and $r^2=0.99$ must be classified as very high ratios, from $r^2=0.50$ to $r^2=0.69$, they are classified as substantial or high data, from $r^2=0.30$ to $r^2=0.49$ can be classified as moderate, from $r^2=0.20$ to $r^2=0.29$ the classification is of low index, and in values lower than these, it can be characterized as insignificant. The author also points out that researchers must be using a Table of standardized references.

The results were represented in the form of graphs, tables and discussion according to the

specific literature on the subject.

ETHICAL PROCEDURES FOR CARRYING OUT THE RESEARCH

Considering that the data used in this research are in the public domain, the study project did not need to undergo an evaluation by an ethics and research committee.

RESULT AND DISCUSSION DATA ANALYSIS IN BRAZIL

The research shows that in the period from 2008 to 2017, there were 185,128 hospitalizations due to cervical cancer in the country. Table 1 shows the coefficients of hospitalizations for cervical cancer in Brazil per 100,000 inhabitants, covering the period from 2008 to 2017. It is possible to observe a gradual decrease in the signs of cervical cancer and an average in the coefficients of 35,8, over the years respectively.

Year	Coefficient
2008	45,3
2009	42,0
2010	40,0
2011	37,2
2012	37,4
2013	34,3
2014	31,4
2015	30,9
2016	30,2
2017	29,4
Average	35,8
P	<0,001

Table 1 – Rate of hospitalizations for cervical cancer (/100,000) in women residing in Brazil from 2008 to 2017. Brazil, 2018.

Source: DATASUS/MS, 2018.

When observing the rates of hospitalizations for cervical cancer in the researched period, it can be seen that there was a significant decrease in the same, from the year 2013. This fact may be associated with the measures instituted by the Ministry of Health (MS), for the control and prevention of chronic diseases and cancer.

In Brazil, in 2013, the MS established, through Ordinance 874, the National Policy for Cancer Prevention and Control in the health network for people with chronic problems in the SUS sphere. This ordinance that reaches the cervical neoplastic alterations has as objective, the reduction of morbidity and mortality and the lack of capacity generated by malignant alterations and also the probability of decrease in the incidence, and still collaborate with the prevention, premature identification, therapeutic opportunity and dedication. to the palliative patient (BRASIL, 2013^a).

Also in 2013, Ordinance number 3,394, established the Cancer Information System (SISCAN), which is presented as an alternative on the internet platform that aggregates the Cervical Cancer Information System (SISCOLO) (BRASIL, 2013b) .

The following year, the MS, through the National Immunization Program (PNI), began the journey of immunization through vaccine in girls aged 11 to 13 years. Currently, the age group and the scope of immunization have been expanded by vaccinating boys and girls between 11 and 14 years old, in order to prevent HPV infection (BRASIL, 2018).

In 2015, INCA presented an estimated rate of this neoplasm for 2016 of 15.85 per 100 thousand. In this study, it is possible to observe that the rate in this period reached 30.02 per 100 thousand, as shown in Table 1.

The INCA (2016) justifies this fact by claiming that although the evidence found in a Pap smear is sufficient to establish health

outcomes, the confidence in the estimate is restricted by factors such as the quantity, quality or size of individual studies, lack of consistency in the findings between the individual researches or even the routine practices that lead to the possibility of generalizing the findings.

In order to obtain a better view of the collected data, a graph was constructed that demonstrates the reduction of morbidity coefficients in the period studied.

Analyzing Figure 1, it can be seen that the curve of the coefficients of the incidence of cervical cancer hospitalizations in Brazil varies between 29.4/100,000 to 45.3/100,000, considering the period analyzed from 2008 to 2017 .The decline in the incidence rate of cervical cancer can be determined through the linear regression line that points to a very high downward trend ($r^2=0.96$), which is significant over the years ($p<0.001$).

Differently from what was found in this study, HORTA (2016) states that in Brazil in the period between 2012 and 2014, there were 64,909 female hospitalizations that presented the International Classification of Diseases (ICD) number 10 C53, referring to cervical cancer. . The annual value of this sample is around 21,062. The same author also states that of these, 137 women who needed hospitalization, had the need to stay for 30 days, being characterized as long-term hospitalizations, showing the equivalent of 0.2% of the value referring to hospitalizations in the country.

