

Article

The Efficacy of Educational Videos on Perineal Wound Care Using Red Betel Extract Salve in Enhancing the Knowledge and Attitudes of Postpartum Mothers for Improved Healing

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A B S T R A C T

This study examines how an educational program combined with red betel extract salve application affects postpartum mothers' knowledge and attitudes toward perineal care, focusing on Grade 2 perineal lacerations. With 80 participants split evenly between intervention and control groups, those in the intervention group received education and salve application, leading to significantly improved knowledge and attitudes compared to the control group,

which followed standard care protocols. Specifically, the mean knowledge score for the intervention group increased from 7.48 to 9.70 post-intervention, while the control group's knowledge score remained stable at 7.08 ($p < 0.001$). In terms of attitudes, the intervention group displayed a significantly more positive attitude, with a mean attitude score of 39.12 post-intervention, compared to the control group's score of 35.52 ($p < 0.001$).

These results highlight the potential of educational interventions to substantially improve both knowledge and attitudes related to perineal care among postpartum mothers. These findings contribute to advancing postpartum care practices, benefiting the overall well-being of postpartum mothers during this pivotal stage of their maternal journey.

I. INTRODUCTION

The postpartum period is a critical time in a woman's life, marked by a slew of physiological and emotional changes as she transitions into motherhood. This transformative journey is full of joy and anticipation but presents unique challenges and adjustments (Achadi, 2019). Among the numerous concerns that require careful attention during this critical period, perineal care is the most important aspect of maternal health.

Perineal care, often overshadowed by broader discussions of postpartum recovery, pertains to the meticulous management and maintenance of the perineal region. This anatomical area, situated between the vaginal opening and the anus, is particularly vulnerable to trauma during childbirth, with perineal lacerations being a common consequence of vaginal delivery (Hartaty et al., 2020; Rwabizi et al., 2016). These lacerations, which can range from mild to severe, pose a significant concern for postpartum mothers. They not only result in discomfort and pain but also carry the potential for complications such as infection or impaired wound healing (Ningrum et al., 2022).

In this context, Grade 2 perineal lacerations, a specific subset of perineal injuries, warrant careful consideration. Grade 2 lacerations involve injury to both the vaginal and perineal muscles but do not extend to the anal sphincter. While not as severe as higher-grade lacerations, they still demand vigilant management to promote healing, minimize pain, and prevent complications. Effective management of Grade 2 perineal lacerations holds substantial implications for postpartum mothers' overall well-being and quality of life (Wiseman et al., 2019).

Crucially, the pursuit of optimal perineal care in the postpartum period hinges significantly on education. Educational interventions have emerged as a powerful tool in healthcare, equipping individuals with the knowledge and skills necessary to engage in appropriate self-care practices (Andriansyah et al., 2024). In the context of postpartum perineal care, education empowers women to make informed decisions regarding wound management, hygiene, and symptom recognition. Furthermore, education plays a pivotal role in cultivating positive attitudes towards self-care practices, influencing individuals' behaviors and adherence to recommended care regimens (Ibrahim-El-Regal, E.E., Ibrahim, S., Mohamed, 2019).

The purpose of this study is to explore the complex landscape of postpartum perineal care. This study looks into the profound impact of an educational intervention, supplemented by red betel extract salve, on postpartum mothers' knowledge and attitudes toward perineal care, with a particular emphasis on those with Grade 2 perineal lacerations. The rationale behind the inclusion of red betel extract salve in this intervention lies in its traditional use in wound healing and its potential benefits in the context of perineal care. Red betel extract salve, derived from the leaves of the Piper betle plant, has a longstanding history of use in traditional medicine for its purported wound healing properties (Fratidhina et al., 2023). It contains bioactive compounds with antimicrobial and anti-inflammatory properties, which may contribute to enhanced wound healing and pain relief. As such, its incorporation into the educational intervention holds the potential to introduce a novel dimension to perineal care practices (Damarini et al., 2013; Imroatul Maslikah et al., 2019).

