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REVIEW

Survey of risk factors and pregnancy complications in women with prolonged gestation

Estudio de los factores de riesgo y las complicaciones del embarazo en mujeres con gestación prolongada

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ABSTRACT

Introduction: pregnancy is an extraordinary and remarkable event in a woman's life and requires special care for her individualities. It means an incomparable cycle for her, the art of conceiving her own child. To count the main articles involving risk factors and complications in prolonged pregnancy.
Method: this is a descriptive, quantitative and exploratory data analysis study. Research was carried out in two stages: identification of the central problem and a search in the literature for quantitative research that addresses the central objective of the work and the elaboration of the following questions: "What is the nurse's attribution to prolonged pregnancy?"
Results: articles were found in English, Portuguese and Spanish, a total of 14 articles.
Conclusion: there is a relative scarcity of articles on risk factors and complications related to prolonged pregnancy, and there is a need for more scientific evidence.

Keywords: Prolonged Pregnancy; Pregnancy Complications; Risk Factors.

RESUMEN

Introducción: el embarazo es un acontecimiento extraordinario y notable en la vida de una mujer y requiere un cuidado especial para sus individualidades. Significa para ella un ciclo incomparable, el arte de concebir su propio hijo. Contar los principales artículos que involucran factores de riesgo y complicaciones en el embarazo prolongado.
Método: se trata de un estudio descriptivo, cuantitativo y exploratorio de análisis de datos. La investigación se realizó en dos etapas: identificación del problema central y búsqueda en la literatura de investigaciones cuantitativas que aborden el objetivo central del trabajo y elaboración de las siguientes preguntas: "¿Cuál es la atribución de la enfermera al embarazo prolongado?"
Resultados: fueron encontrados artículos en inglés, portugués y español, un total de 14 artículos.
Conclusión: existe una relativa escasez de artículos sobre factores de riesgo y complicaciones relacionadas con el embarazo prolongado, siendo necesaria una mayor evidencia científica.

Palabras clave: Embarazo Prolongado; Complicaciones del Embarazo; Factores de Riesgo.

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INTRODUCTION

Pregnancy is an extraordinary and remarkable event in a woman's life and requires special care for her individualities. It means an incomparable cycle for her, the art of conceiving her own child. However, this event is not only important for the woman, but also for her partner, family and friends, as the body will undergo considerable hormonal, physiological and psychological transitions as the months go by [1,2,3,4,5].

Pre-term, term and post-term pregnancies are considered high and low risk in terms of gestational age. In this context, a preterm pregnancy is one that occurs before 37 weeks of gestation (259 days). Term pregnancies have an average duration of 280 days, around 40 weeks, counting from the date of the last menstrual period (LMP), and those that exceed 42 are called post-term or prolonged pregnancies.[6,7,8]

Maternal complications can be conducive to prolonged pregnancy, including perineal laceration, oligohydramnios, disproportion of the feto-vaginal canal, uterine rupture, progression to cesarean section, prolonged hospitalization, maternal survival with a ruptured pouch for more than 18 hours, episiotomy and especially puerperal bleeding, It is considered the leading cause of death in the world, occurring in the first 4 hours postpartum, and has been associated with a high morbidity and mortality rate, with progression to acute respiratory distress syndrome (ARDS), coagulopathy, shock and pituitary necrosis (Sheehan's syndrome).[9,10,11,12]

For the fetus, post-term delivery is considered to be a prone factor for fetal macrosomia, defined as a birth weight of 4 000 grams or more, which increases the likelihood of post-natal trauma, post-partum hemorrhage, shoulder dystocia, orthopedic and neurological injuries. Dystocia is a combination of factors related to fetal size, birth canal and the effectiveness of uterine contractions. The stillbirth rate for women pregnant at 43 weeks is eight times higher than at 41 weeks. Prolonged pregnancy occurs in 0,4 % to 7 % of pregnancies, and its cause is unknown. Fetal compromise The main complicating factor is placental insufficiency, leading to hypoxia and fetal distress, as well as the risk of oligohydramnios associated with umbilical cord compression. Neonatal complications include fetal macrosomia, spinal cord compression, clavicle fracture, brachial plexus injury, low APGAR, hypoglycemia, respiratory distress syndrome and meconium aspiration syndrome.[13] The births of macrosomic NBs result in hospital stays of one week longer than those of normosomic NBs. Considering the complications mentioned above, prolonged pregnancy precedes the need for labor induction. Therefore, induction of labor, either by oxytocin when there is no fetal distress, or by cesarean section if the fetus is compromised, is appropriate due to the reduction in maternal and fetal complications, and because it reduces the mother's apprehension.[14,15,16,17,18]

