Jurnal Bidan Cerdas
e-ISSN: 2654-9352 | p-ISSN: 2715-9965
Volume 7 Issue 3, 2025, page 388-394
DOI: 10.33860/jbc.v7i3.4116
Website: https://ojs.polkespalupress.id/index.php/JBC
Publisher: Poltekkes Kemenkes Palu

The Effect of Aloe Vera Gel on Symptomatic Treatment of Pruritus Gravidarum

Meti Widiya Lestari, Nita Nurvita, Salma Thufailah, Ai Lela Nurul Muhlis K
Departement of Midwifery, Poltekkes Kemenkes Tasikmalaya, West Java, Indonesia
Corresponding author: meti.weel@gmail.com

ARTICLE INFO

Article History:

Received: 2025-02-13
Accepted: 2025-12-24
Published: 2025-12-30

Keywords:
Aloe vera gel, pruritus gravidarum, pregnant women

ABSTRACT

Background: Pruritus is a common discomfort occurring in the second and third trimesters of pregnancy, triggering a scratch. The treatment of pruritus can be administered through pharmacological and non-pharmacological therapies; however, many pregnant women avoid pharmacological medications due to concerns regarding potential adverse effects on the fetus. Topical Aloe vera gel is a recommended non-pharmacological alternative with no side effects for mother or infant. This research investigates the impact of Aloe vera gel application on pruritus in pregnant women.
Method: This research used a one-group pretest-posttest design. 15 third-trimester pregnant women with pruritus were selected by purposive sampling at Mangkubumi Health Center. Participants applied the treatment twice daily for two weeks.
Result: Before the aloe vera gel intervention, 40% of participants experienced mild itching and 60% moderate itching. Post-intervention, 6.6% reported complete relief, while 93.4% showed decreased itching intensity. Based on the Wilcoxon statistical test, a highly significant difference was observed (p = 0,001).
Conclusion: It can be concluded that there was a statistically significant effect of aloe vera gel for reducing pruritus in pregnant women.

INTRODUCTION

The gestation period is a significant phase in a woman's life, lasting approximately 280 days from conception to birth.(Szczęch et al., 2017). During this time, the body undergoes profound hormonal, metabolic, and immunological changes that directly affect the function and structure of the skin. These physiological and pathological alterations often lead to issues within the integumentary system, most notably pruritus gravidarum. As itching frequently emerges in the second or third trimester, addressing this discomfort is vital for maternal well-being, especially since stretching of the abdominal skin can activate dermal nerve endings that trigger persistent itching (Samarh et al., 2017).

Pruritus is defined as a skin sensation that stimulates the urge to scratch, significantly impacts the comfort of pregnant women, and requires appropriate management (Samarh et al., 2017). Treatment for this condition can be both pharmacological and non-pharmacological, many pregnant women are hesitant to use drugs due to concerns over potential side effects (Khoirini et al., 2018). Although various studies suggest that Aloe vera can treat itching, applying the raw plant directly may lead to inconsistent results, skin irritation, or allergic reactions due to increased skin sensitivity during pregnancy (Maryam et al, 2017). Furthermore, oral consumption of Aloe vera is strictly prohibited as it may trigger intestinal activity and uterine contractions, posing risks to

the pregnancy. Therefore, there is a practical need to validate safer delivery methods, such as formulated gels, which offer controlled concentrations, better stability, and improved absorption without systemic risks (Sahu Pankaj et al, 2019).

The focus of this research is to evaluate the efficacy of Aloe vera gel as a non-pharmacological intervention for pruritus among pregnant women at the Mangkubumi Health Center in Tasikmalaya. This study specifically examines the topical application of Aloe vera, a plant known for its bioactive compounds—such as acemannan, flavonoids, and vitamins A, C, and E—which serve as natural moisturizing and anti-inflammatory agents to hydrate the skin and reduce dryness (Hajhashemi et al., 2018).

Preliminary studies at the Mangkubumi Health Center revealed that 7 out of 10 pregnant women experienced varying levels of pruritus, yet many reported that the itching spread from the abdomen to the breast area, indicating a need for more comprehensive care. While existing literature highlights the benefits of Aloe vera, there is a lack of localized evidence regarding the effectiveness of its gel formulation in this specific community. Consequently, this study seeks to address this gap by determining the impact of Aloe vera gel on the pruritus scale of pregnant women in this region.

