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RESEARCH ARTICLE

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## THE IMPORTANCE OF PRENATAL CARE FOR THE NEONATE'S HEALTHY DEVELOPMENT

Clara de Araujo Sousa Macedo Santos and Gabriella Soares de Souza

Claretiano Centro Universitário – Rio Claro-SP

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#### \*Corresponding author:

Bruno Luiz Silva Rodighero

### ABSTRACT

**Objective:** The study was a literature review with data from different articles and a retrospective study that aimed to carry out an epidemiological survey of the number of pregnancies in the public health system that received or not the full prenatal care routine and analyze how this influenced the child's motor development. **Methods:** The retrospective study was based on the evaluation of medical records of children from 0 to 2 years old from the public health system, analyzing their prenatal, birth and motor development information and verifying whether it is according to their age. **Results:** From the 24 medical records collected, four pregnancies have received the complete prenatal care, twelve have done it incompletely and eight have not done the prenatal care at all. The motor development in the children who were generated in pregnancies without prenatal care showed important delays. **Conclusion:** The absence of prenatal care in the pregnancy may result in several problems for the birth and children's development that can extend for years. This prenatal routine is simple but essential, and its realization needs to be promoted and stimulated all the time.

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## INTRODUCTION

Prenatal care is, as definition, the medical support that the pregnant women must have during all the pregnancy, that provides medical appointments, laboratory exams and monthly follow-up about the women and the baby. The prenatal care is extremely important for the proper development of pregnancy, as it promotes the health of the fetus and pregnant women and identifies possible risks for both, making it possible to perform interventions when necessary. Furthermore, it contributes to the reduction of maternal and neonatal mortality and is considered an indicator of the quality of health services (TIMM *et al.*, 2019). According to Ministério da Saúde; 2018, is ensured for women humanized, safe and quality care during pregnancy, childbirth and also postpartum. The prenatal care has as an important characteristic humanization, and the purpose of it is to guarantee to the woman great care and help the birth of a healthy fetus. (SCHIRMMER, J; 2000). The attention given to pregnant women is made in order to offer welcoming medical appointments, facilitate access to health services (Manual Técnico da Assistência Pré- Natal) and avoid unnecessary interventions. (CRUZ, et al 2014). According to Manual Técnico de Assistência Pré-Natal - Ministério da Saúde, the states in Brazil must provide prenatal and puerperal care and ensure that it is carried out in accordance with the following

parameters: Reception of pregnant women during the first gestational trimester; At least six prenatal appointments (that should preferably be distributed in an appointment in the first semester of pregnancy, two in the second and three in the third); Clarification of doubts of women and their companions; Anamnesis and clinical-obstetric examination; Request for laboratory tests, which include: ABO-Rh Hemoglobin/Hematocrit, HIV testing and serology for toxoplasmosis - if available - at the first consultation; Fasting glycemia, VDRL and Urine type 1, being performed at the first consultation and again around the thirtieth gestational week and Serology for hepatitis B, around the thirtieth gestational week; Immunization, through the application of tetanus vaccine; Evaluation of nutritional state and treatment of possible nutritional disorders of pregnant women; Early diagnosis of breast and cervical cancer; Treatment of pregnancy complications; Classification of gestational risk, which occurs in the first appointment and follows in the subsequent ones; Care for high-risk pregnancies; Registration of the pregnant woman's card; Attention to the newborn and the mother; Performance of the puerperal consultation, between the thirtieth and the forty-second week postpartum. Not performing routine prenatal care thoroughly and starting early in the pregnancy can generate several problems for fetal development, which may extend for a long period after birth. Thus, it is necessary to analyze the adherence to prenatal care by pregnant women by pregnant women and compare the information of birth and motor development of children born in pregnancies that had

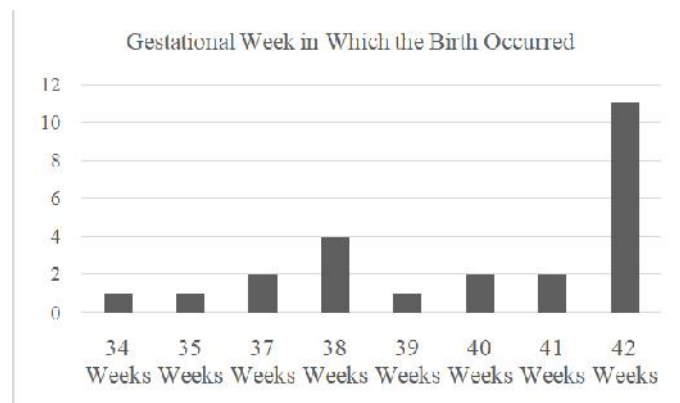
prenatal care and children who were born from pregnancies without prenatal care; so that, through the results obtained, encourage the performance of prenatal routine during pregnancy.

