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# Midwifery Care for Pregnant Women with Atopic Dermatitis

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**Abstract:**
Atopic dermatitis, or atopic eczema, is a chronic inflammatory skin disease characterized by itchy red skin lesions, xerosis, ichthyosis, and skin pain. Among the social impacts of atopic dermatitis are difficulty and isolation in relationships and social stigmatization. In addition, atopic dermatitis is known to cause sleep disturbances, anxiety, hyperactivity, and depression. This study aims to provide midwifery care in cases of atopic dermatitis experienced by pregnant women in the third trimester. The case study design in this study uses an in-depth approach to the subjective mother A, age 31 years, G3P1011, gestational age 32-33 weeks, who comes with complaints of itching on the body with skin conditions experiencing dryness and scaling, which causes the skin surface to feel rough. Data was collected through interviews, observation, physical examination, and documentation study. The examination was carried out through inspection and palpation of the skin area experiencing complaints, along with an assessment of the skin condition. Interviews regarding the history of allergies and precipitating factors reinforced the initial diagnosis. The diagnosis made was atopic dermatitis in pregnant women in the third trimester with complaints of pruritic and dry skin. Midwifery interventions were carried out through observation and education. Evaluation results showed a decrease in itching complaints and improved skin condition. This study emphasizes the importance of early detection of skin dryness and a holistic approach in supporting the comfort and skin health of pregnant women.

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## INTRODUCTION

Pregnancy induces profound physiological changes across multiple body systems, including the integumentary system, often manifesting as pruritic conditions that disrupt maternal comfort (Broshtilova & Gantcheva, 2024). Pruritus during pregnancy is frequently attributed to hormonal fluctuations, increased blood volume, and metabolic alterations inherent to gestation (Balakirski & Novak, 2022). While typically benign, this symptom may signal underlying pathologies such as intrahepatic cholestasis of pregnancy or exacerbation of pre-existing dermatoses like atopic dermatitis (Shrikhande & Kadu, 2024). Understanding the etiological spectrum of pruritus is critical for timely intervention, as misdiagnosis risks maternal and fetal complications (Rudder et al., 2021).

Epidemiological studies highlight a heightened incidence of pruritus in the third trimester, correlating with elevated levels of progesterone, estrogen, and metabolic byproducts accumulating during late gestation (Rudder et al., 2021). This temporal pattern underscores the interplay between hormonal dynamics and cutaneous sensitivity, though differentiation between physiological and pathological causes remains paramount. For instance, atopic dermatitis, reclassified under the broader term Atopic Eruption of Pregnancy (AEP), accounts for approximately 50% of gestational

dermatoses, necessitating precise diagnostic criteria to distinguish it from pruritic conditions like pemphigoid gestationis or viral hepatitis (Balakirski & Novak, 2022).

Atopic dermatitis, a chronic inflammatory skin disorder, is characterized by xerosis, erythematous plaques, lichenification, and intense pruritus, which may worsen during pregnancy due to immunological shifts (Balakirski & Novak, 2022). Clinically, lesions exhibit heterogeneity in morphology and distribution, complicating differential diagnosis (Meledathu et al., 2025). Beyond physical manifestations, the condition imposes significant psychosocial burdens, including social isolation, stigmatization, and heightened risks of anxiety, depression, and sleep disturbances, which may exacerbate maternal stress levels (Afshari et al., 2024).

The pathophysiological basis of AEP lies in pregnancy-induced immune modulation, marked by a Th1-to-Th2 cytokine shift. Reduced Th1 activity diminishes cell-mediated immunity, while elevated Th2 responses amplify humoral immunity, perpetuating the pro-inflammatory state inherent to atopic individuals (Balakirski & Novak, 2022). This immunologic imbalance exacerbates epidermal barrier dysfunction and pruritus, underscoring the need for targeted therapeutic strategies that reconcile maternal and fetal safety (Hills, 2024).

Despite its benign reputation, pruritus in pregnancy profoundly impacts quality of life, contributing to sleep fragmentation, emotional distress, and diminished daily functioning (Ting & Nixon, 2021). Chronic scratching may lead to secondary infections or excoriations, further complicating maternal health. Thus, effective management must address symptom relief and the prevention of sequelae, requiring a multidisciplinary approach involving dermatologists and midwives (Shrikhande & Kadu, 2024).

Midwifery care plays a pivotal role in identifying and managing pruritic conditions during pregnancy. Early recognition of AEP's clinical features and patient education on skin hydration, trigger avoidance, and pharmacotherapeutic options can mitigate disease severity (Polańska, 2025; Kasanova et al., 2025). Moreover, midwives are instrumental in monitoring maternal and fetal outcomes, ensuring timely referrals for severe cases, and providing psychosocial support to alleviate patient anxiety (Peracchini et al., 2023; Putri et al., 2025).

This review synthesizes current evidence on the pathophysiology, clinical presentation, and management of atopic dermatitis in pregnancy, emphasizing the midwife's role in optimizing maternal dermatological and emotional health. By integrating immunological insights, patient-centered care, and evidence-based interventions, midwives can enhance the quality of life for pregnant individuals experiencing pruritic conditions.