Justifying the data found in this study, SARZI et al. (2017), claim that the reason why there was a reduction in the occurrence of cervical cancer may be linked to the screening procedures that aim to reach the female public at risk for this morbidity. This also corroborates stating that with the introduction of immunization against HPV, through the National Immunization

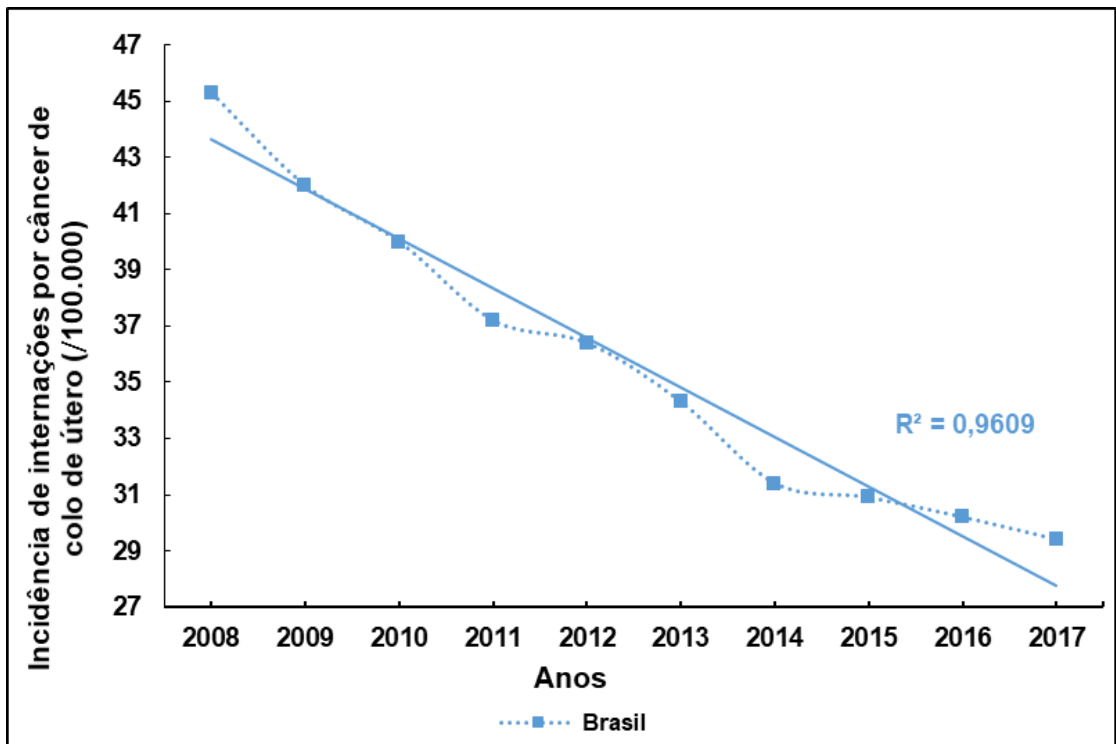


Figure 1- Trend of hospitalizations for cervical cancer in Brazil, from 2008 to 2017. Brazil, 2018.

Source: DATASUS/MS, 2018.

Program, one can expect a reduction in the incidence data of this disease, in all regions of the country, helping as a control mechanism for this neoplasm, resulting in attenuation of morbidity and mortality rates.

Corroborating with SARZI et al. (2017), INCA (2011), states that the regression of hospitalization rates is directly related to the expansion of the National Cervical Cancer Control Program – Viva Mulher. This is a program that presents the vision of strategic actions for the organization of the assistance network, formation of an information process to control actions and systems in order to mobilize and attract women, favoring early diagnosis, better quality in instituted treatments and, consequently, the reduction of hospitalization rates.

However, in this study, the statistical importance of the decrease in cervical cancer

was observed in all periods surveyed, with emphasis on the years 2016 and 2017 with coefficients of 30.2 and 29.4 per 100 thousand, ($p < 0.001$).

