

# DIAGNOSIS OF MATERNAL AND CHILD HEALTH SITUATION IN THE MUNICIPALITY OF TANQUE DO PIAUÍ-PI

*Diagnóstico da situação de saúde maternoinfantil no município de Tanque do Piauí-PI*

*El diagnóstico de la situación de salud materno-infantil en el municipio de Tanque del Piauí-PI*

Original Article

## ABSTRACT

**Objective:** To describe the diagnosis of maternal and child health in the city of *Tanque do Piauí-PI*. **Methods:** This is a cross-sectional, descriptive study using epidemiological survey by downloading the database for the years of 2007, 2008 and 2009 from the Ministry of Health official systems. The variables analyzed were: demographic and socioeconomic indicators; mortality; morbidity and risk factors; resource and coverage; and SISPRENATAL indicators. **Results:** With the results, the main epidemiological measures for the municipality were observed, especially regarding maternal and child health situation. It was noted a situation of social vulnerability, with high rates of illiteracy, precarious basic sanitation conditions, high rates of teenage pregnancy and cesarean deliveries, infant mortality and low birth weight rates in significant proportion, and inefficient supply of information systems. **Conclusion:** An increase in the maternal mortality rate, the percentage of teenage pregnancy, and in the number of low birth weight infants and cesarean deliveries has been verified.

**Descriptors:** Health Status Indicators; Women's Health; Maternal Mortality.

## RESUMO

**Objetivo:** Descrever o diagnóstico da saúde maternoinfantil no município de *Tanque do Piauí-PI*. **Métodos:** Trata-se de um estudo transversal e descritivo realizado por meio de levantamento epidemiológico, mediante download das bases de dados referentes aos anos de 2007, 2008 e 2009, dos sistemas oficiais do Ministério da Saúde. As variáveis pesquisadas foram: indicadores demográficos e socioeconômicos; de mortalidade; de morbidade e fatores de risco; de recurso e cobertura; e do SISPRENATAL. **Resultados:** Com os resultados, observaram-se os principais números epidemiológicos do município, principalmente quanto à situação da saúde maternoinfantil. Notou-se que ele apresenta uma situação de vulnerabilidade social, com elevada taxa de analfabetismo, péssimas condições de saneamento básico, alta taxa de gravidez na adolescência e de partos cesáreos, índice de mortalidade infantil e de nascidos vivos com baixo peso proporcionalmente significativa, e alimentação ineficiente dos sistemas de informação. **Conclusão:** Identificou-se aumento da mortalidade materna, do percentual de gravidez na adolescência, de nascidos vivos de baixo peso e de partos hospitalares.

**Descritores:** Indicadores Básicos de Saúde; Saúde da Mulher; Mortalidade Materna.

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## RESUMEN

**Objetivos:** Describir el diagnóstico de salud materno-infantil en el municipio de Tanque do Piauí-PI. **Métodos:** Se trata de un estudio transversal y descriptivo realizado a través de un análisis epidemiológico por medio de download de las bases de datos referentes a los años 2007, 2008 y 2009, de los sistemas oficiales del Ministerio de la Salud. Las variables investigadas fueron: los indicadores demográficos y socioeconómicos; de la mortalidad; de la morbilidad y los factores de riesgo; de recurso y de cobertura; y del SISPRENATAL. **Resultados:** De pose a los resultados, se observaron los principales números epidemiológicos del municipio, principalmente respecto la situación de salud materno-infantil. Se observó que él presenta una situación de vulnerabilidad social, con elevada tasa de analfabetismo, pésimas condiciones de saneamiento básico, elevada tasa de embarazo en la adolescencia y de cesáreas, índice de mortalidad infantil y de nacidos vivos con bajo peso proporcionalmente significativa, y alimentación ineficiente de los sistemas de información. **Conclusión:** Se identificó un aumento de la mortalidad materna, del porcentaje de embarazos en la adolescencia, de nacidos vivos de bajo peso y de partos en hospitales.