The theoretical contribution of this study lies in its focus on the topical route as a safe intervention that allows active components, like the anti-allergic glycoprotein alprogen, to work locally without entering the systemic circulation (Rishabh Raj et al, 2022). Practically, the study highlights how the high water content (94.83%) in Aloe vera gel serves as a superior moisturizing agent to soothe the skin and accelerate cell regeneration. By outlining these benefits, the research aims to establish Aloe vera gel as a safe, effective, and non-pharmacological solution for managing pregnancy-related itching (Rajeswari et al., 2021).

METHODS

The research was conducted with a one-group pretest-posttest design. In this study, we only assessed before and after using aloe vera gel on one group of respondents. The study aims to observe the progression of pruritus healing in third-trimester pregnant women following the routine daily use of Aloe vera gel.

The population in this study was pregnant women in the third trimester in the work area of the Mangkubumi Health Center who experienced pruritus. The sampling technique in this study used purposive sampling and obtained 15 people with inclusion criteria, namely pregnant women in the third trimester who experienced pruritus gravidarum, did not have skin allergies, and were willing to be respondents.

The use of aloe vera gel is applied in a thin, even layer to the entire area experiencing itching twice daily, preferably in the morning and evening, for a continuous period of 14 days. Consistent and regular application allows the active components of aloe vera to work effectively in providing moisturizing, soothing, and anti-inflammatory benefits to the skin. The Aloe vera gel utilized in this study consists of pure Aloe vera extract developed through this research and has been safety-tested, making it suitable for all skin types. This method of use helps relieve itching while maintaining skin comfort and minimizing the risk of irritation or adverse skin reactions.

Prior to the commencement of the study, all respondents were provided with a detailed explanation regarding the objectives, procedures, potential benefits, and possible risks of the research. Each respondent was given adequate time to ask questions and to consider their participation. After fully understanding the information provided, all respondents voluntarily signed an informed consent form, indicating their willingness to participate in this study. Participation was entirely voluntary, and respondents were informed of their right to withdraw from the study at any time without any consequences to the health services they receive.

The measuring instrument or instrument used in this study was an observation sheet in the form of a Numeric Rating Scale (NRS), the instrument was used to assess the scale of pruritus. The data analysis technique used the Wilcoxon statistical test. This study has passed an ethical review and was published by the research ethics commission KEPK (Health Research Ethics Commission) with No.032/EC-KEPK/VII/2020.

RESULTS

A study was conducted on 15 pregnant women to determine the effect of aloe vera gel in overcoming itching that occurs in the second and third trimesters of pregnancy. The discomfort of itching in pregnant women before being given an intervention in the form of aloe vera gel showed that all pregnant women experienced itching; there were 6 pregnant women (40%) who experienced mild itching and 9 pregnant women (60%) who experienced moderate itching. This can be seen in Table 1.

Table 1 Frequency Distribution of Respondents Based on the Pruritus Scale in Pregnant Women Before Using Aloe vera Gel in the Mangkubumi Health Center Work Area

Category	Frequency	Percentage (%)
Not itching	0	0.0
Mild	6	40.0
Moderate	9	60.0
Heavy	0	0.0
Total	15	100

After receiving intervention with the use of aloe vera gel, there was a decrease in itching discomfort in pregnant women. Aloe vera gel can help relieve itching in pregnant women as many as 1 person (6.6%), and reduce itching in pregnant women with 14 pregnant women (93.4%) having moderate itching. This can be seen in Table 2.

Table 2 Frequency Distribution of Respondents Based on the Pruritus Scale in Pregnant Women After Using Aloe Vera Gel in the Mangkubumi Health Center Work Area

Category	Frequency	Percentage (%)
Not itching	1	6.6
Mild	14	93.4
Moderate	0	0.0
Heavy	0	0.0
Total	15	100

Table 3 Analysis of Differences in Pruritus Scale Before and After Giving Aloe Vera Gel to Pregnant Women in the Working Area of Mangkubumi Health Center

Category	Aloe Vera Gel Application				P-Value
	Before	%	After	%	
Not itching	0	0	1	6.6	0.001
Mild	6	40	14	93.4	
Moderate	9	60	0	0	
Heavy	0	0	0	0	
Total	15	100	15	100	

Based on Table 3 above, it is known that the itching scale in pregnant women in the Mangkubumi Health Center Work Area before using Aloe vera gel has a moderate pruritus scale category, while the pruritus scale after using Aloe vera gel is included in the mild category.

Based on the statistical test output, it is known that Asymp.Sig. (2-tailed) has a value of 0.001. Because the value of 0.001 is smaller than 0.05, the results indicate that the hypothesis is accepted. This means that there is a difference in the pruritus scale in the pre-test and post-test, so it can be concluded that there is an effect of giving Aloe vera gel on pruritus in pregnant women in the Mangkubumi Health Center work area, Tasikmalaya City, in 2020.

