

Process indicators in the Program for Humanization of Prenatal Care and Childbirth in Ceará State, Brazil: analysis of a historical series (2001-2006)

Indicadores de processo do Programa de Humanização no Pré-natal e Nascimento no Ceará, Brasil: análise da série histórica 2001-2006

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Abstract

This was a descriptive, exploratory, documental study of trends that aimed to analyze process indicators in the Program for Humanization of Prenatal Care and Childbirth in Ceará State, Brazil, from 2001 to 2006. The authors analyzed data from 312,507 pregnant women. In 2001, the year the program was implemented in the State, the system tabulated data for three of the seven process indicators; beginning in 2002, all indicators were tabulated. Total enrollment of pregnant women was the only indicator that increased every year until 2006, while the other indicators increased from 2002 until 2005, but declined from 2005 to 2006. When combining the completion of six prenatal visits with a postpartum visit, routine laboratory tests, or both, the percentages declined. Tetanus immunization reached the highest percentage in 2002 (68.34%), decreasing to 60.86% in 2006. The combination of six prenatal visits, a postpartum visit, laboratory tests, tetanus immunization, and HIV test was the indicator with the lowest percentage for the State (15.67%), although it was higher than the national average. Even considering flaws in the use of the Prenatal Care Information System, it is unacceptable that prenatal care still lacks complete coverage for such basic elements as routine laboratory tests and tetanus immunization.

Delivery; Prenatal Care; Pregnant Women

Introduction

In the 1980s, specifically in 1984, the Brazilian Ministry of Health launched the Program for Comprehensive Women's Health Care (PAISM), in which the guidelines for prenatal care recommended: permanent discussion with women on the importance of prenatal care; early enrollment of pregnant women in prenatal services (in the first trimester); periodic and continuous follow-up of all pregnant women in the respective coverage area; a referral and counter-referral system to guarantee care at the various levels of complexity; properly trained human resources; adequate physical space, with the necessary equipment; laboratory support for primary care units; instruments for data recording, processing, and analysis; and permanent evaluation of activities¹.

Beginning in 1994, with the advent of the Family Health Program (FHP), prenatal care gained new impetus, now with greater proximity to the local health teams in the pregnant women's area of residence, improving access and the number of prenatal visits per patient. Still, the quality of prenatal care is questionable when the principal causes of maternal mortality persist, with eclampsias, hemorrhages, and infections, all amenable to diagnosis and control with the available knowledge and technologies. Thus, under *Ruling GM/MS n.º 569*² the Brazilian Ministry of Health launched the Program for Humanization of Prenatal Care and Childbirth

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(PHPN), aimed at the development of measures for health promotion, prevention, and care for pregnant women and newborns, guaranteeing access, quality, and installed capacity for obstetric and neonatal care, as well as the program's organization and regulation within the Unified National Health System (SUS). Criteria were set to upgrade prenatal visits and promote the link between outpatient and childbirth care, with three elements: (i) encouragement for prenatal care within the SUS; (ii) organization, regulation, and investments for in-hospital obstetric and neonatal care; and (iii) establishment of a new payment system for childbirth care. According to the same Ruling (Addendum I), health services that enter the program should adhere to the following minimum set of procedures: (1) hold the first prenatal visit by the fourth month of pregnancy; (2) hold at least six prenatal visits, preferably one in the first trimester, two in the second, and three in the third trimester; (3) hold a postpartum visit within 42 days of delivery; (4) conduct a minimum set of laboratory tests including ABO-Rh, HB/HCT, urine analysis, and HIV at the first visit, and VDRL and fasting blood glucose at the first visit and at the 30th week of gestation; (5) tetanus immunization; (6) educational activities; (7) classification of gestational risk; and (8) referral in cases of high-risk pregnancy.

The program is unprecedented to the extent that it: is an intervention for a developing country; provides guidelines for different levels of care; describes the minimum requirements for care, with financial incentives conditioned on adherence to such requirements; proposes an information system that allows the local system administrator to identify and correct flaws and define process, results, and impact indicators for its evaluation. In the authors' opinion, having extensively consulted the literature, no program with such a format was identified in other countries³.

Considering the above-mentioned context and the authors' experience in the field of obstetrics and the fact that they occupy health policy management positions in the FHP and the Community Health Agents Program in municipalities in the State of Ceará, and due to the lack of a previous study on process indicators for prenatal care in this State of Brazil since the program was implemented, the decision was made in 2000 to conduct the current study, with the objective of analyzing its process indicators in the State of Ceará.