The principle of induction of labor is uncertain, and guidelines vary nationally and internationally. The most recent recommendation from the World Health Organization WHO (2018) is to induce labor in women who have reached a gestational age of 41+0 weeks.[19,20,21]

A systematic review and meta-analysis of 15 million pregnancies showed that, after 39 weeks of gestation, the overall risk of stillbirth increased with gestational age. Due to the increased risk of complications, induction of labor is recommended for most women with pregnancies over 41-42 weeks of gestation.[22,23,24,25]

Labor can then be induced for these indications: pre-eclampsia, prolonged gestation or post-term pregnancy, premature rupture of the ovarian membranes, fetal death, among others. ITP (induction of labor) is contraindicated in pregnant women with previous placenta previa, uterine rupture, previous major surgery and transverse fetal presentation. Although ITP is effective, it can cause harm by modifying the natural process of childbirth, resulting in a change in fetal heart rate, hyperstimulation, uterine rupture, bleeding and immediate complications that lead to emergency caesarean section.[26,27,28,29,30]

It is therefore essential that health professionals encourage complementary therapies, such as walking, breathing exercises, various positions, immersion and/or sprinkling baths, relaxation exercises, massages, ball exercises, among other things. In addition, in order to prevent ITP from being carried out routinely and without real evaluation and clinical indication, it has become quite common, with 25 % of women in developed countries undergoing induction. In developing countries, these percentages are lower, but increasing.[31,32,33]

Maternal mortality is a major social and public health problem and has a direct impact on the quality of care. Violence in childbirth was also a health policy issue at the end of the 1980s. Obstetric violence, the aggressive management of vaginal childbirth, is related to the impertinent and exaggerated use of invasive interventions and imminent harm in vaginal childbirth, such as the unregulated use of oxytocin to induce or accelerate childbirth, the Kristeller maneuver, forceps, episiotomy, among others. Violently manipulated childbirth is subjected to cesarean section, adding to its occurrence and consequent risks. Violence in vaginal childbirth acts as a form of constraint or coercion towards a caesarean section, while the alternatives available to women boil down to this surgery or an abruptly conducted vaginal birth.[34,35,36]

In Brazil, there are few studies evaluating resolutions associated with post-term birth and even less attention is paid to births at 41 gestational weeks, which accounted for 7,8 % of births in the country in 2017. In the Pelotas (Rio Grande do Sul) cohorts, researchers described a doubling of the risk of neonatal mortality in post-term births, as opposed to those born between 39 and 41 weeks.[37,38]

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Objectives

To count the main articles involving risk factors and complications in prolonged pregnancy.

METHOD

The method is based on a descriptive, cross-sectional, quantitative and exploratory data analysis study. The inclusion criteria were articles in Portuguese, Spanish and English, complete reviews and original articles, indexed in the Latin American and Caribbean Health Sciences Literature (LILACS) and MEDLINE databases. The inclusion criteria were those taken from the last 5 years and containing the following subject descriptors: "*prolonged pregnancy*", "*risk factors*", "*pregnancy complications*". Due to the scarcity of articles published on risk factors in prolonged pregnancy, we included all those that dealt with them according to the DeCS, both literature reviews and originals.

The exclusion criteria were articles that were not indexed, letters to the authors, duplicates, complete articles, articles in a language other than those mentioned, articles that were not related to human beings, and articles that exceeded 5 years of publication. The subject descriptors were retrieved by analyzing the site: https://bvsalud.org/

The research was carried out in two stages: identifying the central problem and searching the literature for quantitative research that addresses the central objective of the work and developing the following questions: „What are the nurse‘s duties for prolonged pregnancy?“ Fourteen articles were found on prolonged pregnancy and its complications in the last five years. The search for studies began in April 2024.