DATA ANALYSIS BY REGIONS IN BRAZIL

Table 2 shows the morbidity coefficients per 100,000 inhabitants for neoplastic alterations due to cervical cancer in women living in regions of Brazil, with the South region having the highest coefficient (49.1), followed by the Northeast region (38, 6).

However, the statistical significance related to the increase in hospitalizations for Cervical Cancer remained in all regions of the country in the studied period, from 2008 to 2017 ($p < 0.001$ and $p < 0.002$).

AYRES and SILVA (2010), demonstrate in their research that the amount of study

Year	South	Northeast	Midwest	Southeast	North
2008	66,5	51,0	45,3	35,8	35,9
2009	60,8	45,2	49,7	33,8	33,6
2010	59,2	40,4	44,3	34,3	28,8
2011	53,8	39,7	40,8	30,7	29,7
2012	50,1	38,5	37,0	31,6	28,7
2013	45,7	39,0	33,0	29,0	27,3
2014	40,7	34,6	28,2	27,6	27,3
2015	39,9	33,0	29,6	27,6	25,7
2016	41,0	33,0	31,2	25,3	26,8
2017	38,9	31,1	29,9	25,4	27,1
Average	49,1	38,6	36,9	30,1	29,1
P	<0,001	<0,001	<0,001	<0,001	<0,002

Table 2 – Rate of hospitalizations for cervical cancer (/100,000) in women residing in Brazil, according to regions of Brazil in the period of occurrence from 2008 to 2017. Brazil, 2018.

Source: DATASUS/MS, 2018.

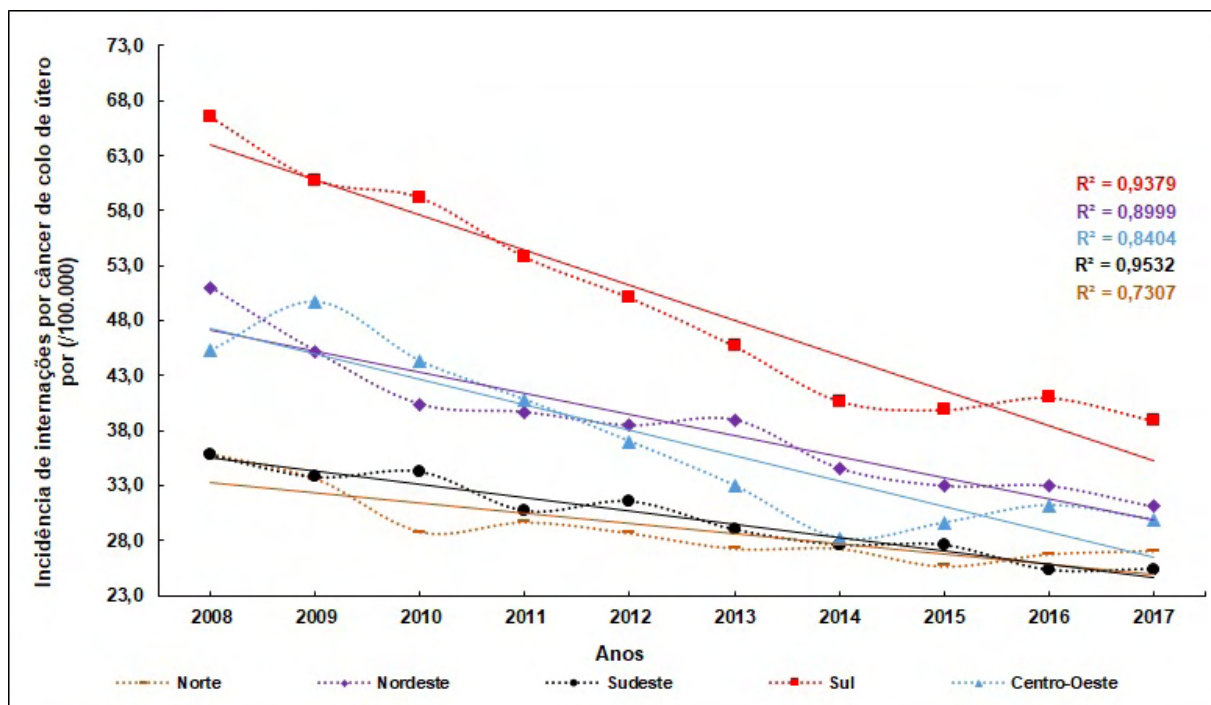


Figure 2 – Trend in the incidence of hospitalizations for cervical cancer in women residing in Brazil, according to regions, with occurrence from 2008 to 2017. Brazil, 2018.