On-going evaluation of the PHPN is necessary in order to improve its quality and ensure better results for maternal and perinatal health³.

Methodology

This was a descriptive and exploratory study of trends. Descriptive analyses aim to observe, describe, and classify a variable as a phenomenon in a given population. In addition to describing the phenomenon, exploratory research investigates the dimensions and the way by which the interrelated factors are manifested, providing an interpretation in line with the study's specific scenario and other authors' findings in diverse scenarios⁴.

The Prenatal Care Information System (*SisPreNatal*) indicators were designated for the study, namely: (1) percentage of pregnant women that enrolled in the program and appeared for the first visit by the fourth month, divided by the target population (actual number of pregnant women, estimated by the number of live births in the municipality); (2) percentage of pregnant women enrolled who completed six prenatal visits; (3) percentage of pregnant women enrolled who completed six prenatal visits and the postpartum visit; (4) percentage of pregnant women enrolled who completed six prenatal visits and all the routine lab tests; (5) percentage of pregnant women enrolled who completed six prenatal visits, the postpartum visit, and all the routine lab tests; (6) percentage of pregnant women enrolled who received tetanus immunization; and (7) percentage of pregnant women enrolled that completed six prenatal visits, the postpartum visit, all the basic tests, the HIV test, and tetanus immunization. This choice was relevant for the authors since it allowed an in-process analysis of prenatal care, with possibilities for dealing with gaps at the local level.

The data were collected by the Health Information Division of the Ceará State Health Secretariat, made available by the Information Technology Department of the Unified National Health System (DATASUS), under the Ministry of Health: the State *SisPreNatal* (DATASUS, <http://www.datasus.gov.br/sisprenatal/sisprenatal.htm>). Data were analyzed for 312,507 pregnant women registered in the *SisPreNatal* from July 2001 to August 2006. The Pregnant Woman's Registration Form is filled out during the first prenatal visit by the attending physician or nurse, and the registration number is annotated on the woman's card. The attending physician or nurse is also responsible for completing the Pregnant Woman's Daily Care Form at all the subsequent visits⁵. The system is fed at the municipal level by the Family Health Program teams, which consolidates and sends the data to the State Health Information Division (CERES), which in turn transfers it to the Ceará State Health Secretariat. The *SisPreNa-*

tal) prepares and provides the process indicators, basing its calculations on the estimated number of live births in that municipality during the same year. However, to obtain the process indicator – the percentage of pregnant women that enrolled in the Program and had their first prenatal visit by the fourth month, the total number of pregnant women is used.

The results were presented in a single table, with the process indicators year by year.

The research project was approved by the Institutional Review Board of the Federal University in Ceará and complied with the guidelines of *Ruling no. 196/96* of the National Health Council, which deals with research involving human beings. Although it was not direct research with human beings, but only processing of data related to them, the study complied with the relevant fundamental ethical principles ⁶.

Results

We now present the process indicators for the *SisPreNatal* in Ceará State from July 2001 to August 2006, as consolidated in Table 1. The study period corresponds to the beginning of the program in the State until the date when the study was performed. Importantly, by 2003, the 184 municipalities in the State had signed the term joining the PHPN. Although Table 1 only shows

relative data, since the process indicators are expressed as percentages, the following text incorporates the absolute values.

Over the course of the six years, the Information System on Live Births (SINASC) of the Ceará State Health Secretariat received reports of 691,001 live births in Ceará, while only 312,507 pregnant women, i.e., 45.23% of the number of live births, were enrolled in the PHPN ⁷. Importantly, during the first three years of the program (2001-2003), gestational age of four months or less (120 days), calculated on the basis of the date of last menstrual period, was a requirement for enrolling pregnant women in the program, which partially explains the low enrollment rate. As a result of this criterion, although many pregnant women had their prenatal visits, their data were not recorded in the *SisPreNatal*, thus representing a loss of important information for evaluating the program. This requirement was intended to increase the early enrollment of pregnant women in prenatal care, but it involved an unintentional error, because when pregnant women were not officially enrolled, it jeopardized the monitoring of indicators and generation of additional resources for other program activities like consultations, laboratory tests, and childbirth care. To correct this distortion, in 2003 the Ministry of Health modified the enrollment of pregnant women, authorizing their inclusion in the PHPN regardless of gestational age. In terms of reim-

Table 1

Process indicators (%) for pregnant women enrolled in the Program for Humanization of Prenatal Care and Childbirth (PHPN), according to in the Prenatal Care Information System (*SisPreNatal*) and year. Ceará State, Brazil, 2001-2006.