RESULTS

According to the bibliographic survey, articles were found in English, Portuguese and Spanish, a total of 14 articles in the LILACS and MEDLINE databases over the last five years. Two articles were removed which were not included in our method, because the relationships between our descriptors were specifically with research involving human beings (Pregnant women with prolonged gestation). These articles dealt with subjects related to veterinary medicine, which did not fit in with our proposed objectives.

Table 1. Articles found according to the proposed objective

Author/year	Language	Summary
Shekari, et al. 2022	English	Adolescents, primiparous mothers and post-term mothers have a higher risk of developing amniotic fluid with meconium, according to the study carried out at the tertiary hospital in Bandar Abbas, Iran.
Bonato, et al. 2022	Portuguese	Candida albicans is one of the yeasts that has been causing the most Urinary Tract Infections (UTIs), especially in hospital environments, leading to complications.
Andersson, et al. 2022	English	Uncertainty about the most appropriate time to induce labor can lead to risks of neonatal morbidity and complications in prolonged pregnancy.
Moyer, et al. 2021	English	Systemic Lupus Erythematosus (SLE) has affected pregnant women, but with good medical management it is possible to safely achieve a full-term pregnancy
Goiás, et al. 2021	Portuguese	The term Long COVID can be divided into two categories, Post-Acute COVID which refers to symptoms of 3-12 weeks and Chronic COVID with symptoms beyond 12 weeks. This article reports on complications with COVID, bringing little relevance to the risk factors in prolonged pregnancy, in line with the proposed objective
Sculli, et al. 2021	English	Pregnant women with SARS-CoV-2 infection (COVID-19) are at high risk of respiratory syndrome. Therefore, after evaluation, pregnant and breastfeeding women should be advised to receive the COVID-19 vaccine This article discusses the complications, but with little emphasis on women with prolonged pregnancies
Baytekus, et al. 2019	English	The article presented the risk factors associated among pregnant and lactating women with vitamin A deficiency, with little approach to prolonged pregnancy
Slack, et al. 2019	English	Women who are obese have a higher risk of developing a pregnancy with inadequate timing.
Eastman,et al. 2019	English	Iodine is very important during pregnancy, as it helps to increase the production and placental transfer of thyroid hormone, which is essential for the proper development of the fetus. This article provides little evidence on the complications and risk factors of prolonged pregnancies

Larsen, et al. 2019	English	Pregnant women who have HIV and don't disclose it should be targeted with a message to raise awareness of the risks and start ART (antiretroviral treatment). This article provides little evidence on complications and risk factors in prolonged pregnancies, only on the approach to HIV-infected women.
Obstet Gynecol. 2019	English	Many autoimmune drugs can be used during pregnancy without putting the fetus at risk. This article provides little evidence on the complications and risk factors of prolonged pregnancies
Gancedo-García, et al. 2019	Spanish	The aim of the article is to find out the level of anxiety related to knowledge of childcare and lactation in primiparous pregnant women and the clico-demographic variables associated with them. This article provides little evidence on complications and risk factors in prolonged pregnancies.
Pugh, et al. 2018	English	Pregnancy-associated breast cancer is one of the most common malignancies. It is rarely identified by mammography. This article provides little evidence on the complications and risk factors of prolonged pregnancies
Sabando, et al. 2018	English	Many information leaflets do not provide patients with the necessary information on anti-rheumatic drugs. This article provides little evidence on the complications and risk factors of prolonged pregnancies

DISCUSSION

According to Mitra Shekari (2022), several common maternal risk factors have been associated with the development of meconium amniotic fluid. Meconium is found in the gastrointestinal tract of fetuses from 14 - 16 weeks of gestation.[39,40,41]

The indication for induction of labor is diverse, and varies in concept nationally and internationally, but leads to various complications. The most recent recommendation by the WHO (2018) is induction of labor in women who have reached gestational age 41 + 0 weeks. This article shows that maternal complications increased in births that took place between 41 + 4 and 42 + 0 weeks compared to gestational age 41 + 0 and 41 + 3 weeks, as a result of induction.[42,43]