**Descriptores:** Indicadores de Salud; Salud de la Mujer; Mortalidad Materna.

## INTRODUCTION

The analysis of maternal health situation in Brazil presents serious epidemiological panorama portrayed by women and their newborns, victims of the fragility of assistance provided to population. In the process of birth, the technology and medicine-centered, impersonalized and interventionist practice are prioritized. Cesarean rates are extremely high and maternal mortality rates are alarming.

In 2007, in Piauí, 40.36% of births were caesareans. In 2008, there was still an increase, showing a rate of 41.21%. Regarding maternal deaths, 50 occurred in 2007 and 58 in 2008<sup>(1)</sup>.

Currently, in Piauí, 24 out of a thousand live births die before reaching one year of age. Reducing these rates requires the involvement and effort of all levels, from different areas of government and the very own population. In this sense, to reduce infant mortality, the federal government given special attention to 24 municipalities of the state of Piauí, with a plan which has as basis: the qualification of prenatal, delivery and newborn care; the training of human resources; labor management and information management; surveillance of neonatal and infant death; and the strengthening of control, communication and social mobilization<sup>(2)</sup>.

Official data show that hypertensive diseases, followed by hemorrhagic syndromes, are the main causes of maternal

mortality in the country. Both remain for decades as the two main causes, sometimes followed by puerperal infections and abortion, others by cardiovascular diseases, complicated by pregnancy, birth or the puerperium. There are also the causes considered closely related to socioeconomic factors, responsible for 89% of maternal deaths in the country<sup>(3)</sup>.

Overall, there are distortions in the very conception of childbirth care in Brazil, which influences how that assistance is provided, hence its quality, affecting the procedures performed as well as the interpersonal relationships.

Recognizing the need for establishing a new strategy for attention in this area, the Ministry of Health in Brazil, instituted in June 2000, the *Programa de Humanização do Pré-Natal e Nascimento - PHPN* (Program for Humanization of Prenatal and Birth), aiming to reduce high maternal morbidity and perinatal rates, extend access to prenatal care, establish criteria for classifying the consultations and foster the link between outpatient assistance and delivery<sup>(4)</sup>.

In this context, there was the perspective that this study would contribute to display data on maternal health, point out the healthcare needs of women during the reproductive period and contextualize the implementation of the project defined by the *Secretaria de Saúde do Estado do Piauí* (Health Secretariat of Piauí State) as "*Direito de nascer na minha terra*" (Right to be born in my homeland), a program that should be developed in the various kinds of health units within the state system, favoring the new model of birth care and assistance, provided by obstetric nurses.

This program was created in 2007, its implementation is ongoing to date and consists of structuring (either restoring or constructing) 76 *Unidades Básicas Avançadas de Saúde - UBAS* (Basic Units of Advanced Health) through the state. Parallel to the structuring of UBAS, through a partnership with the Federal University of Piauí and the Ministry of Health, the Secretariat of Health conducted a specialization course in Obstetric Nursing, which enabled nurses from UBAS to carry out low-risk births. These professionals exercised on an internship at Dona Evangelina Rosa Maternity Ward in Teresina-PI and had the support of the *Associação Brasileira de Obstetizes e Enfermeiras Obstetras - ABENFO* (Brazilian Association of Obstetricians and Obstetric Nurses<sup>(1,2)</sup>). This fact is theoretically widely justified, due to high mortality and morbidity rates affecting the neonate-pregnant group in Brazil, and more specifically in Piauí, as previously mentioned<sup>(3)</sup>.

In the city of Tanque do Piauí, an epidemiological analysis has never been done, despite the initiatives of the federal and state governments for the diffusion of maternal and child health in Piauí, as prior description. Therefore, this study legitimizes itself by the importance of knowing

the maternal and child regional reality. Moreover, this kind of data, when investigated, analyzed and published, can be used in view of the reduction of inequalities in health, increase women's access to services and alert professionals and managers to achieve quality in this type of assistance.

Thus, the objective of this study was to describe the diagnosis of maternal and child health in the city of Tanque do Piauí.