Source: DATASUS/MS, 2018.

on the Papillomavirus and the neoplastic alterations of the uterine cervix, are greater in the following order of regions: Southeast, South, Northeast, North and Midwest. It also states that the highest amount of cervical cancer morbidity can be found in the North and Northeast of the country, which differs from the Table shown above.

According to the Table, the North region has the lowest rates of hospitalization for cervical cancer compared to other regions over the years surveyed. SANTOS and MELO (2010), corroborate stating that in the North region, the reduction of hospitalization for this disease is justified because they present women with disabilities in education related to the exposed risks, deficiency of care and preventive exams, the division of health services and the limitation of access resulting in more advanced identification of the disease.

In order to obtain a better view, a graph was constructed that demonstrates the reduction of morbidity coefficients in all regions of Brazil in the period from 2008 to 2017.

Figure 2 shows the decrease in the incidence rate of cervical cancer in the regions of Brazil per 100,000, in the period from 2008 to 2017. The linear regression shows a significant trend towards a decrease in cases in the Southeast and South, with coefficients respectively $r^2=0.95$ and $r^2=0.93$ ($p<0.001$), however in the North, Northeast, and Midwest regions, ($r^2=29.1$ $r^2=38.6$, $r^2=36$, 9), point to a also significant downward trend, but smaller compared to other regions within the researched period ($p<0.001$; $p<0.002$).

This research demonstrates a significant drop in cervical cancer in all regions of Brazil, but MADEIRO et al. (2016) contrasts in their study by stating that in the Northeast region there were no data that represent the characteristic of a decrease in any of its states, but rather a stability of this morbidity in most of them. MADEIRO et al. (2016), also state

that in Piauí, there was an increase in the morbidity and mortality of cervical cancer and reports that in the Southeast region, especially Minas Gerais, there has been a decrease in the incidence of this pathology.

Data from IPEA (2012) point out that this divergence is explained by the disproportion of admission to health services, considering that Piauí provides data that exposes the economic and social indicators much lower compared to other states in the Northeast and Brazil.

Despite the significant decrease in hospitalization rates for cervical cancer, the MS (2013c), declares itself about the coverage of preventive in regions of Brazil, stating that there are minimal studies that highlight the present day of the Northeast, including in the regions of the interior, in which the human development index (HDI) is lower than the country's average. It also states that most studies demonstrate as a response resulting from the large urban centers, as well as those from the Southeast and South regions, characteristics that stand out in the observations of women who do not undergo the cytopathological examination, which are: age group young, low educational level, lower socioeconomic status and low family income.

SANTOS and MELO (2010) state that cities located in metropolises welcome a large number of external audiences because they present themselves as a core of attraction, accumulating the largest number of health care services, and these have numerous specializations with therapeutic resources. for cancer. This same author also considers that the states of Minas Gerais, Rio de Janeiro and São Paulo have high rates of inter-municipal reception and points to an inequality in terms of the coverage of Brazilian women, stating that in the North region the coverage is 25 %, in the Southeast region, the coverage reaches 80% of the female population.

SARZI et al. (2017), corroborates this study, stating that the number of morbidity from cervical cancer in the South region is greater than mortality over the years and associates this fact with early identification and the therapeutic follow-up offered to the female public that resides in this region. territory. The same author also analyzes the situation related to the morbidity and mortality of this pathology in SUS hospitals, where she makes observations placing this disease as a model of unstable evolution, presenting variations between different ages and regions of Brazil, also mentioning that the instability of the evolution of the disease, in addition to regionalization, the quality of health services and the way in which it is registered in the Information System, factors may be presented as problems that directly interfere with information on morbidity and mortality in the country.