According to Moyer, A. (2021) shows that lupus can affect women of childbearing age, according to the literature it is understood that lupus can bring several risk factors for pregnant women, but if there is good medical and obstetric management, using treatments and medications compatible with pregnancy, a full-term pregnancy can be safely achieved. In the United States alone, approximately 4,5 million people are affected by autoimmune diseases such as lupus, arthritis and inflammatory bowel disease. Immunomodulant drugs that are not contraindicated in pregnancy are compatible with breastfeeding.[44,45,46,47,48,49]

According to research by Sculli (2021), pregnant women are at high risk of serious illnesses in relation to lung flu. Risk factors such as diabetes and obesity can also influence complications such as premature birth. According to the article, including pregnant women in the COVID-19 vaccination can protect both mother and fetus.[50,51,52]

Vitamin A deficiency can lead to risk factors such as blindness, fetal growth retardation, and in pregnant women it can even lead to miscarriage. Maternal vitamin A deficiency is considered a public health problem. According to the article 7,8 % of pregnant women suffer from deficiency, the highest rate was identified in Africa (9,8 %), which may be related to low socio-economic status and poor health status.[53,54,55]

Extreme preterm birth may be associated with maternal BMI (body mass index). The effects vary according to the maternal BMI subgroup and gestational age. As the BMI category increases, so does the risk of post-term birth.[56,57,58,59]

Iodine intake is beneficial during pregnancy, as it contributes to the demand for increased production and placental transfer of thyroid hormone. Iodine deficiency can lead to risks such as physical, neurological and intellectual deficits. In pregnant women, it increases the risk of miscarriage, morbidity rates and low birth weight babies.[60,61]

Antiretroviral treatment to prevent mother-to-child transmission of HIV (Human Immunodeficiency Virus) in pregnant women preserves the mother's health and reduces viral load, while nevirapine as infant HIV prophylaxis prevents infection of exposed neonates. In South Africa, mothers go through a national program "*Prevent Mother To Child Transmission of HIV*" (PMTCT), providing support for disclosure of HIV status.[62,63,64]

Many pregnant women can develop a certain amount of anxiety during prenatal care and in relation to general breastfeeding knowledge. The main aim of the article is to show educational interventions to expand this information.[65,66,67,68]

Breast cancer in pregnancy is very common among women in the United States. Its effects are difficult to understand. It is predicted that rates may increase as women delay childbirth until later in life.[69,70]

The aim of this article was to analyze the level of consistency and updating of the information on pregnancy

and lactation provided in the patient information leaflets for antirheumatic drugs approved in Argentina.[19]

Urinary tract infections have been on the rise, especially in hospitalized patients in Brazil and around the world. Most of them are caused by yeasts of the genus Candida, and some factors that can influence this are: female gender, advanced age, diabetes mellitus, prolonged hospitalization, among others.[55]

COVID causes symptoms such as: fatigue, dyspnea, cough, chest pain, heart palpitations, hyperthermia, headache, muscle pain, gastrointestinal problems, loss of taste and smell. It can be divided into two categories Post-Acute COVID with symptoms from 3-12 weeks and Chronic COVID with symptoms beyond 12 weeks.[21]

CONCLUSION

After completing the work presented above, we can come to the conclusion that the pregnancy cycle is of the utmost importance, and should be treated with great dedication, wisdom and knowledge on both sides, from illnesses to biopsychosocial support. As such, it is essential that both the professionals who will be providing care to pregnant women, from the moment of prenatal care to the puerperium, disseminate information relevant to this cycle to the mother and her partner, so that they understand this pregnancy process, the importance of having prenatal care, monitoring the progress of the fetus, educating about their rights, warning about the ideal time of pregnancy and the risks of going over the expected time, because one of the reasons why prolonged pregnancies occur is the lack of information, a lay mother. It is understood that there is a relative scarcity of articles found addressing risk factors and complications related to prolonged pregnancy, and there is a need for more scientific evidence associating these main relationships between the main risk factors in prolonged pregnancy and its complications.

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