Process indicators	Year						
	2001 *	2002	2003	2004	2005	2006 **	Mean
	%	%	%	%	%	%	%
Pregnant women enrolled in the program that had their first prenatal visit by the fourth month of pregnancy, divided by target population (number of live births)	9.11	32.73	46.67	46.49	62.75	64.17	44.39
Pregnant women enrolled, with at least six prenatal visits	5.66	34.63	32.69	36.49	36.55	22.92	37.87
Pregnant women enrolled, with six prenatal visits plus postpartum visit	-	20.45	22.47	24.09	27.78	14.89	19.50
Pregnant women enrolled, with six prenatal visits and all routine lab tests	1.82	21.83	23.90	26.30	27.67	16.03	27.41
Pregnant women enrolled, with six prenatal visits, postpartum visit, and all routine lab tests	-	14.11	17.60	19.62	23.44	12.47	15.95
Pregnant women enrolled who received correct tetanus immunization	-	68.34	64.34	65.46	66.97	60.86	66.73
Pregnant women enrolled, with six prenatal visits, postpartum visit, all routine lab tests, HIV test, and correct tetanus immunization	-	13.00	17.21	19.32	23.03	12.30	15.67

Source: Health Information Nucleus; Ceará State Health Secretariat ⁷.

* Data from July (beginning of implementation of the PHPN) to December;

** Data from January to August.

bursement, late enrollment failed to generate the BR\$10.00 in funds for early uptake of patients, and an additional BR\$40.00 in reimbursement was lost when all the requirements for prenatal follow-up were not met, including the postpartum visit up to 42 days after childbirth. In epidemiological and evaluation terms, this corrective measure allowed consolidating the process indicators according to the reality of prenatal care provided in the country. Beginning in 2004, the *SisPreNatal* began reporting the overall percentage of pregnant women enrolled and the percentage of pregnant women enrolled before day 120 of pregnancy.

In 2001, which marked the beginning of implementation of the program in the State of Ceará, the system only tabulated data for three of the seven indicators. Starting in 2002, all seven indicators were tabulated. Total enrollment of pregnant women was the only indicator that increased every year through 2006, while the others increased from 2002 through 2005 but declined from 2005 to 2006. To the extent that the variable "at least six prenatal visits" was combined with the postpartum visit variable and/or with the lab tests variable, the percentages declined. Tetanus immunization reached the highest percentage in 2002 (68.34%), decreasing to 60.86% in 2006. The complete prenatal care indicator, combining the six prenatal visits, the postpartum visit, the lab tests, tetanus immunization, and HIV test, was the lowest indicator every year, with a mean of 15.67%.

The historical series of percentages of pregnant women enrolled in the program and who had the first prenatal visit by the fourth month of pregnancy, divided by the target population (number of live births) showed an increase of 7.04 percentage points from July 2001 to August 2006. In 2001, only 1,290 pregnant women (9.11%) were registered in the program, but by August 2006 there were 199,180 (64.17%), with an increase year by year.

There was an increase of 4.04 times in the percentage of pregnant women with six prenatal visits comparing the first year of the program, 2001 (5.66%), with 2006 (22.92%). The number of prenatal visits increased from 2001 to 2002, decreased in 2003, and increased again in 2004 and 2005, when the highest percentages were recorded. In 2006, the number of women with at least six visits dropped off again by 62.7% in relation to the previous year (highlighting, however that the data for 2006 are only complete until August). The mean proportion of pregnant women with at least six prenatal visits was 37.87% for the entire series, which is still low in view of the target agreed upon by the mu-

nicipalities (80% to 90%). Even so, the results for Ceará were higher than the national average of 20% in 2002.

The percentage of pregnant women enrolled and who had at least six prenatal visits plus the postpartum visit increased from 2002 to 2005, and dropped by 30.84% in 2006 as compared to the previous years, since data for 2006 were only complete up to August. There was no record of this indicator for 2001.

The percentage of pregnant women enrolled who had six prenatal visits and all the routine lab tests varied from 1.82% (2001) to 27.67% (2005) and was another indicator that dropped in 2006, when the proportion was 16.03%, or 28.4% less than the previous year (again, the data for 2006 were only complete up to August). There was an upward trend in 2002, 2003, and 2004, reaching 21.83%, 23.9%, and 26.3%, respectively.