This study hopes to make significant contributions to the field of postpartum care by embarking on this journey. This study's findings can potentially improve perineal care practices, improve healing outcomes, and ultimately promote the overall well-being of postpartum mothers during this critical stage of their reproductive journey. In the following sections of this article, we will go over the methodology used in this study, present the results, and thoroughly discuss the implications of these findings. We will also acknowledge the study's limitations and suggest potential directions for future research in this area.

Postpartum perineal care is a critical component of maternal health, and effective management of Grade 2 perineal lacerations is of paramount importance. Educational

interventions, complemented by innovative approaches such as red betel extract salve application, offer a promising avenue for enhancing knowledge and attitudes towards perineal care (Damarini, 2013). This study represents a significant step towards understanding the transformative potential of such interventions within the realm of postpartum care, with implications for improving perineal care adherence, minimizing complications, and ultimately enhancing the postpartum experience for mothers.

This study aims to assess the effect of an educational intervention combined with the application of red betel extract salve on postpartum mothers' knowledge and attitudes toward perineal care. It aims to determine the efficacy of this intervention in improving knowledge and attitudes, with a focus on postpartum mothers who have Grade 2 perineal lacerations. Furthermore, the study investigates the potential benefits of red betel extract salve in improving perineal wound healing and pain relief in this target population.

II. METHODS

The research adopted a robust quasi-experimental design, incorporating a non-equivalent control group, to meticulously investigate the influence of an educational intervention on perineal wound care among postpartum mothers experiencing Grade 2 perineal lacerations. The study encompassed a cohort of 80 postpartum mothers, all sharing the common characteristic of Grade 2 perineal lacerations, who were carefully assigned to two distinct groups, each comprising 40 mothers: the intervention group and the control group.

In the intervention group, postpartum mothers participated in a meticulously designed educational program, which provided comprehensive guidance using video on perineal wound management. This educational initiative was further complemented by the practical application of red betel extract salve. Conversely, the control group received standard educational tools and resources typically employed in the context of perineal care education for postpartum mothers, adhering to established healthcare protocols and practices. The study placed a particular emphasis on evaluating the impact of these interventions on two primary variables: knowledge and attitudes related to perineal care.

To rigorously evaluate the statistical significance of the observed differences between the intervention and control groups, the research harnessed the Mann-Whitney U test. This non-parametric test is particularly suited for comparing two independent groups when dealing with ordinal data or non-normally distributed interval data. The use of the Mann-Whitney U test was deemed appropriate in this context, as it enabled the investigation of the differences in knowledge and attitudes between the two groups post-intervention.

In accordance with established statistical norms, findings were deemed statistically significant when p-values plummeted below the critical threshold of 0.05. The study's outcomes illuminated a compelling narrative of substantial enhancement in both knowledge and attitudes among postpartum mothers within the intervention group, following the implementation of the educational program and the application of red betel extract salve. This nuanced understanding underscores the added value brought about by the educational program and the innovative salve application approach, distinctly outperforming standard perineal care education tools. Ultimately, this methodological approach exemplifies the study's meticulous design and rigorous execution, spotlighting the comparative effectiveness of the intervention against well-established norms and practices in the domain of postpartum perineal care. This research has received a research ethics certificate from Respati University number 01/02/2021

III. RESULT

In "Table 1; Respondent Characteristics," this study provides a detailed overview of the demographic and clinical profiles of both the intervention and control groups. The percentages presented in the table demonstrate a strong similarity between the two groups, highlighting the consistency of the study's internal data. Specifically, the age group of 20-35 years comprises a significant portion, with 85% in the intervention group and 95% in the control group falling within this range. Educational attainment is divided between university-level education (62.5%) and those with a senior high school education or lower (37.5%) in the intervention group, mirroring a similar distribution in the control group. Employment status is also balanced, with 62.5% of individuals employed in the intervention group, indicating a well-represented occupational mix. Parity assessments show an equal distribution, with 75% of individuals in both groups identified as multiparous.