Based on the results of research that has been conducted regarding the effect of Aloe vera gel on pruritus in pregnant women, the results of the study showed a decrease in the pruritus scale.

DISCUSSION

After conducting an intervention on one group of respondents. The results show no adverse effects of this medication. Before the aloe vera gel intervention, all pregnant women (100%) experienced itching, with 6 women (40%) reporting mild itching and 9 women (60%) reporting moderate itching. After the intervention, a reduction in itching discomfort was observed, with 1 woman (6.6%) experiencing relief and 14 women (93.4%) showing a decrease in the level of itching.

According to previous studies, pruritus or itching is a common complaint experienced by pregnant women, mainly due to hormonal changes, increased skin stretching, and heightened skin nerve sensitivity during pregnancy (Szczęch et al., 2017). This condition can reduce comfort, disturb sleep quality, and even cause psychological stress if not properly managed. Therefore, safe and effective treatment options that are suitable for pregnancy are essential (Solano & Arck, 2020). One natural ingredient that has been widely studied for the management of pruritus is aloe vera. Aloe vera contains various bioactive compounds that contribute to its antipruritic properties. Its main components include polysaccharides, flavonoids, saponins, vitamins A, C, and E, enzymes, and amino acids (Davis & Narayan, 2020). Polysaccharides act as natural moisturizing agents that help maintain skin hydration, thereby reducing dryness, which is a major trigger of itching. Meanwhile, flavonoids and vitamins C and E exhibit antioxidant and anti-inflammatory properties, which help suppress inflammatory responses in the skin (Imelda Iskandar et al., 2022).

Aloe vera gel represents an innovative intervention that has not been widely used previously for the management of pruritus in pregnant women. This innovation offers a safe and practical solution to help pregnant women relieve itching without the fear of allergic reactions, skin sensitivity, or dermatitis. Aloe vera gel is formulated to be gentle on the skin and suitable for all skin types, making it a reliable non-pharmacological therapy for managing itching during pregnancy. By providing moisturizing, soothing, and anti-inflammatory effects, aloe vera gel supports skin comfort while minimizing potential risks commonly associated with topical treatments.

According to researchers, the decrease in the pruritus scale is due to the effect of Aloe vera gel, which provides a cooling effect that can cool and soothe the skin so that it can reduce the level of pruritus (Hekmatpou et al, 2019). This is also due to the good cooperation of respondents, so that the administration of Aloe vera gel extract for pruritus complaints went well (Sahar Bagherian et al, 2021).

Aloe vera is widely used to treat burns and reduce inflammation. Aloe vera gel is also used to relieve itching and heal wounds (Darby, 2019). This is also in line with the research, which states that Aloe vera can help fight allergies and itching (Lestari M et al, 2022). Aloe vera is known to be antimicrobial, stimulates uterine contractions, and is anti-pruritic (Rajeswari et al., 2022).

Aloe vera gel was found to reduce pruritus in patients with chronic kidney failure found A significant difference in pruritus was found before and after applying aloe vera gel to the skin (Sahar Bagherian et al, 2021). The properties of aloe vera soothe and cool inflamed, painful, numb skin due to inflammation and prevent itching (Zarnigar & Itrat Malik, 2022). Aloe vera gel can reduce the scale of pruritus because aloe vera contains glycoproteins that have anti-allergic properties called porogen. Aloe vera gel contains high water content; therefore, aloe vera gel can reduce pruritus complaints (Brier et al, 2020).

Aloe vera extract has been proven to help relieve burns, skin irritation, and insect bites, and its bactericidal properties can relieve itching and swollen skin (Rishabh Raj et al, 2022). Aloe vera contains many vitamins. Aloe vera gel contains vitamin B12, Vitamin A, Vitamin B, Vitamin C, and folic acid (Samarh et al., 2017). Aloe vera gel also contains important ingredients, including 19 of the 20 amino acids needed by the human body. This study also stated that the use of Aloe vera is not recommended orally because it can stimulate uterine contractions. (Kennedy et al., 2020).Aloe vera can also reduce itching due to striae. Topical use of Aloe vera is highly recommended and has no side effects for either the mother or the baby (Khoirini Poltekkes et al., 2018).

Despite the positive outcomes, this study has several methodological limitations that should be considered. First, the sample size was relatively small, involving only 15 pregnant women in the preliminary phase; a larger and more diverse sample is required to enhance the statistical power and generalizability of the findings to a broader population. Future research would benefit from a randomized controlled trial (RCT) design and a longer observation period to compare the efficacy of *Aloe vera* gel against other non-pharmacological treatments or a control group.