## METHODS

The study is a literature review that includes a retrospective study, which sought to evaluate children aged 0-2 years, aiming to exemplify the importance of prenatal care, based on the evaluation of medical records belonging to the public health system. For the development of the research project, the medical records that comprised the following inclusion criteria were selected: A) children aged 0-2 years; B) that had a record of whether or not prenatal care was regularly performed; C) children who attended monthly childcare in the public health system. After selecting the medical records, the following information will be collected: A) Age of the Child; B) Date of Birth; C) Gestational Period; D) Type of Delivery Performed; E) APGAR of the first and fifth minute; F) If there was the performance of Prenatal care in a systematic and complete way; G) After birth how is the motor development of the child, verifying if it is in accordance with the age. The data will be expressed in Central Tendency Measures as: Mean (X) and Standard Deviation (SD), which will be expressed in tables and graphs. In sum, the information collected in the medical records will also be expressed in qualitative form with the objective of promoting a better understanding about the prenatal development. Finally, to promote a greater knowledge about the subject, and especially to support the results found, a bibliographic survey will be conducted in scientific databases, such as: Pub Med, Scielo, Lilacs, Bireme and Google Scholar, comprising the following key words: Prenatal, Complications, Development, Importance. Scientific articles in Portuguese, English and Spanish will be searched.

## RESULTS AND DISCUSSION

Data were collected from 24 pregnancies of patients from the public health system, from which the age ranged from 20 to 38 years old, 13 patients aged 20 to 29 and 11 patients aged 30 to 39. Data from the puerperium were collected from the 24 children aged between 15 and 24 months. Among them, 12 female and 12 male. From the 24 medical records collected, four pregnancies have received the complete prenatal care, twelve have done it incompletely and eight have not done the prenatal care at all. Considering the 24 pregnancies analyzed, 12 normal childbirths and 12 cesarean sections were performed. Among the cesarean sections performed, 11 were emergency procedures and only one was a normal cesarean delivery. The beginning of prenatal care among pregnant women occurred



Legend: On the horizontal axis is represented the Gestational Age (in weeks) at which the birth occurred. Source: Own authorship. The analyzed children were born, on average, around 39.9 weeks of gestation. They had an average height of 42.83cm and 2.541kg of birth weight. The mean APGAR of these children in the 1st minute of life was 7.16; and in the 5th minute the average was 7.62. Regarding the motor development of the children generated by the pregnancies analyzed, the following information was obtained: age at which each child began to control the cervical, sit without support and walk.

between the eighth week of gestation and the twentieth week, considering also that part of the pregnant women analyzed did not initiate prenatal care, because they did not do it. Deliveries of the analyzed patients occurred between the 34th and 42nd gestational weeks. Eleven deliveries occurred at the 42nd gestational week, of which 8 were performed through emergency cesarean sections and the other 3 were normal deliveries. According to the study from A Importância do Cuidado Pré-Natal para o Desenvolvimento Saudável do Neonato: Um Estudo Retrospectivo no Município de Rio Claro-SP (SANTOS, C.A.S.M; SOUZA, G.S), the lack of prenatal care can cause bad consequences for the children's motor development in its 3 important milestones.

### The beginning of cervical control occurred between the 3rd and 10th month of life

Age at the Beginning of Cervical Control	Number of Children
3 months	4
4 months	6
5 months	4
6 months	2
7 months	2
8 months	4
9 months	1
10 months	1

Legend: The table presents the data referring to age (in months) at the beginning of cervical control in the observed children. Source: Own authorship.