## METHODS

Descriptive study using epidemiological analysis, developed in the city of Tanque do Piauí, located in the micro-region of the municipality of Picos, in the state of Piauí. Its total population in 2010 was of 2,620 inhabitants, 52.7% of them living in rural areas and 47.3% in urban areas<sup>(5)</sup>.

The municipality has five health units, one being located in the county seat and the others in the countryside, in the hamlets: Barrigas, Bom Princípio, Chapada dos Nunes and São João de Sene. The city relies only on one team enrolled in the *Estratégia Saúde da Família* (Family Health Strategy), which is registered at the Health Center José Francisco Lustosa, being composed of a doctor, a nurse, a nursing assistant and seven community health workers, who work in both urban and rural areas.

Data collection occurred in July and August 2010, by download from the official systems of the Ministry of Health databases as follows: *Sistema de Informação do Pré-Natal* (Prenatal Information System), *Sistema de Informação da Mortalidade - SIM* (Mortality Information System), *Sistema de Informação de Atenção Básica - SIAB* (Information System for Primary Care), *Sistema de Informação Hospitalar - SIH* (Hospital Information System) and *Sistema de Informação de Nascidos Vivos - SINASC* (Live-born Information System).

The indicators were calculated and analyzed after the quantitative variables relating to: number of prenatal consultation performed in pregnancy; percentage of pregnant women who began prenatal care in the first trimester of pregnancy; proportion of cesarean and vaginal hospital deliveries; hospitalization rate due to hospital infection and other complications; maternal mortality rate; place of death and main causes of death (morbidity and mortality indicators); percentage of routine tests performed and vaccines coverage. In addition to demographic and socioeconomic indicators, such as mother's age, schooling, marital status, income, birth rate, fertility and sex ratio.

It has also been assessed the proportion of live births by maternal age; proportion of live-born with low birth weight; child early and late neonatal mortality rate; post

neonatal mortality rate; rate of perinatal child mortality; ratio and mortality rate of children under 5 years old.

The results are presented in simple tables and discussed based on the current literature on the subject. The study was approved by the *Comitê de Ética em Pesquisa da Universidade Federal do Piauí* (Ethics Research Committee of the Federal University of Piauí) linked to the *Pró-Reitoria de Pesquisa e Pós-Graduação - PRPPG-UFPI* (Dean's Office of Research and Graduate Studies), with the number 0077/10.

## RESULTS

The presentation of the results is subdivided into five tables. In the first one, the demographic and socioeconomic indicators are shown; secondly, mortality indicators; thirdly, the morbidity indicators and risk factors; fourthly, the resource and coverage indicators; and in the fifth table are the indicators of SISPRENATAL.

According to the indicators, the overall population of Tanque do Piauí-PI has been growing during the assessed years.

Table I shows an annual growth rate of approximately 0.02% in the three years surveyed. The proportion of children under five years of age in this population was of 8.77% in 2007. In 2008, it was decreasing, reaching 7.68% and then 7.75% in 2009, which means that this indicator behaves erratically.

To every thousand inhabitants in 2007, 14.93 children were born in Tanque do Piauí. In 2008, this index was of 10.44 and in 2009 of 14.76.

As for the socioeconomic indicators, GDP was R\$ 2,526 in 2007 and R\$ 3,135 in 2008. On the year 2009, no data was obtained.

In the mortality indicators, alarming data concerning infant mortality rate was found, as follows in Table II.

On infant mortality, the results found were expanding. In 2007, the index was of 24.4, reached 35.7 in 2008 and it peaked with 50.0 per thousand live births in 2009.

Regarding the indicators, analyzing the frequency and percentage of live births according to the mother's age group, the percentage decreased among mothers under 15. However, for mothers between 15 and 19, it was growing, according to Table III.

The number of health professionals per capita characterizes the resources indicators, as demonstrated in Table IV.

The proportion of doctors per inhabitants was 1.09% in 2007, 1.49% in 2008 and 1.1% in 2009; other professionals (nurses, dentists and nutritionists) were 0.36% in 2007,

Table I - Demographic and socioeconomics indicators. Tanque do Piauí, PI, Brazil, 2007-2009.

