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MATERNAL OBESITY AND ITS EFFECTS ON CHILD DEVELOPMENT: A NARRATIVE REVIEW OF THE LITERATURE

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ABSTRACT

Objective: To analyze the effects of maternal obesity on child development. Literature Review: The number of overweight and obese women of reproductive age has also increased, following the global increase. This has a detrimental effect on the woman's reproductive life, as well as on the baby's life, generating a great impact on maternity services (GARCIA, 2019). It was observed that the main consequences of a pregnancy of an obese woman are: high risk of developing GDM, hypertensive disorders, preeclampsia, development of cardiovascular diseases, induction of labor, cesarean section, macrosomia and prematurity((KHALAK; CUMMINGS; DEXTER, 2015; BENER, 2011). Final considerations: Maternal and neonatal complications such as GDM, HAG, preeclampsia and eclampsia, prematurity, unnatural births and macrosomia are comorbidities that arise recurrently with maternal obesity.

Keywords: Maternal Obesity. Complications. Child development.

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INTRODUCTION

Obesity is one of the biggest public health problems in the modern world, both in developed and developing countries. When compared to individuals with normal weight, overweight individuals show a higher risk of developing diabetes mellitus (DM), dyslipidemia, and hypertension (SAH), conditions that favor the development of cardiovascular diseases (CVD).

The increase in obesity rates in the world has generated several negative consequences for the health of the individual, such as cardiovascular diseases, diabetes, hypertension, dyslipidemia, cancer and even death (RESENDE; WEFFORT, 2019). The number of overweight and obese women of reproductive age has also been increasing, following the global increase. Right
it has a detrimental effect on the woman's reproductive life, as well as on the baby's life, generating a great impact on maternity services (GARCIA, 2019).

Pregnancy is a period of physical and emotional transformations for women. During this time, she finds herself in a new role in society and prepares to welcome a being that depends entirely on her to develop. By nourishing it in her womb, the woman fulfills her biological role of generating life and ensuring the healthy birth of the baby. (Petribu & Mateos, 2017).

Throughout pregnancy, a woman's body undergoes changes that include weight gain, which is important for the healthy growth of the fetus. However, if this weight gain occurs inappropriately, it can bring significant complications to the health of both mother and baby. (Brandão et al., 2019).

During pregnancy, it is common to have a natural weight gain, as the woman's body prepares to welcome a new life, this happens due to the growth of body tissues. In addition, social and economic factors also influence this process, since many people do not have an adequate diet, which ends up affecting their eating habits, leading to the consumption of processed foods that are quickly obtained, resulting in weight gain. (Oliveira et al., 2016)

LITERATURE REVIEW

Obesity in pregnancy is the central theme of several studies, due to the increase in the prevalence of this disease, and its decisive role in the outcome of pregnancy. Throughout the review process, the study found that pregnancy-related obesity is a

major risk factor for maternal and neonatal complications. It was observed that the main consequences of a pregnancy of an obese woman are: high risk of developing GDM, hypertensive disorders, preeclampsia, development of cardiovascular diseases, induction of labor, cesarean section, macrosomia and prematurity((KHALAK; CUMMINGS; DEXTER, 2015; BENER, 2011).

The studies analyzed in the research point to several issues related to obesity during pregnancy, which can result in complications for both mother and baby, such as gestational diabetes, high blood pressure, greater likelihood of cesarean deliveries, postpartum hemorrhage, risk of miscarriage, urinary tract infections, increased mortality, among others. For the baby, the most common problems include: excessive birth weight, small-for-gestational-age (SGA) or large-for-gestational-age (LGA) babies, premature births, insulin resistance, risk of stillbirth, childhood medical conditions, as well as metabolic and respiratory issues, among others. (Nascimento et al., 2018a; Ferreira et al., 2019; Zuccolotto et al., 2019; Lana et al., 2020; Oliveira et al., 2020; Paulino et al., 2020; Silveira et al., 2021; Teles, 2021; Trombe et al., 2021).

With regard to the difficulties related to weight gain during pregnancy, a study carried out in two cities in Rio de Janeiro highlighted two relevant pieces of information: women with GD start their pregnancies with a high body mass index (BMI), however, they tend to gain less weight due to activities to promote healthy eating habits; Pregnant women with hypertension, on the other hand, are more likely to gain weight during pregnancy. (Marano et al., 2012).

Regarding complications for the baby, fetal macrosomia is a highlight, being mentioned in 7 of the 9 studies analyzed. A survey carried out in Rio de Janeiro (Oliveira et al., 2008) revealed that the incidence of newborns with this problem was 6.7%, a figure significantly higher than in previous studies carried out in other Brazilian cities, which raises concerns about the nutritional status of women before and during pregnancy.

In addition, an increase in the rate of caesarean sections was observed in the studies reviewed. A cross-sectional survey carried out with postpartum mothers at the Darcy Vargas Maternity Hospital (Joinville-Santa Catarina), between May and June 2013, found that the association between obesity and pregnancy had negative impacts, such as a higher number of cesarean sections and severe hemorrhages (Silva et al., 2014). These findings are in line with the studies by Lana et al. (2020), Paulino et al.

(2020), and Trombe et al. (2021). Another study, carried out in a hospital in Paraná in 2017, revealed that cesarean sections were performed due to a series of factors resulting from complications during pregnancy. (Carreli et al., 2020).

Venous thromboembolism is a significant risk of occurring in pregnant women, and it increases when it comes to obese pregnant women, as the pregnant woman has compression of the left common iliac vena cava by the uterus, decreased venous tone because of the myorelaxant action of progesterone, hypercoagulability, increased fibrinogen and plasminogen activator inhibitor type I and II, decreased protein synthesis, endothelial injury (due to nidation), endovascular remodeling of the spiral uterine arteries and delitation (OLIVEIRA; MARQUES, 2016).

The types of deliveries can also be related to maternal obesity, such as increased need for cesarean deliveries, and this procedure can increase the risks to the mother by up to four times (BORGHESI et al., 2017; SELIGMAN et al., 2006). The chance of a cesarean section increases as the pregnant woman's BMI also increases, especially in BMI>30 kg/m² (BORGHESI et al., 2017).

The increase in prematurity is related to the increase in maternal BMI, both acquired during pregnancy and pre-pregnancy, especially in cases of morbid obesity (TEIXEIRA et al., 2018). Prematurity associated with obesity causes greater adversities to the newborn baby, such as: the need for resuscitation in the delivery room, greater admission to the ICU and the need for respiratory support(KHALAK; CUMMINGS; DEXTER, 2015).

FINAL CONSIDERATIONS

It is noteworthy that maternal and neonatal complications such as GDM, HAG, preeclampsia and eclampsia, prematurity, unnatural births and macrosomia are comorbidities that arise recurrently with maternal obesity. The sequelae to the fetus are worrisome, with some of the most cited in the literature being lesions at the time of delivery, macrosomia, need for admission to the neonatal ICU, shoulder dystocia, deaths, and even greater probabilities of future obesity.

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