International Journal of Health Science

ISSN 2764-0159 vol. 6, n. 3, 2026

ARTICLE 9

Acceptance date: 20/03/2026

PHYSIOLOGICAL DERMATOLOGICAL CHANGES DURING PREGNANCY: LITERATURE REVIEW

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Abstract: Pregnancy is a period characterized by profound hormonal, immunological, metabolic, and vascular changes that promote various adaptations in the maternal organism. Among these changes, physiological skin changes stand out, often observed during prenatal care and considered part of the adaptive process of pregnancy. These manifestations may involve changes in skin pigmentation, vascular changes, changes in skin appendages, and changes in connective tissue. Although in most cases they are benign and transient, these changes can raise diagnostic questions and concerns in pregnant women, and it is important for healthcare professionals to recognize them and differentiate them from specific pregnancy-related dermatoses or pre-existing dermatological diseases. The present study aims to review the scientific literature on the main physiological dermatological changes in pregnancy, addressing their pathophysiological mechanisms, clinical manifestations, and relevance in clinical practice. This is a narrative literature review based on the analysis of scientific articles published in national and international databases. The results show that pigmentary, vascular, glandular, and structural changes in the skin are extremely common during pregnancy, mainly due to hormonal influences and circulatory adaptations. It is concluded that knowledge of these manifestations is essential for the proper guidance of pregnant women and to avoid unnecessary interventions, contributing to safer and more humanized prenatal care.

Keywords: Pregnancy; Pregnancy-related skin conditions; Physiological skin changes.

Introduction

Pregnancy represents a period of intense physiological changes in the female body, resulting mainly from hormonal and metabolic changes necessary for fetal development and maternal adaptation to the gestational process. These changes affect several organ systems, including the integumentary system, which often undergoes visible changes throughout pregnancy. It is estimated that more than 90% of pregnant women experience some type of skin change during this period, many of which are considered physiological and not pathological.

Dermatological changes during pregnancy can be classified into three main groups: physiological skin changes, pregnancy-specific dermatoses, and changes in pre-existing dermatological diseases. Among these categories, physiological changes are the most common, resulting from the action of hormones such as estrogen, progesterone, and melanocyte-stimulating hormone, in addition to vascular and immunological adaptations specific to pregnancy.

Among the most frequently observed manifestations are skin hyperpigmentation, including melasma and linea nigra, increased pigmentation of the areolas and genitals, vascular changes such as telangiectasias and palmar erythema, as well as changes in skin appendages such as hair and nails. Changes in connective tissue are also common, especially the appearance of stretch marks.

Although considered physiological, many of these changes can have a significant aesthetic impact and cause anxiety in pregnant women. In this context, adequate knowledge of these manifestations by health professionals is essential for correct diagnosis, appropriate guidance, and reassurance of patients, avoiding unnecessary tests and treatments.

Given the high frequency of these changes and the need for a better understanding of their clinical and pathophysiological characteristics, it is important to conduct literature reviews that systematize the available knowledge on the subject.

Objective

To review the scientific literature on the main physiological dermatological changes observed during pregnancy, addressing their pathophysiological mechanisms, clinical manifestations, and implications for clinical practice.

Methodology

This is a narrative literature review with a qualitative approach, conducted with the aim of gathering and analyzing scientific studies on physiological dermatological changes during pregnancy. The bibliographic search was conducted in electronic databases, including PubMed, SciELO, Google Scholar, and the Virtual Health Library (VHL).

Descriptors in Portuguese and English were used, such as "alterações dermatológicas na gestação" (dermatological changes in pregnancy), "dermatological changes in pregnancy," "physiological skin changes in pregnancy," and "skin changes during pregnancy." Articles published preferably in the last 20 years were included, as well as classic textbooks on dermatology and obstetrics considered relevant to understanding the topic.

The inclusion criteria covered original articles, literature reviews, and book chapters that addressed physiological skin changes associated with pregnancy. Studies that dealt exclusively with specific dermatoses of pregnancy or dermatological diseases unrelated to the physiological gestational process were excluded.

After selecting the materials, a critical reading and descriptive analysis of the information was performed, allowing the content to be organized into thematic categories related to the main types of dermatological changes observed during pregnancy.

Discussion

Physiological dermatological changes during pregnancy result mainly from hormonal action, immunological adaptations, and vascular changes that occur during this period. These changes are widely recognized and can be grouped into pigmentary, vascular, glandular, and structural changes in connective tissue.

Among the most frequent changes are changes in skin pigmentation. Hyperpigmentation occurs in approximately 90% of pregnant women, being more evident in women with higher skin phototypes. This phenomenon is associated with increased melanocytic activity stimulated by hormones such as estrogen, progesterone, and melanocyte-stimulating hormone. Clinically, darkening of areas such as the areolas, genital region, scars, and abdominal linea alba, which becomes known as the linea nigra during pregnancy, is observed.

Melasma, also known as chloasma gravidarum, is another common pigmentary disorder. It is characterized by the appearance of brownish hyperpigmented spots, usually symmetrical, located mainly on the face. Exposure to ultraviolet radiation, associated with hormonal changes, plays an important role in the development of this condition.

Vascular changes are also common during pregnancy and are related to increased blood volume, peripheral vasodilation, and the effect of estrogen on the vascular endothelium. Among the most commonly observed manifestations are palmar erythema, characterized by diffuse redness on the palms of the hands, and telangiectasias, often referred to as spider angiomas. These lesions usually appear on the face, neck, and upper trunk.

In addition, increased venous pressure and hemodynamic changes during pregnancy favor the appearance of varicose veins and peripheral edema, especially in the lower limbs. These changes reflect venous compression caused by uterine growth and decreased venous return.

Changes in connective tissue are also quite characteristic of pregnancy, with stretch marks being one of the most well-known manifestations. These lesions arise due t y distension of the skin associated with hormonal factors that promote a reduction in the elasticity of collagen and elastic fibers. Initially, they appear erythematous-violaceous in color, later evolving to a whitish and atrophic appearance.

Changes in skin appendages can also be observed during pregnancy. Hair growth can be influenced by the prolongation of the anagen phase of the hair cycle, resulting in thicker and more voluminous hair. However, in the postpartum period, telogen effluvium is common, characterized by tempo-

rary hair loss due to the synchronization of the follicular cycle.

Nails may also undergo changes, such as brittleness, ridging, or accelerated growth. Although less frequent, these changes reflect the hormonal and metabolic influence of pregnancy.

In general, most of these changes tend to regress spontaneously after delivery, although some, such as stretch marks and melasma, may persist partially. For this reason, proper guidance during prenatal care is essential to educate pregnant women about the benign nature of these manifestations.

Conclusion

Physiological dermatological changes are common manifestations during pregnancy and reflect the complex hormonal, vascular, and metabolic adaptations of the maternal organism. Among the main changes observed are skin hyperpigmentation, vascular changes, stretch marks, and changes in hair and nails.

Although generally benign and transient, these manifestations can cause concern in pregnant women, especially when they involve visible aesthetic changes. Therefore, recognition of these changes by healthcare professionals is essential for proper diagnosis and differentiation from specific pregnancy-related dermatoses or other dermatological conditions.

In addition, appropriate guidance during prenatal care helps reduce maternal anxiety and avoid unnecessary interventions. Up-to-date knowledge about these changes allows for a safer clinical approach, contributing to the promotion of comprehensive health care for women during pregnancy.

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