Demographic and socioeconomics indicators	2007	2008	2009
Total population	2,745	2,681	2,709
Proportion of children under de age of five years (%)	8.77	7.68	7.75
Crude birth rate (/1.000)	14.93	10.44	14.76
Gross mortality rate (/1.000)	5.1	6.7	6.0
Gross domestic product - GDP <i>per capita</i> (R\$)	2,526	3,135	N/E

**Legend:** N/E: not found; R\$: Reais.

**Source:** IBGE; DATASUS.

Table II - Infant mortality indicators. Tanque do Piauí, PI, Brazil, 2007-2009.

Mortality indicators	2007	2008	2009
Infant mortality rate (/1.000)	24,40	35,7	50,00
Early neonatal mortality rate (/1.000)	24,40	35,7	50,00
Late neonatal mortality rate (/1.000)	-	35,7	-

**Source:** IBGE; DATASUS.

Table III - Frequency and percentage of live births by mother's age group. Tanque do Piauí, PI, Brazil, 2007-2009.

Year	< 15 years n(%)	15-19 years n(%)	20-34 years n(%)	35-39 years n(%)	Total n
2007	2 (4.87)	11 (26.82)	24 (58.53)	4 (9.75)	41
2008	1 (3.57)	8 (28.57)	16 (57.14)	3 (10.71)	28
2009	-	12 (30.00)	26 (65.00)	2 (5.00)	40

**Source:** Secretaria Municipal de Saúde de Tanque do Piauí (Municipal Health Secretariat of Tanque do Piauí); SIAB; SINASC; SISPRENATAL.

Table IV - Distribution of health professionals in primary care per inhabitant. Tanque do Piauí, PI, Brazil, 2007-2009.

Number of health professionals per inhabitant (%)	2007	2008	2009
Doctor	1.09	1.49	1.1
Nurse	0.36	0.37	0.36
Nutritionist	0.36	0.37	0.36
Dentist	0.36	0.37	0.36
Technical nursing	0.72	1.11	1.1
Nursing assistant	2.55	2.61	2.58

**Source:** Secretaria Municipal de Saúde de Tanque do Piauí (Municipal Health Secretariat of Tanque do Piauí).

0.37% in 2008 and 0.36% in 2009, remaining constant over the years studied. As for nurse technicians, the percentages were 0.72% in 2007 and 1.1% either in 2008 and 2009, while the nursing assistants were 2.55% in 2007, 2.61% in 2008 % and 2.52% in 2009.

The graduate professionals do not reside in the town and work on a regular basis (from Monday to Friday, in the

mornings and afternoons); the medium level professionals live in the town and also work on a regular basis. This is directly related to the higher rates of distribution for the nursing technician and nursing assistant, who reside in Tanque do Piauí and have more access to the service. Unlike top-level professionals, such as nurses, nutritionists, and dentists, who had very low rates of distribution, due to

Table V - SISPRENATAL indicators in Tanque do Piauí. Tanque do Piauí, PI, Brazil, 2007-2009.

Indicators	2007	2008	2009
% enrollment under 17 weeks	-	121.43	85.71
% of 6 consultations	-	87.80	95.24
% of 6 consultations and puerperium consultation	-	100.00	93.33
% of 6 consultations and basic examinations	-	78.05	90.48
% of 6 consultations, basic examinations and puerperium consultation	-	85.71	86.00
% of pregnant women registered who received 2nd dose or a booster dose or the immunizing dose of tetanus vaccine	-	92.31	88.24
% 6 consultations, examinations, puerperium consultation, examination and 2nd dose of tetanus vaccine	-	82.14	80.00
% 6 consultations, examinations, puerperium consultation, basic examinations, 2nd dose of tetanus vaccine and HIV testing	-	82.14	80.00
% of pregnant women registered who did HIV testing	-	100	96.15
% of pregnant women registered who did both VDRL tests	-	86.49	83.33
Total pregnant women registered in SISPRENATAL	-	42.00	26.00

Source: SISPRENATAL

displacement on weekends to their hometowns or to comply with other jobs in other cities, usually distant and difficult to access.