## STUDY DESIGN

This study employed a case study design to explore midwifery care strategies for managing atopic dermatitis in a third-trimester pregnant woman. The case study utilized an in-depth, qualitative approach to capture the subjective experiences of the participant, integrating clinical observations and patient-reported outcomes. The primary objective was to develop tailored midwifery interventions addressing symptom relief, skin barrier protection, and psychosocial support while ensuring maternal and fetal safety.

Data collection was conducted through multiple modalities, including semi-structured interviews, direct observation, physical examination, and review of medical documentation. Interviews explored the participants' history of atopic dermatitis, symptom progression, and its impact on daily life. Physical assessments documented the extent and severity of skin lesions, hydration status, and secondary complications such as excoriations or infections. Observational data included behavioral responses to pruritus and adherence to prescribed skincare routines. Medical records

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were reviewed to corroborate clinical findings and identify comorbidities or prior dermatological treatments. All data were synthesized to form a comprehensive profile of the case.

Ethical approval was obtained from the Institutional Ethics Committee of Poltekkes Kemenkes Malang. Informed consent was secured from the participant, ensuring confidentiality and voluntary participation. Data analysis followed a thematic framework, with interview transcripts and clinical notes coded for patterns related to symptom triggers, coping mechanisms, and healthcare needs. Findings informed evidence-based midwifery recommendations, prioritizing non-pharmacological interventions such as emollient therapy, allergen avoidance, and stress management, alongside pharmacological options when clinically indicated. This approach aimed to enhance maternal comfort and quality of life while minimizing risks during late-term pregnancy.

## PATIENT INFORMATION

The research focused on Mrs. A, a 31-year-old primigravida with a gestational age of 32–33 weeks (G3P1011), who presented with pruritus, xerosis, scaling, and rough-textured skin lesions.

## CLINICAL FINDINGS

The assessment results were obtained from interviews and direct examinations conducted on pregnant women and families. Obstetric problems that can be identified in this case are atopic dermatitis that occurs during pregnancy. Researchers describe these findings based on the steps of the midwifery care process. From the subjective assessment results, Mrs. A complained of itching on her body that had lasted for 27 weeks of pregnancy. The complaint was felt worse at night and caused comfort disturbances and difficulty sleeping in the mother. In a day, the mother slept for approximately 6 hours. In this case, the researcher also asked about the mother's drinking pattern in a day, where the mother said that in a day, she only consumed 600 ml of mineral water. Based on Mrs. A's and her family's medical history, there was no food allergy or previous history of itching. Based on the psychological assessment of the mother, namely the mother is worried about the condition of her current pregnancy, because the mother is classified as a high-risk pregnant woman with a history of abortion she experienced 10 years ago which occurred at 6 weeks gestation, as well as a height condition that is less than 145 cm, and the condition of the mother who has a history of anemia at the beginning of her pregnancy. Based on objective data, the following results were obtained: weight during pregnancy 48 kg, maternal blood pressure: 90/70 mmHg, Maternal body temperature: 36.6 O C, 32 weeks of gestation. On assessment, the mother's body skin appeared dry, scaly, with new scratching wounds, causing the mother's skin surface to be rough. No signs of infection were found in Mrs. A. Based on the analysis of the data that has been obtained, the problem diagnosis can be established, namely G3P1011 UK 32 weeks with atopic dermatitis.

## THERAPEUTIC INTERVENTION

Interventions for the problem of atopic dermatitis experienced by the mother include providing education about the daily fluid needs of pregnant women, namely 2-3 liters, and encouraging the mother to do cold compresses 3 times a day for 20 minutes. When using clothes that can absorb sweat and smooth fabrics such as silk, the temperature and humidity of the environment must be optimal, which is around 33-41 °C with a humidity of 45-55%. Bathing regularly 2x a day, after bathing and drying, followed by applying a moisturizer, the soap used must have a neutral pH. However, it is better to use a skin cleanser that does not contain soap ingredients and not use towels alternately

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with others. The problem was handled well and showed effectiveness. The mother showed significant improvement, where the itching experienced by the mother was no longer felt since day 20. Mrs A's skin was rehydrated and not scaly; no new scratching wounds were found. The skin was moisturized again. This is by the established outcome criteria.

The evaluation results of all actions given to Mrs. A showed that her skin condition improved, and there were no further complaints. Mrs. A previously experienced atopic dermatitis, a chronic and recurrent inflammatory skin disorder characterized by dry skin, local reddish rash, and intense itching (Jeskey et al., 2024). Insufficient skin hydration, maternal psychological factors, hormonal changes during pregnancy, and temperature changes can trigger this. Although pruritus during pregnancy does not directly harm the fetus, it can negatively affect the quality of life of pregnant women, such as causing stress, sleep disturbances, and discomfort (Ting & Nixon, 2021). Therefore, early detection and appropriate management are essential to prevent worsening of the condition. In the case of Mrs. A, the decision to educate and cold compress therapy was appropriate and by clinical treatment standards.

