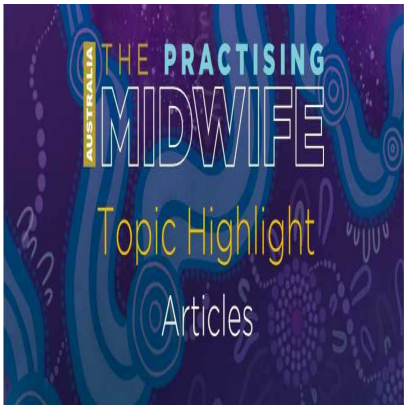


Description

Understanding Stretch Marks in Pregnancy

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Published in The Practising Midwife Australia Volume 04 Issue 03 Autumn 2026, Page 13

https://doi.org/10.55975/UZKY6820

Introduction

Striae gravidarum (SG), commonly known as pregnancy stretch marks, are atrophic linear dermal scars that develop when the skin's connective tissue is disrupted by rapid stretching and hormonal influences during pregnancy.[1] Studies report up to 75-90% of pregnant women develop SG,[2] underscoring how widespread this condition is. These changes are benign but can affect body image and quality of life. This article reviews evidence addressing the belief that good maternal nutrition and hydration reduce stretch marks in pregnancy.

Physiology

Pregnancy places considerable physical and hormonal demands on the skin. Rapid uterine growth, gestational weight gain, and breast enlargement result in progressive stretching of the skin. Simultaneously, hormonal changes alter function and weaken collagen and elastin fibres,[1,3] thus increasing susceptibility to dermal disruption under stress. Studies identify genetic predisposition as a major determinant of skin elasticity, with family history strongly associated with SG. Elasticity is therefore largely biologically determined, rather than modifiable through behavioural interventions.[3]

Nutrition

Maternal nutrition supports dermal maintenance and repair throughout pregnancy, which undergoes continuous remodelling in response to pregnancy changes.[3] Adequate macronutrient intake is required to sustain collagen synthesis, dermal turnover and skin barrier function. Protein provides essential amino acids for this function; however, studies have not demonstrated an association between higher protein intake and a reduced incidence of SG.[2]

Micronutrients also contribute to connective tissue function. Vitamin C is essential for collagen hydroxylation and stabilisation. While adequate intake supports skin health, dietary studies have not shown that increased vitamin C consumption prevents SG.[2] Trace elements such as zinc and copper are involved in collagen and elastin metabolism, yet deficiencies are not independently associated with SG either.[2] Omega-3 fatty acids support cell membrane integrity and inflammatory regulation and are important for maternal and fetal outcomes but haven't demonstrated a protective effect on SG.[2] Overall, adequate maternal nutrition supports skin health but does not prevent SG.

Hydration

Hydration is commonly believed to enhance skin elasticity. Studies show that increased hydration improves skin surface smoothness and short-term turgor. However, hydration status has minimal impact on the deeper dermal layers where striae develop.[4] While hydrated skin may feel more supple, dermal elasticity and resistance to mechanical stretching remain unchanged. No clinical studies demonstrate that increased fluid intake reduces the incidence or severity of SG.[1,4]

Nevertheless, hydration during pregnancy is essential for plasma volume expansion, amniotic fluid regulation, thermoregulation and maternal comfort. Hydration advice should therefore be framed around these physiological benefits rather than cosmetic expectations.

Midwifery messaging

While diet and hydration are fundamental to health in pregnancy, midwives play a key role in providing evidence-based guidance on normal skin changes during pregnancy. Education should promote balanced nutrition and adequate hydration for maternal and fetal health while emphasising that stretch marks are largely influenced by genetic and hormonal factors. Reframing advice away from appearance-based outcomes helps reduce guilt and self-blame when SG occurs and supports a body-positive, woman-centred approach to care. **TPM**

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Date Created
15th April 2026