The following are the SISPRENATAL indicators collected in the town of Tanque do Piauí in the years 2007 to 2009.

The indicators of coverage of prenatal consultation have also been investigated, which presented a rate of 4.87% in 2007, 0% in 2008 and 2009 for mothers who did not attend any prenatal consultation. For pregnant women who attended 1-3 consultations, the percentages are 9.75% in 2007, 7.14% in 2008 and 0.1% in 2008. For pregnant women who attended 4-6 consultations the rates were 51.21% in 2007, 46.42% in 2008 and 47.50% in 2009. For those who attended 7 or more consultations the rates were of 34.14% in 2007, 46.42% in 2008 and 42.50% in 2009.

In 2007, there was no pregnant woman enrolled in SISPRENATAL. In 2008 began the registration with 42 pregnant women on PHPN, representing 150% of coverage. In 2009, 26 women were enrolled, with a coverage of 92.86%, therefore, an increase of over 100% compared to the first year (2007).

The percentage of pregnant women who were present in at least six prenatal medical appointments associated with the variable 'realization of the basic tests' has proved to be regular over the years, that is, increased 78.05% in 2008, inasmuch no pregnant woman was registered in SISPRENATAL in 2007 and in 2009 the rate continued to increase.

The percentage of pregnant women who were present in at least six prenatal medical appointments associated with

the variable 'realization of the basic tests' and 'puerperium consultation', appeared growing in 2008 (85.71%) and 2009 (86%). Mothers who hit six or more prenatal consultations, associated with the variables 'realization of basic examination', 'puerperium consultation', 'tetanus vaccination' and 'HIV serology realization' were 82,14% in 2008 and 80% in 2009, thus representing a slight decreasing.

The percentage of pregnant women who did serology testing for HIV was of 100% in 2008 and 96.15% in 2009. In 2008, 86.49% of the pregnant women did both VDRL tests and in 2009, 83.33%.

## DISCUSSION

The 'crude birth rate' (general coefficient of birth), considers the number of live births per thousand inhabitants among the population residing in a given geographic area, in the considered year. High rates are usually associated to low socioeconomic and cultural aspects of the population; furthermore, this indicator is used to support planning, management and evaluation of public policies relating to maternal and child care<sup>(6)</sup>. Regarding the indicator 'gross mortality rate', this rate showed up variant in the years studied by this research.

The gross domestic product (GDP) in the city presented itself growing. This is an important variable as it represents an approximation of the wellbeing level at a certain society. About the indicator 'illiteracy rate', the figures found show a rate of 33.31, very close to the reality of the state of Piauí and the northeast region<sup>(7)</sup>. However, the rate of illiteracy and the Human Development Index (HDI) were



not found in the records of the city analyzed, which alert a precarious planning circumstance.

The HDI provides a counterpoint to the indicator GDP per capita, which considers only the economic dimension of development. The HDI is intended to be a general, synthetic, human development measure, since it does not cover all aspects of development and takes into account two other components: longevity and education. The HDI of the municipality investigated had a value of 0.59 in 2000, being below the state value<sup>(7)</sup>.

A preliminary analysis of the socioeconomic, demographic and health conditions of this municipality, sets a context of social vulnerability, since a significant contingent is illiterate, given the high rate of illiteracy, the low value of the HDI and per capita income. This picture is, in an analytical foreground, an alert in terms of precarious sanitary conditions, which in turn enhances disease risks to both mother and child.

On infant mortality, there was a highly significant increase, as shown in Table II. One study, presenting similar data to those found in this report suggests that to face the challenge of reducing child mortality and its components, the information system is an important tool for detecting risk factors<sup>(8)</sup>. The availability of socioeconomic and health data is essential to identify risk areas and vulnerable populations for which health care should be prioritized.

In a study conducted in a maternity hospital in the city of Teresina-PI, 77% of antenatal consultations were considered inadequate, as to laboratory tests realization. This fact can be explained by the lack of examinations in the third quarter, highlighted the anti-HIV test, which only 38% of pregnant women have repeated. Furthermore, only 55% had done at least 2 times the serologic test for syphilis, as recommended. In the same study, 95% of prenatal care were considered unsatisfactory regarding the physical obstetric examination<sup>(9)</sup>. This shows that deficiencies in prenatal care may be directly linked to infant mortality rates, especially for newborns.

