

Case Report: Post-Cesarean Section Wound Dehiscence in a Postpartum Woman with Obesity

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ABSTRACT

Wound dehiscence is a complication of cesarean section that can delay wound healing and increase the risk of infection. Obesity is an important risk factor because impaired tissue perfusion may slow the healing process. This case report aimed to describe the provision of comprehensive midwifery care for a postpartum woman with obesity who experienced wound dehiscence following cesarean section. A descriptive case report design was used involving a 41-year-old postpartum woman, P20002, with grade II obesity and cesarean wound dehiscence on postpartum day 20. Care was provided at Taji Public Health Center, Magetan Regency, from January 31 to February 9, 2026, consisting of an initial assessment and three home visits. Midwifery care was provided using the Varney management approach and documented in the SOAP format. Interventions included aseptic wound care, education on self-care, adequate high-protein nutrition, gradual mobilization, proper body mechanics, non-pharmacological pain management, breastfeeding-position education, and regular wound monitoring using the REEDA scale and Numeric Rating Scale (NRS). The wound condition gradually improved, with the REEDA score decreasing from 4 to 0 and pain intensity decreasing from NRS 4 to 0. The wound healed completely without signs of infection, accompanied by improved adherence to wound care, nutritional recommendations, and other advised measures. Comprehensive midwifery care supported wound healing through appropriate wound management, continuous education, nutritional support, gradual mobilization, and regular monitoring.

Keywords: Midwifery care, Wound dehiscence, Postpartum, Obesity, Cesarean section

INTRODUCTION

The global rate of cesarean section (CS) has increased substantially over the past two decades. Recent estimates indicate that cesarean deliveries accounted for 21.1% of all births worldwide in 2018 and are projected to reach 28.5% by 2030. Although cesarean section is a life-saving procedure that effectively reduces maternal and neonatal morbidity and mortality when performed for appropriate obstetric indications, the growing number of procedures has also been accompanied by an increased incidence of postoperative complications, including wound dehiscence, which may delay maternal recovery during the postpartum period.⁽¹⁾

Wound dehiscence is a postoperative complication characterized by the partial or complete separation of a surgical incision due to impaired wound healing. Following cesarean section, this condition may increase the risk of surgical site infection, prolong hospitalization, require additional medical or surgical interventions, and contribute to a greater burden on healthcare services. In Indonesia, Adha, Purwara, and Anwar reported a post-cesarean section wound dehiscence rate of 1.45%, with a higher incidence among referred patients than among non-referred patients.⁽²⁾

Maternal obesity is recognized as one of the major risk factors for wound complications after cesarean section. Evidence from systematic reviews and meta-analyses demonstrates that women with obesity are at significantly greater risk of wound dehiscence, surgical site infection, hematoma, seroma, and abscess formation. These complications are largely attributed to impaired tissue perfusion and reduced oxygen delivery, which compromise the wound-healing process.⁽³⁾ In addition to obesity, studies conducted in Indonesia have identified nutritional status, early mobilization, and appropriate wound care as important factors associated with postoperative wound infection following cesarean section.⁽⁴⁾ Furthermore, adequate nutritional intake, early mobilization, and good personal hygiene have been shown to promote wound healing during the postpartum period, highlighting the importance of incorporating these components into comprehensive midwifery care.⁽⁵⁾

This case report aims to describe the implementation of comprehensive midwifery care for a postpartum woman with obesity who developed post-cesarean section wound dehiscence. The report focuses on the

assessment, management, monitoring of wound healing, and provision of health education and evidence-based midwifery interventions to support maternal recovery during the postpartum period.

METHODS

This study employed a descriptive case report design to describe the implementation of comprehensive midwifery care for a postpartum woman with obesity who developed post-cesarean section wound dehiscence on the 20th day of the postpartum period. The participant was selected using purposive sampling because she met the characteristics relevant to the study objective, namely a 41-year-old postpartum woman with Grade II obesity who experienced post-cesarean section wound dehiscence. The case was managed at Taji Community Health Center, Magetan Regency, Indonesia, from January 31 to February 9, 2026, through four consecutive visits. Midwifery care was provided using Varney's Midwifery Management Approach and documented in the SOAP (Subjective, Objective, Assessment, and Plan) format.