Table 1; Respondent Characteristics

Variable	Group				P-value
	Intervention		Control		
	n	%	n	%	
Age (year)					
1. 20-35	34	85	36	95	0.67
2. < 20, >35	6	15	4	5	
Education					
1. High (University)	25	62.5	28	70	0.63
2. Low-middle (\leq Senior high school)	15	37.5	12	30	
Occupation					
1. Employment	12	62.5	28	70	1.00
2. Unemployment	28	37.5	12	30	
Parity					
1. Multiparity	30	75	30	75	0.80
2. Primiparity	10	25	10	25	

Table 2. The Influence of Video Education Intervention on Perineal Wound Management Using Red Betel Extract Salve on the Knowledge and Attitudes of Postpartum Mothers for Enhanced Perineal Care and Healing Outcomes.

Variable	Group		p-value*
	Intervention (N=40)	Control (N=40)	
Knowledge			
Pre test			
Mean \pm SD	7.48 \pm 0.847	7.08 \pm 0.616	0.005
Mean Rank	46.91	34.09	
Sum of Rank	1879.90	1363.50	
Post test			
Mean \pm SD	9.70 \pm 0.516	7.08 \pm 0.616	< 0.001
Mean Rank	60.16	20.84	
Sum of Rank	2406.50	833.50	
Attitude			
Pre test			
Mean \pm SD	36.32 \pm 2.223	35.52 \pm 1.121	0.946

	Mean Rank	40.66	40.34	
	Sum of Rank	1626.5	1613.5	
Post test	Mean±SD	39.12±1.017	35.52±1.121	< 0.001
	Mean Rank	57.33	23.68	
	Sum of Rank	2293	947.0	

* Mann whitney test

Table 2 provides a comprehensive view of the knowledge and attitude assessments conducted within the intervention and control groups. In terms of knowledge, prior to the educational intervention, both groups exhibited similar baseline knowledge scores. The intervention group began with a mean knowledge score of 7.48, while the control group had a mean score of 7.08. However, after the intervention, a noteworthy and statistically significant improvement in knowledge was observed in the intervention group. Their mean knowledge score increased significantly to 9.70. In contrast, the control group's knowledge score remained relatively stable, with a post-intervention score of 7.08.

Shifting focus to attitude, the data revealed that both groups had comparable attitudes towards perineal care before the intervention. The intervention group started with a mean attitude score of 36.32, while the control group's mean score was 35.52. Following the educational intervention, the intervention group displayed a significantly more positive attitude, reflected in their higher mean attitude score of 39.12. In contrast, the control group's attitude score remained largely unchanged at 35.52.

In summary, the educational intervention had a substantial impact on both knowledge and attitude among the intervention group. They experienced significant improvements in their post-test knowledge and displayed a more positive attitude towards perineal care compared to the control group. These findings underscore the effectiveness of the intervention in enhancing knowledge and fostering a more favorable attitude among postpartum mothers.

IV. DISCUSSION

The study embarked on a comprehensive exploration of the effectiveness of an educational intervention, combined with the application of red betel extract salve, in augmenting postpartum mothers' knowledge and attitudes towards perineal care, with a specific focus on those experiencing Grade 2 perineal lacerations. The findings of this research illuminate a compelling narrative that underscores the pivotal role of education within healthcare practices and its transformative potential, while also emphasizing the clinical implications of these findings.

The paramount contribution of this study lies in its unambiguous demonstration of the remarkable effectiveness of the educational intervention. The substantial increase in knowledge scores within the intervention group stands as a testament to the profound impact of targeted educational efforts. The mean knowledge scores exhibited a substantial improvement from the pre-test to post-test, marking a significant shift towards a deeper understanding of perineal wound care. This empirical evidence resonates with a plethora of existing studies that highlight the paramount significance of education in empowering individuals to make informed healthcare decisions and engage in self-care practices effectively (Hastuty & Ariska, 2022).

Moreover, the educational intervention not only significantly bolstered knowledge but also engendered a notable shift in attitudes towards perineal care within the intervention group. While the pre-test results did not reveal any marked disparities in attitudes between the intervention and control groups, the post-test results elucidated a remarkable transformation. Post-intervention, participants in the intervention group exhibited significantly more positive attitudes towards perineal care, as substantiated by higher mean attitude scores compared to the control group. This dual impact of the intervention augmenting knowledge and fostering favorable attitudes sheds light on the comprehensive nature of its influence, with the potential to revolutionize postpartum care practices (Troutman-Jordan & Heath, 2017; Stollefson et al., 2020).