Not shown in Table II, other interesting data was also registered during research, including: in the years 2007 and 2008, there was no register of fetal death, but in 2009 one death occurred. Regarding the frequency of deaths in women of childbearing age, there were two deaths in 2007, one in 2008 and no death occurred in 2009. In 2007, the frequency of maternal deaths recorded was one death while in the years 2008 and 2009 there was no occurrence.

In Teresina, when evaluating the quality of prenatal care to 150 users of the *Sistema Único de Saúde - SUS* (Unified Health System) in 2011, maternal morbidity was present in 58% of postpartum women. Among them stood out urinary tract infection (36%), anemia (17%)

and hypertension (16%). It is noteworthy that the large number of maternal morbidities did not significantly lead to obstetric and perinatal complications, probably due to effective care for these diseases<sup>(9)</sup>. Therefore, an efficient prenatal is required for the early detection of health problems associated with pregnancy, which can pose risks to both mother and child. Only then, death rates related to pregnancy and postpartum period can be minimized, as most of these comorbidities can be avoided, prevented and controlled.

The morbidity and risk factors indicate a high percentage of pregnancies among adolescents aged 15 to 19 years old, according to Table III. Study conducted in the state of Paraíba showed high frequency of deliveries among adolescents younger than 20 years. The main risk factors associated with teenage pregnancy were low level of education, early onset of sexual activity (less than 15 years) and maternal history of teen pregnancy<sup>(10)</sup>. Frequency of adolescent deliveries observed was higher than the national average of 22%. This finding is consistent with data from Ministry of Health indicating stabilization and even an increase in the number of cases of teenage pregnancy in the poorest regions.

A study conducted with adolescents in puerperium in Mossoró-RN showed that they require an exclusive environment and professionals who can accompany them and guide them, not only on a specific, piecemeal, authoritative basis and dissociated from the actions<sup>(11)</sup>. It is important to encourage the participation of adolescents in the actions, reinforcing autonomy through caring for her and her son.

In the present investigation, 35 to 39 year-old mothers showed a percentage of 9.75% live births in 2007, 10.71% in 2008 and 5.00% in 2009. As to mothers above 40, there was no occurrence of pregnancy. On the other hand, additional data collected and not listed in the tables, refers to the weight of the newborn. In 2007, the proportion of births with low birth weight in Tanque do Piauí was 7.31%. In 2008, this proportion increased to 14.28% and in 2009, decreased to 12.5%.

Children with low birth weight are at increased risk of morbidity and mortality in the first years of life. Low birth weight may be related to poor maternal nutrition, as well as other conditions such as use of tobacco, alcohol and other drugs during pregnancy<sup>(1)</sup>. Another factor that can interfere is maternal age. The proportion of live births with low birth weight is associated with infant mortality rate previously discussed, due to the observed increase in 2008 in the city studied.

As for the indicators of resources and coverage (Table IV), it was noticed, for example, in the medical category,

greater numbers than it is recommended by the World Health Organization (WHO), one doctor for every thousand inhabitants. The North and Northeast regions of Brazil have numbers slightly above the recommended by WHO. The Southeast has 2.81 doctors per thousand population, almost triple the recommendation and 2.5 times more than the North<sup>(12)</sup>. However, for other professionals (nurses, dentist and nutritionist), the percentages are much lower than recommended, being less than 01 professional for every thousand inhabitants. These data reflect that the model adopted in health practices, despite all the expansion of the ESF (Family Health Strategy), continues to favor the biomedical and hospital centralized model.

