



The impact of maternal nutritional status on fetal weight and long-term repercussions: Systematic review

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Francini Viscondi Lopes e Moura

Lecturer in the medical course and doctoral student in Health Promotion at the University of Franca (UNIFRAN)

PhD student in the Health Promotion Program and lecturer at the University of Franca.

Ana Flavia Aggio Jamberci

Medical student at the University of Franca (UNIFRAN)
Incomplete university education
University of Franca

Bianca Bavelloni Mendes

Medical student at the University of Franca (UNIFRAN)
Incomplete university education
University of Franca

Sabrina Viscondi Lopes e Moura

Medical student at the José Rosário Vellano University (UNIFENAS)

Incomplete university education
University of Franca

Marisa Afonso Andrade Brunherotti

Coordinator of the UNIFRAN Health Promotion Program.

Post-doctorate in child and adolescent health and social medicine from USP Faculty of Medicine of Ribeirão Preto.

Professor and Researcher of the Health Promotion Program at the University of Franca.

ABSTRACT

Maternal nutritional status is an indicator of long-term health maintenance, both for the mother and for the child, and the great challenge during the pregnancy period is to maintain it adequate, with an effective supply of nutrients, that is, to provide enough energy supply to maintain a pregnant woman's body mass index within the parameters considered ideal and allow adequate growth of the fetus. Injuries during pregnancy, especially when related to maternal overweight or malnutrition, cause fetal metabolic reprogramming leading to cell hyperplasia or energy-saving fetus, respectively, causing a greater risk of metabolic and cardiovascular diseases. In addition, vitamin deficiencies such as folic acid and iron, among others, are harmful to the fetus, with a greater risk of defects in neural tube closure and anemia, and supplementation is recommended. In this way, monitoring during the prenatal period allows a follow-up of this pregnant woman so that she receives guidance and better control of her nutritional balance to prevent harm to the health of the binomial.

Keywords: High-risk pregnancy, Small for gestational age, Large for gestational age, Macrosomia, Maternal nutritional status.

1 INTRODUCTION

Maternal nutritional status is an indicator of long-term health maintenance, both for the mother and for the child, and the great challenge during the pregnancy period is to maintain it adequate, with an effective supply of nutrients, that is, to provide enough energy supply to maintain a pregnant woman's body mass index within the parameters considered ideal and allow adequate growth of the fetus. Injuries during pregnancy, especially when related to maternal overweight or malnutrition, cause fetal metabolic reprogramming leading to cell hyperplasia or energy-saving fetus, respectively, causing a greater risk of metabolic and cardiovascular diseases. In addition, vitamin deficiencies such as folic acid and iron, among others, are harmful to the fetus, with a greater risk of defects in neural tube closure and anemia, and supplementation is recommended. In this way, monitoring during the prenatal

period allows a follow-up of this pregnant woman so that she receives guidance and better control of her nutritional balance to prevent harm to the health of the binomial.

2 RESEARCH OBJECTIVE

To gather literary evidence regarding which diseases often negatively interact with maternal health, leading to preventable comorbidities that have a negative impact on the early and long-term health of the fetus.

3 METHODOLOGY

A systematic review was carried out whose guiding question for the research was: "What is the repercussion of maternal nutritional status on the newborn's birth weight and long-term results?". The selection of articles on gestational diseases and the repercussions on the health of the fetus was collected from LILACS, MEDLINE, PUBMED, SCIELO and SCOPUS databases. Inclusion criteria were scientific articles, in Portuguese, English and Spanish, published in the last 5 years and works directly related to the related theme. The exclusion criteria were articles related to maternal laboratory markers, articles aimed at regional populations to avoid a confounding factor with regard to eating habits, articles related to postnatal situations, breastfeeding, articles that deviate from the investigated theme and those written in languages different from the three defined.

4 RESULTS

It was observed that maternal nutritional deviations due to obesity, excess weight gain during pregnancy, malnutrition and hypovitaminosis lead to fetal epigenetic alterations, which are often permanent, contributing to the increase in non-communicable chronic diseases.

5 CONCLUSIONS

Through the information contained in this study, it is possible to identify scientific evidence that points to a close relationship between the injuries that occur during pregnancy due to maternal nutritional status and the repercussions of these on the fetus, in its childhood and adulthood.

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