Primary data were collected through history taking, direct observation, physical examination, vital sign assessment, and wound evaluation. Secondary data were obtained from the patient's medical records and the Maternal and Child Health (MCH) Handbook. Data were analyzed descriptively by comparing the findings from each visit to evaluate wound healing progress, changes in the patient's clinical condition, and the response to the midwifery interventions provided.

Prior to the implementation of the case report, the patient received a detailed explanation regarding the study objectives, procedures, potential benefits, and data confidentiality, and provided written informed consent to participate. To protect patient privacy, all identifying information was anonymized using initials, and the collected data were used solely for scientific and academic purposes.

RESULTS

The subject of this case report was Mrs. T, a 41-year-old multiparous woman (P20002) on the 20th day of the postpartum period following a cesarean section performed for preeclampsia with a history of chronic hypertension. The initial assessment showed a body weight of 67 kg, a height of 149 cm, and a body mass index (BMI) of 30.17 kg/m², consistent with Grade II obesity. The patient reported that she had started a weight-loss diet on the eighth postpartum day by reducing her overall food intake, particularly protein-rich foods, because she wished to lose weight as soon as possible. On January 31, 2026, she presented to Taji Community Health Center complaining of pain at the cesarean incision site that had begun the previous day. The pain was more pronounced during movement and interfered with her daily activities. Physical examination revealed post-cesarean section wound dehiscence with an open wound measuring 0.8 × 0.5 cm, accompanied by mild erythema without purulent discharge or malodor. The wound assessment yielded a REEDA score of 4, while pain intensity was rated as 4 on the Numeric Rating Scale (NRS), indicating moderate pain.

Table 1. Baseline clinical characteristics of the patient

Variable	Findings
Age	41 years
Obstetric status	P20002
Postpartum period	Day 20 following cesarean section
Indication for cesarean section	Preeclampsia with chronic hypertension
Body weight	67 kg
Height	149 cm
Dietary pattern	Weight-loss diet initiated on postpartum day 8 with reduced protein intake
Chief complaint	Pain at the surgical incision during movement
Vital signs	Blood pressure: 130/80 mmHg; Pulse: 88 beats/min; Respiratory rate: 21 breaths/min; Temperature: 36.6°C
Wound condition	Open wound measuring 0.8 × 0.5 cm with mild erythema, without purulent discharge or malodor
Pain score	NRS score of 4 (moderate pain)
REEDA score	4

Based on the assessment findings, the patient received comprehensive midwifery care consisting of one initial assessment followed by three home visits. The interventions included education regarding post-cesarean section wound dehiscence, the effects of obesity and inadequate protein intake on wound healing, and the warning signs of infection. Aseptic wound care was performed using 0.9% normal saline and sterile gauze dressing, followed by education on self-wound care. Nutritional counseling emphasized a high-protein, well-balanced diet and adequate daily fluid intake. Additional interventions included instruction on proper body mechanics and gradual mobilization, non-pharmacological pain management, breastfeeding positioning education, pain assessment using the Numeric Rating Scale (NRS), Visual Analog Scale (VAS), Wong–Baker Faces Pain Rating Scale, and Verbal Rating Scale (VRS), wound monitoring using the REEDA scale, and evaluation of adherence to wound care, nutritional recommendations, physical activity, and the prescribed medical treatment.