In the city of Teresina, a study on postpartum visits performed by nurses, essential ESF activity, showed that nurses perform physical examination in postpartum and newborn, however, regarding postpartum, it was noted in their testimony, that no standard check-list is currently used by nurses to systematize care objectively, taking into account the real needs<sup>(13)</sup>. Furthermore, it was found that nurses prioritize the physical examination in postpartum, without questioning the women's enquiries, concerns, fears and anxieties. Accordingly, it is understood that during nursing care to women during this period, it is important such professionals meet both their physical and psychosocial needs, since the women experience many questions facing the postpartum care, the newborn, maternal lactation and family planning.

Not shown in Table IV, but also investigated, public spending on health *per capita* was R\$ 274.24 in 2007, R\$ 326.00 in 2008 and R\$ 335.06 in 2009, presenting an increase over the years<sup>(2)</sup>.

The analysis of public spending on health *per capita* in relation to population size indicates that municipalities with up to 20,000 inhabitants are concentrated in high-spending category<sup>(14)</sup>. This data reveals that small city like the one depicted, presents greater difficulties in tax collection, thus, it has higher expenses to ensure health services for the population. In a result, the government does not overall prioritize actions and investments in health, due to its own cost and political interests concerning these services. Therefore, professionals work in unhealthy conditions, receiving low wages and with little availability of material, resources and other professionals to comprise the basic team, which are essential for the provision of high-class health care.

Regarding SISPRENATAL indicators (Table V), the study also noted good coverage, where 78.3% of the mothers had prenatal care, being 58.7% completely and 19.6% incompletely<sup>(15)</sup>. In Teresina, early initiation of prenatal care along with the appropriate number of consultations does not guarantee prenatal care quality, demanding also an

adequate number of laboratory tests and careful obstetric assessment<sup>(9)</sup>.

Another index investigated was the hospital deliveries, which appeared in 100% during the three years. The vaginal delivery was 63.41% in 2007, 60.71% in 2008 and 22.5% in 2009, showing quite a significant fall. On the other hand, the rate of cesarean deliveries showed percentages of 36.59% in 2007, 39.28% in 2008 and 77.5% in 2009, growing alarmingly. The huge increase observed in hospital deliveries is a historical trend. Decades ago it was very common, especially in the inland cities, the role of midwives. However, this role has been losing ground due to the professionalism and expertise of health, mainly from the 80s on.

Referring to the typology of labor found in this assessment, the numbers behaved totally contrary to the WHO recommendations, with a cesarean rate around 15.0%. Cesarean rising in 2009 is compared to the rates among women enrolled in health insurance plans. In practice, it is clear that physicians' preference for cesarean section can have multiple origins. The predominant one, however, is the convenience of a programmed intervention, unlike the vaginal delivery (normal), which can occur at any time of day or night, and they often occupy a prolonged and unpredictable period of his time<sup>(16)</sup>.

The role of obstetric nurse, competent and qualified professional to conduct vaginal deliveries without dystocias, would be an important figure for the reduction of the high rate of cesarean sections, avoiding numerous complications directly related to this type of surgery, linked to maternal and newborn mortality. To insert this professional in the context of Tanque do Piauí and in other inland cities, investment and support are required, enabling an improvement in the quality of life of mothers and a reduction in unnecessary hospitalizations and hospital supplies costs.

The lack of registration of pregnant women in Tanque do Piauí, in 2007 may be related to the early stage of SISPRENATAL implementation in the city, thus subject to operating system failures, along with those related to the professionals responsible for the care as well as for feeding cadastral data. Reports were heard during the data collection that professionals stored the forms and did not insert them on the program. This might also explain the absence of information in relation to other variables in the same year, which led to non-implementation of process indicators of the Program for the Humanization of Prenatal.

In a research conducted in the country on the analysis of SISPRENATAL information in the period 2007-2009, the data showed satisfactory register of women<sup>(17)</sup>. The reality shown by the aforementioned survey is being pursued in the district of Tanque do Piauí.

These SISPRENATAL information, as well as those provided by other systems, are extremely important, since, besides the epidemiological nature, it is their role to assist the organization and planning of health actions in a community. From the available data, nurses, like other professionals working in the ESF, may develop and implement programs for the quality of care provided.