There was no record for the percentage of pregnant women that received tetanus immunization in 2001, and the highest rate was in 2002, with 68.34%. In 2003 the rate dropped to 64.34%, and increased in 2004 and 2005, but at stable levels. In 2006, since the data were only complete until August, it dropped again to 60.86%, the lowest level for the entire historical series. The proportion of pregnant women who received tetanus immunization in Ceará was 66.73% for the historical series as a whole.

The percentage of pregnant women registered in the program that had six or more prenatal visits, plus the postpartum visit, routine lab tests, HIV, and tetanus immunization, that is, the percentage of women that met all the guidelines of the Humanization Program, was 15.67% for the series as a whole, with the highest rate in 2005 (23.03%). These rates are more than double the national figures from the *SisPreNatal*, since the countrywide proportion was 10.12% for the same period⁷.

Discussion

Early enrollment of pregnant women should be a priority for prenatal care, since it favors both the woman's bond with the health team and early diagnosis of possible risk factors, thus preventing or ameliorating avoidable complications and sequelae and helping reduce maternal and infant morbidity and mortality^{8,9}.

The increasing enrollment of pregnant women in prenatal care, as occurred in the State of Ceará, has also taken place at the national level, a phenomenon that has been attributed to adherence by municipalities to the PHPN, greater command by health workers over the procedures

required in the enrollment, and overall improved data management in the *SisPreNatal*^{10,11}. This reasoning was taken by the above-mentioned authors to explain the insufficiency of records for all the indicators during the first year of the program, which we corroborated and used to justify the same outcome in the State of Ceará.

The Brazilian Ministry of Health recommends that every pregnant woman have at least six prenatal visits, with one in the first trimester, two in the second, and three in the third¹². Six prenatal visits are considered the minimum for ensuring surveillance of risk factors and measuring the parameters that identify healthy or unhealthy evolution in the pregnancy. Prenatal visits also provide a moment for exchange between the health team, the pregnant woman, and her family in order to prepare them for the birth and postpartum period, enabling them to experience these moments with greater autonomy and security. However, even with an increase in the average number of prenatal visits per woman, the maternal and perinatal mortality rates are still high in Brazil, denoting poor quality of the prenatal care even after the interventions resulting from the PHPN¹³.

According to the SINASC, Brazil as a whole provided an average of 4.4 prenatal visits per pregnant woman in 2002, as compared to 6.4 by the State of Ceará¹⁴. For the country as a whole, the number of prenatal visits per pregnant woman (for patients giving birth in the SUS) increased from 1.2 in 1995 to 5.45 in 2005, but with major regional differences in the North and Northeast⁷. However, these data on the number of prenatal visits per pregnant woman differ from the results provided by the *SisPreNatal*, which show much lower numbers, suggesting underreporting, since there have been undeniable efforts to expand prenatal consultations nationwide.

During postpartum, the mother and newborn are exposed to biological, psychological, and social complications, since both face a new and challenging reality. Newborns need to adapt to their new habitat, now less protected from infections and external agents; mothers deal with their non-gravid body, while experiencing the discomforts of its involution as well as the progression of breastfeeding. Eating habits, liquid intake, physiological necessities, sleep, and rest are all altered and require the health team's support, making the postpartum consultation essential. Even when the woman has already gone through motherhood before, this new postpartum period is always a unique experience. In addition to dealing with physiological and psychological changes, she faces overlapping roles (as a homemaker, wife, and patient, besides breastfeeding)

that entail intense dynamics, thus demanding support¹⁵. In this context, she should have her postpartum visit within 42 days after childbirth, as recommended by the Humanization Program, since this is the best period for strengthening the bond between the health team and the family, reinforcing the importance of exclusive breastfeeding, and providing orientation in the areas of family planning and sexuality¹⁶.

Access by pregnant women to the routine laboratory tests recommended by the program ensure greater safety in prenatal follow-up, since they aim to detect risks and/or existing complications, such as: Rh incompatibility (Rh factor), anemia (complete blood count), diabetes (fasting blood glucose), urinary infection and/or renal impairment (type I urine test), syphilis (VDRL), and HIV (HIV antibody test). These conditions can be sub-clinical and thus go unnoticed, posing a threat to maternal and fetal health. It is thus unacceptable that prenatal care in the State of Ceará continues at the mercy of lack of supply of such tests. We recall that as part of adherence by municipalities to the PHPN, it was the responsibility of the municipal administrator to designate the laboratory service in charge of providing such testing to pregnant women. Many municipal administrators were surprised when they estimated the annual needs for lab tests to serve pregnant women, since the demand would have corresponded to nearly the entire available supply of laboratory tests by the municipality. In other words, the installed and/or negotiated laboratory capacity in the municipalities was inferior to the demand.