Collaborating with the findings of this research, data from CONASS (2011), he points out that even in the Northeast region, it is possible to find a proportion of women who have never had the preventive examination or who are not up to date with this control, having the last one performed there more than three years, which may explain the low rate of coefficients in relation to the South.

In the results of this research, it is possible to verify that the South region presents high rates of cervical cancer in comparison with the other regions, in the researched period. ZINHANI et al, 2018, corroborates these data and justifies them, pointing out the concern of professionals who work in primary care, in developing actions to reach the female population of the South region, detecting cervical changes early and making notifications in a more efficient way. adequate, this being a valuable example of health care.

HORTA (2016), in his study corroborates this study when he states that the

metropolitan region of Porto Alegre had 746 hospitalizations through the Unified Health System (SUS), and of these 145 reached mortality from cervical cancer in the period of 2013., but the author does not confirm the veracity of the admissions. The author also states that in this metropolitan region, its municipalities and the municipalities of the region of São Leopoldo, there were concentrations of 91% of hospitalizations in 2013 and that of the 2,142 hospitalized in Rio Grande do Sul, 82.2% were hospitalized in Porto Alegre., leaving the second position for São Leopoldo with 167 (7.8%) and the third place for the municipality of Novo Hamburgo, presenting 62 (2.9%) of hospitalizations, thus evidenced that the patient's region of residence may not be their hospitalization, many of them from metropolitan regions.

According to the same study carried out by HORTA (2016), in the period between 2012 and 2014, of the 64,909 hospitalizations that occurred in the country, 4,916 were in Rio Grande do Sul and 59,993 in other regions of Brazil, different from what was entered in the study in question.

ANALYSIS OF DATA BY AGE

In Table 3, there is a representation of incidence of cervical cancer in women aged 25 to 64 years in Brazil per 100 thousand, in the period between 2008 and 2017. There was a significant decrease in hospitalizations for the represented disease, cervical cancer, ($p < 0.001$), with an average coefficient of 17.9, 41.4, 50.2, 42.9 over the years, in due order.

The statistical importance related to the decrease in hospitalizations for Cervical Cancer can be seen in the range of all age groups ($p < 0.001$).

Graphs were constructed to better visualize the reduction of morbidity coefficients by age group, through the linear regression line and calculation of the coefficient of determination.

Year	25 to 34 years	35 a 44 Years	45 a 54 years	55 a 64 years
2008	20,2	56,3	66,8	49,1
2009	19,6	50,3	60,7	49,0
2010	19,1	46,7	58,5	46,3
2011	17,4	42,1	54,6	45,8
2012	16,9	42,9	51,5	44,1
2013	16,6	38,5	48,5	42,1
2014	15,5	34,9	42,9	40,5
2015	16,1	34,4	40,6	39,6
2016	15,7	35,1	39,4	36,6
2017	15,8	33,1	38,0	35,9
Average	17,9	41,4	50,2	42,9
P	<0,001	<0,001	<0,001	<0,001

Table 3 - Rate of hospitalizations for cervical cancer (/100,000) in women aged 25 to 64 years residing in Brazil, according to age group and year of occurrence, 2008 to 2017. Brazil, 2018.

Source: DATASUS/MS, 2018.