The monitoring of pregnant women must start early, with universal coverage, be conducted periodically, integrated with other preventive and curative actions, and fulfill a minimum number of consultations. Its success relies, in large part, on the moment it starts and the number of consultations, which may vary according to the beginning month and complications during pregnancy<sup>(9,18)</sup>.

In addition to monitoring, a sheltering approach to the pregnant women is essential. This consists in the humanization of liaisons between workers and health service and its users. It's a way to face the challenges imposed by the current organization of the health system, prioritizing quality service and integrated participation of managers, workers and users in the consolidation of SUS<sup>(19)</sup>.

As shown in Table V, the percentage of pregnant women who took HIV serology and those who did both VDRL tests was contrary to other studies, since even lower percentages were found. The fulfillment of the examination by pregnant women, when available, remains at very low levels<sup>(9,17)</sup>.

Among the deficiencies in detection of HIV infection during pregnancy, the most evident were: the absence or late onset of prenatal care; lack of time to get the result of HIV status and proper intervention; prenatal care without request of HIV testing; prenatal care with the HIV testing request, but lacking laboratory test results in a timely manner or loss of the exam. These statements explain the municipality's reality, along with the fact that, although HIV testing is offered to pregnant women, she has no obligation to do so.

Another study found that, among pregnant women who received prenatal care, only 55.6% did VDRL and only 13.9% repeated the test in the third trimester<sup>(15)</sup>, thus demonstrating the little importance given to prevention of congenital syphilis, on account of ignorance or mainly by forgetting the need to trace the syphilis during prenatal care. This panorama was not repeated in the city studied, mainly due to the role of nurses, active and vigilant in monitoring pregnant women during prenatal care.

It is recommended to support researches of this nature, as it clearly is an important basis for conducting further research in the area of nursing focused on women's health, especially in inland cities that still present bad rates in relation to the national average or rates yet unknown by the health authorities. All description concerning the maternal and child health unveils the context of those who are cared

for by primary care, guiding nursing practice and health management.

## CONCLUSION

The description of the diagnosis of maternal child health in the city of Tanque do Piauí was held clearly, considering having identified the increase in the maternal mortality and in percentage of teenage pregnancy, especially between 15 and 19 years of ages. Furthermore, it were observed considerable rates of live births with low birth weight, which seem to relate to infant mortality.

Births are increasingly occurring within hospitals, due to rising cesarean deliveries, without apparent clinical justification. Pregnant women are being registered, though the numbers of consultations need yet to be encouraged, as well as the conduction of periodic examinations and, especially, their results and follow up in a timely manner. There is a clear need for more nurses, dentists and nutritionists. It is believed that the involvement of the obstetric nurse, with specialist training in the area, as well as more human and material resources, could change the city's indicators, besides strengthening the current public policies.

Attitudes and humanizing actions undertaken by managers and health workers are needed to improve the quality of obstetric and neonatal care provided. Additionally, the power and the correct use of information systems in health, as demonstrated in the research, are important tools to achieve this quality. In this context, knowing the population's rates and health indicators can facilitate linkages between the programs Women, Child and Adolescent Health and the Family Health Strategy, reinforcing the labor and birth caring and hence fostering actions of social support for pregnant women and newborns at risk, by doing so, guaranteeing that deliveries are assisted by skilled health professionals.

With healthcare professionals lies the responsibility of enhancing their qualification through training courses offered by their own managers or in meetings and conferences, actions inherent in continuing health education, essential principle of primary care. Humanization, sheltering attitude and clinical management of pre-partum should be evaluated and improved, along with epidemiological research and improvement of information systems. Moreover, one must be aware of the importance of these subjects' participation on the City Health Council, democratic space that needs to be strengthened to enable effective participation of citizens in the formulation, monitoring and supervision of the implementation of health policies.

The reconstruction of a healthcare model to both mother and child presupposes respect to their individuality and



will, their family background and cultural experience. It is believed that the use of information in an integrated system is extremely beneficial in addressing maternal and neonatal morbidity and mortality. For that monitoring to be adequate, it is also necessary to fully incorporate the *Sistematização da Assistência de Enfermagem* (Systematization of Nursing Assistance), which is still under implementation in this municipality.

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