## DISCUSSION

Based on the data obtained by researchers in Mrs. A with a diagnosis of atopic dermatitis in pregnancy, where this condition is the result of hormonal fluctuations that occur during pregnancy which greatly affect skin health, especially in conditions such as precocity, which often shows worsening or improvement of symptoms as hormone levels change (Balakirski & Novak, 2022). Therefore, this condition requires attention and appropriate management. In line with research by Chopra, pregnant women with atopic dermatitis should immediately get appropriate interventions because it concerns maternal well-being and quality of life during pregnancy, while prioritizing maternal health and fetal safety (Chopra et al., 2025).

From the examination results, the mother experienced itching during pregnancy, which occurred since the 27th week. After the assessment, the mother has a history of poor drinking patterns, which is approximately 500 ml/day. It should be based on the MCH book and the contents of my plate for pregnant women; the minimum drink for pregnant women is 2L. Lack of water intake can cause dehydration, which impacts various problems, such as decreased cognitive function and physical abilities, and increases the risk of disorders of the urinary system, heart, and skin (Li et al., 2022). Water in the stratum corneum layer plays an important role in various enzymatic hydrolysis processes required for normal skin cell shedding (desquamation). When the water content decreases, these enzymatic processes are disrupted, resulting in skin cells (corneocytes) sticking together and accumulating on the surface. As a result, the skin becomes dry, feels rough, is accompanied by itching, discomfort, and is more susceptible to infection. This study is in line with research conducted by Seol, where it is explained that increasing water intake by 2 liters per day can increase skin hydration in individuals with low water consumption, and this effect can be strengthened using moisturizers (Seol et al., 2024). Increasing fluid intake can increase the stratum corneum's hydration (the skin's outermost layer), especially in individuals with low previous fluid consumption (Samadi et al., 2022).

Mrs. A was advised to compress the itchy skin using cold water for 20 minutes, three times a day, to help relieve her itching, and this showed promising results, with no complaints of itching found at 20 days after the intervention. The mechanism of cold compress therapy can inhibit itching because it reduces the conduction of sensory nerves, especially C fibers that carry the sensation of itching. There is a narrowing of local blood vessels, thereby reducing inflammation and skin irritation, and this cold compress can reduce the activity of histamine and other inflammatory mediators

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involved in itching. Skin cooling through cold compresses or menthol application can reduce itching by activating the Transient Receptor Potential Metastatic 8 (TRPM8) ion channel, which plays a role in the perception of cold temperature and inhibition of itch signaling. The effectiveness of giving cold compress therapy for more than 20 minutes, more than 3 times a day for 4 weeks, showed a decrease in itching, where skin cooling has been hypothesized to provide symptomatic relief from pruritus through vasoconstriction of blood vessels and further reducing the release of local pruritogens. Skin cooling is also thought to attenuate the excitability of neural membranes and facilitate the interaction between itch-mediating C fibers and cold-mediating Aδ fibers, which may reduce itch sensation (Brennan et al., 2024).

In addition, Mrs. A is also advised to wear clothes that can absorb sweat and fabrics made from smooth materials such as silk, the temperature and humidity of the environment must be optimal, which is around 33-41oC with a humidity of 45-55%, bathe regularly 2x a day, after bathing and drying followed by applying a moisturizer, the soap used must have a neutral pH. However, it is better to use a skin cleanser that does not contain soap ingredients and not use towels alternately.

Mrs. A's experience in dealing with atopic dermatitis during pregnancy is an important part of building physical and emotional resilience before childbirth. Efforts to reduce symptoms such as itching and dry skin were carried out through education, non-pharmacological therapies such as cold compresses, and regular monitoring of skin conditions (Gangadharan, 2021). Family involvement in supporting maternal comfort, as well as counseling and monitoring by health workers, is optimized to prevent excessive stress that can worsen skin conditions. These interventions reflect sustainable and holistic midwifery care, with an approach centered on the pregnant woman's needs (Campbell-Yeo et al., 2021).

## LIMITATION OF STUDY

Long-term studies with a larger number of patients are still needed to confirm the findings of this study.

## CONCLUSION

The results of this study concluded that the respondent, Mrs. AWR, G3P1011, was 32-33 weeks pregnant with a diagnosis of atopic dermatitis. Obstetric problems have been handled by planned interventions and adapted to the client's condition. Midwifery care in the form of education regarding hydration needs, maintaining personal hygiene, and giving cold compresses routinely reduced complaints of itching and skin irritation. Implementing interventions refers to relevant midwifery theory and practice and is tailored to the client's needs, making it easier to implement care. The implementation showed effective results, improved skin condition, and reduced subjective client complaints. According to the researcher, the entire series of actions from beginning to end went according to plan. They achieved the goal, namely the comfort and health of the mother's skin during pregnancy, without further complications.

## DECLARATION OF PATIENT CONSENT

The authors stated that they had obtained the appropriate patient consent form. In the form, the patient consented to her clinical information being reported in the journal. The patient understands that her name and initials will not be published, and every effort will be made to conceal her identity.

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## CONFLICT OF INTEREST

There is no conflict of interest in this article.

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