Although research indicates that neonatal tetanus is easily preventable, some 300 thousand children still die of the disease in the world every year, and lack of access to vaccination is the main cause. In Brazil, some 500 cases of neonatal tetanus were reported in the last 10 years, with slightly over 100 cases nationwide from 2001 to 2006¹⁷. Tetanus vaccine is available in Brazil in all the basic health units and national campaigns that are held to immunize the population from 12 to 49 years of age, thus anticipating the health sector's response to this task. Still, the Ministry of Health and Ceará State Health Secretariat emphasize that it is necessary to guarantee 100% vaccination with tetanus toxoid in childbearing-age women in order to ensure the eradication of neonatal tetanus¹⁸. In Ceará, few cases of neonatal tetanus have been reported. Five cases were reported from 2000 to 2005, with two deaths. In one of the cases, the pregnant woman had two prenatal visits, but only received one dose of the vaccine; the other woman had two prenatal visits, but no vaccine. One case was notified initially

in 2006, but the report was terminated when the laboratory diagnosis turned up negative¹⁹.

Due to the increase in HIV cases among childbearing-age women, children have become a growing risk group for the infection, with a clear increase in the number of children born infected, through mother-to-child transmission²⁰. Since the first case of HIV/AIDS in Ceará, as of late 2005 the State had recorded 144 cases of vertical HIV transmission, so it is important for every pregnant woman to have an HIV test as early as possible. Early antiretroviral prophylaxis for the mother and child soon after diagnosis significantly reduces the odds of vertical transmission. A multi-center study published in 1994 and known as Aids Clinical Trial Group 076 (ACTG 076), held in the United States and France, with pregnant women who did not breastfeed subsequently showed a 70% reduction in vertical transmission with antiretroviral treatment during pregnancy, labor, and childbirth, in newborns that were fed exclusively with artificial infant formula²¹. In 1996, with the advent of highly active antiretroviral therapy (HAART), there was an improvement in the survival of individuals with HIV infection and a reduction in the vertical transmission rate. Studies in 1999 proved that HAART associated with elective cesarean reduced the vertical transmission rate to less than 1%²¹.

The completion rate for prenatal care (in keeping with the guidelines of the PHPN) is associated with factors related to the pregnant woman herself, such as non-adherence for personal, family, or cultural reasons; or an unfavorable socioeconomic situation that hinders her access to the health service. Institutional factors can also come into play, like high turnover of local health professionals or administrators, thereby jeopardizing both the bond with the patient and continuity of care; inadequacy of the prenatal consultation itself due to insufficient professional training and/or deficient infrastructure and material resources; sloppy work habits, reproducing errors and omissions in data reporting; lack of support from the administration, due to insufficient knowledge of the Program and the *SisPreNatal*. This reality bears striking similarities to the context in São Paulo, for example²².

To achieve full quality of prenatal care when planning, building, and implementing a public health policy like the PHPN requires that the efforts result in tripartite management, with shared responsibilities based on the degree of case-resolving capacity at each level of government. Local needs guided by the principles of the country's prevailing legislation, like the Management Pact, the Pact in Defense of the National Health System, the Pact for Life, and Ministry of

Health Ruling nº. 648/2006 (which regulates primary health care in Brazil), set the stage for the development of the PHPN.

The *SisPreNatal* provides reports and indicators that allow controlling, regulating, and monitoring the supply of obstetric care. As in the current study, it allows an overview of the care provided, which is still characterized as worrisome and challenging, but with gains incorporated year by year in all the indicators (except from 2005 to 2006, but which was justified by the fact that the data were only tabulated until August in that year).

Even with social problems like hunger, malnutrition, violence, and poverty plaguing the North and Northeast of Brazil, Ceará has made progress, displaying percentages in the process indicators that reflect an improvement in the quality of prenatal care year by year, surpassing the national average.