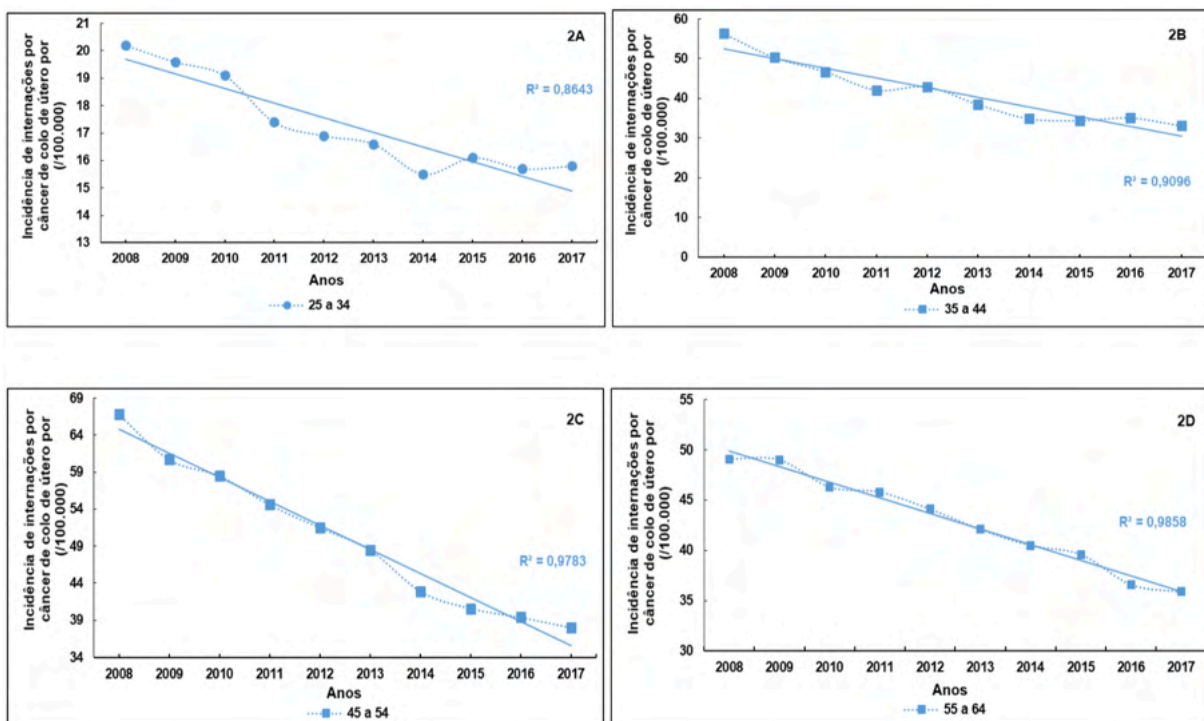


Figure 3 – Cervical cancer morbidity trends by age group, residents in Brazil, according to year of occurrence, 2008 to 2017. Brazil, 2018.

Source: DATASUS/MS, 2018.

In graphs 2A, 2B, 2C and 2D, there is a representation of the curves of incidence coefficients of hospitalizations for cervical cancer in women aged between 25 and 64 years, ranging from 15.5 per 100,000 to 66.8 per 100 thousand, considering the period under analysis, from 2008 to 2017. The decrease in the incidence rate of hospitalization for cervical cancer is shown through the linear regression line that points to a high downward trend in all age groups with the variation of the coefficient from $r^2=0.86$ to $r^2=0.98$.

This study resulted in a high rate of reduction in cervical cancer for all women aged between 25 and 64 years, from 2008 to 2017. In graphs 2A and 2B, a high variation can be observed in the decrease in the studied morbidity, but with fluctuations during the researched periods ($r^2= 0.86$ and $r^2=0.90$), on the other hand, in the 2C and 2D graphs there was a greater linearity, showing high evidence of a decrease in the same period ($r^2= 0.97$ and $r^2 0.98$).

INCA (2011) confirms the research data by highlighting that in the period from 2008 to 2012 there was a decrease in the incidence of cervical cancer in the female population aged below 60 years and considers an increase in the disease among the elderly population., disagreeing with the result of this study. The same author associates this fact with the increase in the approach and extension of actions related to the prevention and early identification of neoplastic alterations, mainly with the beginning of the National Program for the Control of Cervical Cancer - Viva Mulher, in 1998, which covered across Brazil.

ANVISA (2011) corroborates, declaring that the drop in morbidities due to this neoplastic alteration, cervical cancer, is linked to health actions installed in the 1930s, referring to Pap smears. However, CHAGAS and NEVES (2013) disagree with

this statement and declare that in countries in progress, neoplastic alterations of the uterine cervix remain, finding one of the most frequent causes of death in women.