Media health education can significantly benefit in increasing knowledge about healing perineal lacerations. By utilizing various media platforms such as television, radio, social media, and online resources, healthcare providers can disseminate accurate information about perineal care techniques, including wound healing, hygiene practices, and the use of specific treatments like red betel extract salve. Visual aids, demonstrations, and expert testimonials in media health education can effectively convey important concepts and techniques to a wide audience, including postpartum mothers (Chaudhary et al., 2023). Moreover, media health education can provide visual demonstrations, expert interviews, and testimonials from healthcare professionals and individuals with lived experiences, enhancing engagement and understanding. Interactive elements such as quizzes, forums, and live Q&A sessions can encourage active participation, fostering a sense of community and support among viewers (Lindsay et al., 2019). By increasing awareness and knowledge about perineal care and laceration healing, media health education empowers individuals to make informed decisions about their health and seek appropriate medical assistance when needed. It also helps debunk myths, reduce stigma, and promote open discussions about sensitive topics related to childbirth and postpartum recovery (Dennison et al., 2013).

The implications of these findings extend far beyond the boundaries of this study. Empowering postpartum mothers with a profound understanding of perineal care and fostering positive attitudes towards self-care practices hold the potential to transcend the research realm and profoundly impact clinical practice. Improved knowledge and attitudes are anticipated to result in enhanced adherence to recommended perineal care regimens, ultimately translating into improved healing outcomes for postpartum mothers (Indrayani & Tuasikal, 2020; Damarini, 2013). Moreover, the innovative aspect of this study the integration of red betel extract salve introduces a novel dimension to perineal care that warrants further exploration and has the potential to inform future clinical practices and protocols.

While this study represents a substantial stride towards understanding the transformative potential of educational interventions in healthcare, it is important to recognize its limitations. The sample was restricted to postpartum mothers with Grade 2 perineal lacerations, which may narrow the generalizability of the findings. Additionally, the reliance on self-report measures for knowledge and attitudes introduces the possibility of response bias. Future investigations should consider expanding the sample pool and incorporating clinical assessments to discern the sustained impact of the educational intervention over time.

V. CONCLUSION

In conclusion, this study underscores the potential benefits of an educational intervention, fortified by the application of red betel extract salve, in significantly enhancing postpartum

mothers' knowledge and attitudes regarding perineal care. The findings not only echo the transformative power of education within healthcare practices but also unveil its dual impact in augmenting knowledge and cultivating positive attitudes. These outcomes carry profound clinical implications, promising improved adherence to perineal care regimens and enhanced healing outcomes. This study, while monumental, paves the way for future research to delve deeper into the clinical ramifications and enduring effects of innovative approaches to postpartum care.