Although by definition, humanization is part of the identity of the PHPN, the concept itself was excluded from the process indicators, none of which touched on aspects of humanization, but rather only clinical and laboratory parameters. At any rate, the underlying concepts in the Program's creation and the analysis conducted in the current study were based on the premise that humanization of prenatal care requires the fulfillment of a set of basic procedures in order to prevent complications in pregnancy and guarantee every woman's fundamental right to conceive, carry a pregnancy, and give birth safely.

Based on our perceptions as health care professionals and administrators, we contend that in general the municipalities in the State of Ceará still have a long way to go to include evaluation as a systematic activity in their health services. Most local managers have still not incorporated the *SisPreNatal* as a management tool. Thus, efforts should be required for the system to be used as a tool for monitoring actions and incorporating evaluation as a regular activity, allowing those implementing the policy on the front line to improve their share of budget resources, intervene, and make changes when needed.

The bottlenecks identified in prenatal care, like adherence to the program and completing at least six prenatal visits plus the basis laboratory tests and postpartum appointment, signal the need to review the current mechanisms and propose new measures, in addition to necessary changes based on new evidence.

Within the context of public health interventions focused on women's health, the PHPN is a unique strategy. Most programs targeting pregnant women's health have been designed in developed countries, even when their format has

been intended to also meet the needs of developing countries, and they have generally been international initiatives based on goals for reducing maternal mortality. Thus, one of the most relevant characteristics of the PHPN is its essentially Brazilian nature in terms of concepts and objectives.

Although it might appear rash to choose just one of these aspects to illustrate this initiative's importance for public health, the *SisPreNatal* proved to be more than a management tool; rather, it became an important instrument for change, since it expanded the identification of needs, highlighting them in prenatal care reports and indicators.

The current study is thus unprecedented, given that no analysis of this area of health care had been published by at the State level in Ceará. In terms of its relevance and scientific value, the present study is thus comparable to the Program for Humanization of PHPN itself.

Based on the importance of prenatal care for quality of perinatal health and reduction of maternal morbidity and mortality rates, it is necessary to motivate health administrators and minimize the principal sources of dissatisfaction that

can arise in this process in order to ensure better quality of care.

We agree with one of the leading scholars on this theme, based on the quality of her published work, Dr. Suzane Jacob Serruya, who conceived, organized, and is the principal collaborator of the PHPN. In a study with colleagues²³, she states that new readings of this process become more enriching to the extent that they draw closer to the front-line stakeholders, allowing a closer look at the problem in well-defined, local contexts. Given our position, the version constructed here was determined by a macro vision, in which it was only possible to work with aggregate data at the State level, thereby producing generalizations that may need to be reevaluated at the local level.

We identify two limitations to this study: (1) six years is too short a time to properly evaluate such complex indicators and (2) underreporting in the *SisPreNatal* and the fact that information for 2006 could only be accessed up to the month of August impeded more precise conclusions on the reality under investigation. We thus recommend that future studies add to the investigation of this research object.

Resumo

Estudo documental, de tendência, descritivo-exploratório. Teve por objetivo analisar indicadores de processo do Programa de Humanização no Pré-natal e Nascimento (PHPN) no Ceará, Brasil, de 2001 a 2006. Foram analisados dados de 312.507 gestantes. Em 2001, ano da implantação do programa no estado, o sistema contabilizou dados de três dos sete indicadores. A partir de 2002 todos os indicadores foram computados. Cadastro de gestantes foi o único indicador ascendente até 2006, os demais apresentaram aumento de 2002 até 2005, porém decaíram de 2005 para 2006. À medida em que ter pelo menos seis consultas foi associada à consulta puerperal, exames laboratoriais, ou a ambos, as porcentagens declinaram. A imunização alcançou maior porcentagem em 2002 (68,34%), reduzindo para 60,86% em 2006. Ter realizado seis consultas, consulta de puerpério, exames laboratoriais, vacina antitetânica e teste anti-HIV foi indicador de menor alcance em todos os anos, porém com média de 15,67%, superior à média nacional. Apesar das falhas no uso do SisPre-Natal, destacamos como inaceitável que o pré-natal ainda padeça de garantias tão básicas como exames laboratoriais mínimos e vacinação antitetânica, por exemplos.

Parto; Cuidado Pré-Natal; Gestantes

Contributors

A. A. Passos designed the research project, collected the data, and participated in the data analysis and final drafting of the article. E. R. F. Moura oriented the project design and research implementation and participated in the data analysis and final drafting of the article.

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