CONCLUSION

Based on the results of the study, it can be concluded that Aloe vera gel is effective in relieving pruritus in pregnant women during the third trimester. The majority of respondents (93.4%) experienced a reduction in the severity of itching after the intervention. These findings indicate that the routine use of Aloe vera gel contributes to a significant improvement in pruritus symptoms. Aloe vera gel has demonstrated effectiveness as a non-pharmacological treatment for pruritus in pregnant women and is therefore highly recommended as a safe and practical alternative therapy to relieve itching during pregnancy.

Acording of these research, several recommendations are proposed for clinical practice and future research. Health practitioners, particularly in primary care settings like the Mangkubumi Health Center, should integrate the use of Aloe vera gel into antenatal care education as a safe, non-pharmacological alternative for managing pruritus. Pregnant women should be educated on the importance of choosing standardized gel formulations over raw plant extracts to ensure comfort and efficacy. Future studies should explore the long-term benefits of Aloe vera gel in preventing skin complications related to dermal stretching and its comparative effectiveness against other natural emollients.

Author's Contribution Statement: Meti Widiya Lestari: contributed to conceptualization, analysis, and project administration. **Salma Thufailah:** contributed to the investigation, methodology, and writing of the original draft. **Nita Nurvita:** contributed to validation and data curation. **Ai Lela Nurul Muhlis Khoiriah:** contributed to writing and review editing.

Conflict of Interest: The authors declare that they have no affiliations with or involvement in any organization or entity with any financial interests in the subject matter or materials discussed in this manuscript.

Source of Funding Statements: Thank you to Poltekkes Kemenkes Tasikmalaya for providing financial assistance so that this manuscript can be completed.

Acknowledgments: We extend our sincere gratitude to the Mangkubumi Health Center in Tasikmalaya Regency for facilitating this research. We would also like to thank all respondents for their participation and contribution to the successful completion of this study

BIBLIOGRAPHY

Ashwini S. Jadhav. Omkar Patil. Sampada V. Kadam. Mangesh A. Bhutkar (2020). "Review on Aloe Vera is used in Medicinal Plant," Asian Journal of Research in Pharmaceutical Sciences. Asian J. Res. Pharm. Sci. 2020; 10(1):26-30. https://doi.org/10.5958/2231-5659.2020.00006.5

Brier, J., & lia dwi jayanti. (2020). *The Pregnancy*. Asian Journal of Economics. 23 (9), 34-38. http://journal.um-surabaya.ac.id/index.php/JKM/article/view/2203

Darby, S. B. (2019). Traditional Chinese medicine: A complement to conventional medicine for women's health. *Nursing for Women's Health*, *13*(3), 198–206. https://doi.org/10.1111/j.1751-486X.2009.01420.x

Davis, E. P., & Narayan, A. J. (2020). Pregnancy as a period of risk, adaptation, and resilience for mothers and infants. *Development and Psychopathology*, *32*(5), 1625–1639. https://doi.org/10.1017/S0954579420001121

Hajhashemi, M., Rafieian, M., Rouhi Boroujeni, H. A., Miraj, S., Memarian, S., Keivani, A., & Haghollahi, F. (2018). The effect of Aloe vera gel and sweet almond oil on striae gravidarum in nulliparous women. *Journal of Maternal-Fetal and Neonatal Medicine*, *31*(13), 1703–1708. https://doi.org/10.1080/14767058.2017.1325865

Haydek Catilin, Elyse L, Mollanazar N, Rodriguez RN, Lee Helen, Yosipovicth Gil. (2016). "Validation and Banding of The Itchy Quant: A Self-Report Itch Severity Scale," Elsevier. J Invest Dermatol. 2017 Jan;137(1):57-61. Epub 2016 Aug 10. https://doi.org/10.1016/j.jid.2016.06.633

Hekmatpou Davood, Mehrabi Fatemah, Rahzani Kobra, dan Aminiyah Atefah. (2019). "The Effect of Aloe vera Clinical Trials on Prevention and Healing of Skin Wound: A Systematic Review," Irian Journal of Medical Sciences, vol. 44, no. 1, pp. 1-9. https://doi.org/10.30476/ijms.2019.40612

Imelda Iskandar, Dewiyanti, Suradi Efendi, & Nour Sriyanah. (2022). Early Pregnancy Examination Education as an Effort for Delivery Complications. *International Journal of Community Service (IJCS)*, *1*(2), 153–159. https://doi.org/10.55299/ijcs.v1i2.185