According to the book Fundamentos do Desenvolvimento Infantil, by the Fundação Maria Cecília Souto Vidigal, in the first year of life, there are some very important stages of motor development, which occur in the craniocaudal axis, starting in the cephalic part and then moving to the lower limbs. The reflex functions tend to appear and disappear as there is the maturation of the Central Nervous System, in order to evolve to voluntary and more complex movements (DIAMENT; CYPEL, 2005). This occurs through the reorganization of synapses and the formation of new neural networks (BRAGA, 2010). Therefore, the first important stage of motor development is the head support – or cervical control – which should occur between the 2nd and 5th month of life. This acquisition of cervical control is expected, especially at the end of the 3rd month, in which the baby can keep his head in the midline and follow the objects with the rotation of the head and eye movement in a coordinated manner. In the cases analyzed, only the 4 children generated in pregnancies who received complete prenatal care acquired the capacity of cervical control at 3 months of age. In children generated in pregnancies that had incomplete prenatal routine, or even in pregnancies in which there was no such prenatal care, the ability to support the head was observed starting from 4 months of age, and in some of them this capacity only started at 8 months of age, demonstrating a great delay in this important milestone of motor development. (Diretrizes de Estimulação Precoce – Ministério da Saúde). Regarding the ability to sit without support, it was acquired between the 6th and 12th month in the children evaluated in the research. However, 5 children did not present such motor ability.

Acquisition of the Ability to Sit Without Support (Age)	Number of Children
6 months	6
7 months	5
8 months	2
9 months	1
10 months	3
12 months	2
Cannot sit without support	5

Legend: The table presents the data referring to the age (in months) at which the acquisition of the ability to sit without support was reported in the observed children. Source: Own authorship. The second major stage of child motor development is marked by the acquisition of the ability to sit without support. The milestones of motor development occur in an organized and gradual way, and each of them is a consequence of the precedent and necessary for the acquisition of the next milestone (ARQUELES et al., 2001), so the delay in cervical control contributes to the delay in the development of the ability to sit without support. According to Diretrizes de Estimulação

Precoce of the Ministério da Saúde, in the 7th month the acquisition of trunk balance and the ability to sit without support is expected and in the 8th month the baby begins to experience other postures to sit, due to the development of his trunk balance and his protective reaction to the sides. In the children analyzed in the study, all those who did not show the ability to sit - although the expected time for the acquisition of such motor skill had already passed - were babies generated in pregnancies in which the prenatal routine was not performed. The 3 children who developed the ability to sit from 10 months of age were also generated in pregnancies in which there was incomplete prenatal routine and/or prenatal routine was not performed, as well as the 2 children analyzed who began to sit without support at 12 months. Regarding the motor ability to walk, it began to be observed in the children analyzed between the 11th and 18th month of life, also considering that part of the children included in the study did not present and/or do not have the ability to walk.

Age at the Beginning of Walking	Number of Children
11 months	1
12 months	3
13 months	2
14 months	2
16 months	1
18 months	1
Cannot walk	14

Legend: The table presents the data regarding the age (in months) at the beginning of the ability to walk in the observed children. Source: Own authorship. The third fundamental stage of motor development, according to the book *Fundamentos do Desenvolvimento Infantil*, is marked by the acquisition of the motor ability to walk (walking without support), and should occur between the 12th and 18th month of life, starting with small steps supported by other people or furniture and surfaces, until the necessary balance is acquired to walk without support. It is considered normal the onset of gait between these months of life in children born at term and without signs of neurological impairment. In relation to the children analyzed in the study, all of whom were generated in pregnancies without prenatal care do not present the motor ability to walk.

All children generated in pregnancies in which the complete prenatal routine was performed presented the ability to walk within the expected time.

## CONCLUSION

Although the research data represent a small sample, it is possible to notice the differences in the conduct and evolution of pregnancies, delivery and puerperium that received proper prenatal care and those that did not receive such follow-up. Such complications in pregnancies in which prenatal routine was not performed had such an influence on the mother and fetus, that they unfolded causing delays in the child's development during his first year of life, especially with regard to the motor part.

The children generated by pregnancies that did not have due prenatal care presented significant delay in the three major milestones of child motor development – cervical control, sitting without support and walking without support. It is possible to conclude, therefore, that the non-performance of prenatal care in a complete way - respecting the number of consultations, examinations and care necessary - either by ignorance of the risks or even by maternal decision causes numerous problems for the fetus and future developing child, which will extend for many years, some of which are irreversible. Prenatal care is essential, free, guaranteed and offered by law in the basic health units of the country, and should be promoted and encouraged at all times.

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