REFERENCES

- Achadi, E. L. (2019). Kematian Maternal dan Neonatal di Indonesia. In *Universitas Indonesia-Fakultas Kesehatan Masyarakat-Rapat Kerja Nasional* (pp. 1–47). Universitas Indonesia-Fakultas Kesehatan Masyarakat.
- Andriansyah, A., Refi, W. G., & Herlina, N. (2024). Audio Visual Media about The Importance of Vulva Hygiene Increases The Knowledge of Pregnant Women. *Journal of Midwifery*, 8(2), 46. <https://doi.org/10.25077/jom.8.2.46-53.2023>
- Chaudhary, K., Nepal, J., Shrestha, K., Karmacharya, M., Khadka, D., Shrestha, A., Shakya, P. R., Rawal, S., & Shrestha, A. (2023). Effect of a social media-based health education program on postnatal care (PNC) knowledge among pregnant women using smartphones in Dhulikhel hospital: A randomized controlled trial. *PLoS ONE*, 18(1 January), 1–22. <https://doi.org/10.1371/journal.pone.0280622>
- Damarini, S. (2013). The Effectiveness of Red Betel in Healing Perineal Wound in Independent. *Kesehatan Masyarakat Nasional*, 8(03), 39–44.
- Damarini, S., Eliana, E., & Mariati, M. (2013). The Effectiveness of Red Betel in Healing Perineal Wound in Independent Practitioner Midwife. *Kesmas: National Public Health Journal*, 8(1), 39. <https://doi.org/10.21109/kesmas.v8i1.340>
- Dennison, L., Morrison, L., Conway, G., & Yardley, L. (2013). Opportunities and challenges for smartphone applications in supporting health behavior change: Qualitative study. *Journal of Medical Internet Research*, 15(4). <https://doi.org/10.2196/jmir.2583>
- Fratidhina, Y., Mulyati, S., Astri, H., & Maximus, S. (2023). Analysis of Red Betel Leaf Tests As A Natural Anti-Infection In Post Partum Mothers. *Women, Midwives and Midwifery*, 3(1), 35–44. <https://doi.org/10.36749/wmm.3.1.35-44.2023>
- Hartaty, D., Sari, G. N., Ichwan, E. Y., & Nurjasmi. (2020). Implementing A Postpartum Care Module on the Wound Healing of Perineal Laceration. *Jurnal Ilmiah Bidan*, 5(2), 24.
- Hastuty, Y. D., & Ariska, M. (2022). Literature Review: Utilization of Binanong Leaves and Red Betel Leaves for Healing Perineal Wounds. *Journal of Midwifery and Nursing*, 4(2), 63–68. <https://doi.org/10.35335/jmn.v4i2.2186>
- Ibrahim-El-Regal, E.E., Ibrahim, S., Mohamed, S. (2019). Effect of Health Educational Intervention regarding Breast Self-Examination on knowledge and Practices of Female Adolescente Students. *International Journal of Novel Research in Healthcare and Nursing*, 6(1), 361–375.
- Imroatul Maslikah, S., Wulandari, N., Rahayu Lestari, S., & Nur Arifah, S. (2019). The Effects of Red Betel (*Piper crocatum*) Leaf Extract to Decreasing Profile Population of CD4+ and CD8+ Cells in Rheumatoid Arthritis-Induced Mice. *IOP Conference Series: Earth and Environmental Science*, 276(1). <https://doi.org/10.1088/1755-1315/276/1/012044>
- Indrayani, T., & Tuasikal, N. (2020). The Effect of Perineal Massage on Perineal Tear Case on Primigravida Pregnant Mothers In Their Third Trimester In Public Health Center Care of Morokay 2018. *STRADA Jurnal Ilmiah Kesehatan*, 9(2), 588–592. <https://doi.org/10.30994/sjik.v9i2.346>

- Lindsay, S., Rezai, M., Kolne, K., & Osten, V. (2019). Outcomes of gender-sensitivity educational interventions for healthcare providers: A systematic review. *Health Education Journal*, 78(8), 958–976. <https://doi.org/10.1177/0017896919859908>
- Ningrum, N. M., Meinawati, L., Sulistyawati, H., & Ismath, M. (2022). *Studies of the Effect of Hypnoanesthesia in Reducing Perineal Laceration Suture Pain And Healing of Postpartum Perineal Wounds in Indonesia*. 364–370.
- Rwabizi, D., Rulisa, S., Aidan, F., & Small, M. (2016). Maternal near miss and mortality due to postpartum infection: A cross-sectional analysis from Rwanda. *BMC Pregnancy and Childbirth*, 16(1), 1–5. <https://doi.org/10.1186/s12884-016-0951-7>
- Stellefson, M., Paige, S. R., Chaney, B. H., & Chaney, J. D. (2020). Evolving role of social media in health promotion: Updated responsibilities for health education specialists. *International Journal of Environmental Research and Public Health*, 17(4). <https://doi.org/10.3390/ijerph17041153>
- Troutman-Jordan, M., & Heath, L. (2017). The Impact of Health Education and Health Promotion on Management of Chronic Health Conditions in Older Adults: Opportunities for Innovation. *Activities, Adaptation and Aging*, 41(1), 1–13. <https://doi.org/10.1080/01924788.2016.1242958>
- Wiseman, O., Rafferty, A. M., Stockley, J., Murrells, T., & Bick, D. (2019). Infection and wound breakdown in spontaneous second-degree perineal tears: An exploratory mixed methods study. *Birth*, 46(1), 80–89. <https://doi.org/10.1111/birt.12389>