RICO and IRIART (2013), justify this last fact with causes that may be associated with non-adherence to the Pap smear, such as lack of clarity, cultural issues involving modesty, apprehension, insufficient knowledge on the subject., the complexity of entering health service providers and their quality characteristics, in addition to low socioeconomic conditions.

SARZI et al. (2017), agree that neoplastic alterations are usually present in women in more vulnerable situations, but justify that this happens because they encounter obstacles to access the network of health services that are able to detect and treat precursor lesions even before the disease. reach levels of malignancy. The same author also reaffirms that in addition to the geographic complexity, the financial difficulty and the fear of suffering prejudice by their spouses can be difficulties detected in the midst of this group.

VILAÇA et al. (2012), in their study, highlights that before 2011, the preventive was recommended by the National Program for the Control of Cervical and Breast Cancer - Viva Mulher, only for women with the age limit of 59 years and that today this age was expanded to 64 years. He also mentions that with the research on the severity of neoplastic alterations, it was possible to observe that adult patients get their diagnosis at earlier stages of the pathology, compared to elderly patients.

SARZI et al. (2017), verifies the data from 2008 to 2012 that show the trend of reduction in the incidence of neoplastic alterations due to cervical cancer in the female public of young age group and also states that cervical cancer initially manifests itself in women aged between 20 and 29 years, increasing their risk

in rapid proportion when reaching the peak of the age group of 50 to 60 years.

Still over 60 years old, SARZI et al. (2017) and TEIXIERIA et al. (2012), corroborate, reporting in their research that the increase in the incidence of the pathology in question, in the female public aged over 60 years, is possibly associated with a lack of actions and also of planning in the care and coping with cervical cancer., such as the insufficient coverage of the preventive examination in the youth period of these women. These authors also point out that another factor that possibly caused the increase in morbidity in ages over 60 years may be associated with increased survival in Brazil. They also corroborate highlighting that increasing age is a contributing factor to the emergence of diseases such as cancer, since this factor naturally causes cellular changes, increasing the risk of developing malignancy.

FINAL CONSIDERATIONS

Evidencing as a pillar the research carried out, there was the possibility of making public the morbidity rate due to neoplastic alterations of the uterine cervix in Brazil in the investigated period. It can be seen that the morbidity from this disease showed a variation of decrease throughout Brazil, in all age groups under study and also decrease between the regions of the country, in the period from 2008 to 2017.

The early detection of cervical cancer increases the possibility of becoming curable, as it is a pathology of popular epidemiological forms and can be prevented.

The Pap smear is a way of reducing the morbidity and mortality of this cancer, since it is possible to simply and safely detect the first neoplastic changes.

However, even with the reduction of the disease coefficients seen in this study, the morbidity from cervical cancer is still very high, thus, it becomes noticeable that the

current actions for its precaution cannot reach the entire female population and especially those who are predisposed to the development of this pathology.

It is essential to update the measures to be taken so that there is an increase in the coverage rate of investigation of cervical cancer, so that the unreached population can have this access and prevention of this malignancy. Since the screening brings the security that the earlier it is diagnosed, the greater the possibilities in the use of resources and less complex treatments with low cost and greater effectiveness, causing less concern to women and, as a consequence, reducing the death rate. for this neoplasm.

It is salutary to highlight the role of nurses in primary care aimed at raising awareness of women about the prevention and early diagnosis of cervical cancer, mainly through health education, and the same can enjoy interactive strategies that allow the involvement of the female public. for the exercise of conscious and safe actions. For this, the professional needs to have access to and be encouraged to carry out technical training that collaborates to improve their professional training, emphasizing the active search for women who failed the exam or who were unable to attend the follow-up appointment to evaluate the result of the exam., facilitating the scheduling of appointments, opening spaces for appointments through community health agents, via telephone or at the unit itself, thus creating a link between the community and the health service.

The study carried out had important limitations regarding the literature review, since despite being a subject with a lot of information and research carried out, the focus is based on mortality and not morbidity.

Another limitation can be considered by the non-differentiation of data on the incidence and prevalence of cervical cancer.

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