Justyna, Wiatrowski Artur, Hirnle Lidia, dan Reich Adam. (2017). "Prevalance and Relevance of Pruritus in Pregnancy,". Hindawi BioMed Research International, vol. 1, no. 6. https://doi.org/10.1155/2017/4238139

Kennedy Diema Konlan, Joel Afram Saah, Roberta Mensima Amoah, Abdul Razak Doat, Iddrisu Mohammed, Juliana Asibi Abdulai, & Kennedy Dodam Konlan. (2020). Factors influencing the utilization of Focused antenatal care services during pregnancy, a study among postnatal women in a tertiary healthcare facility, Ghana. *Nurs Open*. 2020 Jul 26;7(6):1822-1832. https://doi.org/10.1002/nop2.569

Khoirini Poltekkes, F., Bengkulu, K., & Keperawatan, J. (2018). Gel Lidah Buaya Dalam Mengurangi Pruritus Aloe Vera Gel In Reducing Pruritus. In *JNPH* (Vol. 6, Issue 2). https://doi.org/10.37676/JNPH.V6I2.644

Lestari, M., Juwita, C., & Silalahi, U. (2022). Effect Of The Administration Of Aloe Vera Gel Extract On The Healing Time Of Nipple Wound In Breastfeeding Mothers. International Journal Of Nursing And Midwifery Science (IJNMS), 5(3), 195-201. https://doi.org/10.29082/IJNMS/2021/Vol5/Iss3/347

Maryam, Rafiean M, Hojjat, Miraj S, Memarian S, Keivani A, and Fedyeh. (2022). "The Effect of Aloe vera gel and Sweet Almond Oil on Striae Gravidarum in Nulliparous Woman," The Journal of Maternal Fetal and Neonatal Medicine. J Matern Fetal Neonatal Med. Jul;31(13):1703-1708. https://doi.org/10.1080/14767058.2017.1325865

Gunasekaran Rajeswari & Samuel Jacob (2022). Co-fermentation of lactic acid and acetone-butanol-ethanol (ABE) from the deep eutectic solvent–pretreated Aloe vera leaf rind through sequential valorization of holocellulose. Biomass Conversion and Biorefinery Volume 14, pages 28429–28447. https://doi.org/10.1007/s13399-022-03688-3

Rishabh Raj, Sury Pratap Singh. (2022). "A Review on Therapeutic Potential of Aloe Vera (Aloe Barbadensis Mill.) Journal of Phytonanotechnology and Pharmaceutical Sciences 2 (4), 6-13, 2022.," vol. 6, no. 13, pp. 6-13. https://dx.doi.org/10.54085/jpps.2022.2.4.2

Sahar Bagherian, Sedigheh Amir Ali Akbari, Nourossadat Kariman, Zahra Lorigooini, Maliheh Nasiri. (2021). "Effect of Aloe Vera Gel on prevention of Striae Gravidarum. The Iranian Journal of Obstetrics, Gynecology and Infertility. Volume 23, Issue 11 January 2021 Pages 41-50 https://doi.org/10.22038/IJOGI.2021.17619

Sohan Lal and Pankaj Kumar Sahu (2019). Observation and Documentation on Angiosperm Herbs of Balod. International Journal of Innovative Studies in Sociology and Humanities (IJISSH). Volume: 4 Issue: 6 | June 2019. Page 78. https://www.researchgate.net/profile/Sohan-Lal-20/publication/372108742

Samarh, S. N., Khalaf, N. A., & Hajhamad, M. M. (2017). Evidence based medical use of aloe vera extracts, short review of literature. *International Journal of Research in Medical Sciences*, *5*(10), 4198. https://doi.org/10.18203/2320-6012.ijrms20174547

Solano, M. E., & Arck, P. C. (2020). Steroids, Pregnancy and Fetal Development. In *Frontiers in Immunology* (Vol. 10). Frontiers Media S.A. Front Immunol Jan 22:10:3017. https://doi.org/10.3389/fimmu.2019.03017

Szczęch, J., Wiatrowski, A., Hirnle, L., & Reich, A. (2017). Prevalence and Relevance of Pruritus in Pregnancy. *BioMed Research International*, *2017*. Page 1-6. https://doi.org/10.1155/2017/4238139

Zarnigar, Itrat Malik. (2022). "Aloe vera: A Review of Its Clinical Efectiveness," International Research Journal of Pharmacy, vol. 4, no. 8, pp. 75-118. https://doi.org/10.7897/2230-8407.04812