Table 2. Progress of Midwifery Care and Clinical Outcomes

Stage of care	NRS	REEDA	Wound condition	Main interventions	Outcomes
Initial assessment (31 January 2026)	4	4	Open wound measuring 0.8 × 0.5 cm with mild erythema; no purulent discharge	Health education, aseptic wound care, high-protein nutritional counseling, body mechanics education, and non-pharmacological pain management	Wound remained clean; the patient understood the education provided and agreed to follow the recommendations
Home Visit I (4 February 2026)	3	2	Wound size decreased with early granulation tissue formation	Wound care, nutritional evaluation, reinforcement of body mechanics, and wound hygiene education	Pain decreased and granulation tissue developed appropriately
Home Visit II (7 February 2026)	1	1	Wound nearly closed with no signs of infection	Evaluation of wound care practices, gradual mobilization, and pain management	Continued wound improvement; the patient was able to perform self-wound care independently
Home Visit III (9 February 2026)	0	0	Complete wound closure with well-approximated wound edges	Final evaluation, reinforcement of health education, and nutritional monitoring	Complete wound healing; the patient resumed daily activities and breastfeeding comfortably

Clinical monitoring throughout the four stages of care demonstrated a consistent improvement in wound healing. Pain intensity progressively decreased from an NRS score of 4 at the initial assessment to 0 at the final visit, while the REEDA score declined from 4 to 0. Wound healing was evidenced by the gradual resolution of erythema, the formation of healthy granulation tissue, progressive approximation of the wound edges, and complete wound closure without any clinical signs of infection. Following continuous education and supportive care, the patient improved her dietary habits by increasing protein intake to meet postpartum nutritional requirements, independently performed wound care, correctly applied body mechanics during daily activities, and resumed routine activities and breastfeeding without discomfort. At the completion of midwifery care, the post-cesarean section wound dehiscence had completely healed, and the patient's overall condition was considered satisfactory.

DISCUSSION

Based on the subjective and objective assessment findings, the patient, Mrs. T, a 41-year-old multiparous woman (P20002) on the 20th postpartum day following cesarean section, was diagnosed with post-cesarean section wound dehiscence associated with Grade II obesity. She reported pain at the surgical incision site that became more pronounced during movement and stated that she had initiated a weight-loss diet on the eighth postpartum day by restricting her food intake, particularly protein-rich foods, in an effort to lose weight rapidly. Physical examination revealed an open surgical wound measuring 0.8 × 0.5 cm with a REEDA score of 4 and a

moderate pain intensity of 4 on the Numeric Rating Scale (NRS). No purulent discharge or malodor was observed, suggesting wound dehiscence without evidence of systemic infection. Wound dehiscence is a postoperative complication characterized by partial or complete separation of a surgical incision resulting from impaired tissue healing, requiring prompt and appropriate management to prevent further complications.⁽⁶⁾ The REEDA scale provides an objective method for evaluating wound healing by assessing redness, edema, ecchymosis, discharge, and approximation of the wound edges, allowing clinicians to monitor healing progress over time.⁽⁷⁾

In this case, wound dehiscence was likely influenced by a combination of maternal risk factors and postpartum health behaviors. Grade II obesity is a well-established risk factor because excessive adipose tissue impairs tissue perfusion and oxygenation, thereby compromising collagen synthesis, angiogenesis, and granulation tissue formation during wound healing.⁽³⁾ In addition, the patient deliberately reduced her protein intake beginning on the eighth postpartum day as part of a weight-loss strategy. Protein plays a fundamental role in fibroblast proliferation, collagen synthesis, tissue regeneration, and wound remodeling; therefore, inadequate protein intake may delay the healing process.⁽⁸⁾ These findings suggest that the patient's wound dehiscence was attributable not only to obesity, a risk factor that cannot be readily modified, but also to modifiable nutritional behaviors that could be addressed through appropriate health education and counseling.

Comprehensive midwifery management was implemented through aseptic wound care, education on self-wound care practices, reinforcement of personal hygiene, provision of a high-calorie, high-protein dietary plan, gradual mobilization, instruction on proper body mechanics, education on the football hold breastfeeding position, and regular wound assessment using the REEDA scale and the Numeric Rating Scale (NRS). Aseptic wound care was performed to maintain wound cleanliness and reduce the risk of infection, thereby promoting optimal tissue repair.⁽⁴⁾ Nutritional counseling focused on correcting the patient's restricted protein intake to support the physiological demands of wound healing. Meanwhile, gradual mobilization and appropriate body mechanics were encouraged to improve circulation, reduce mechanical stress on the incision site, and facilitate tissue recovery.⁽⁹⁾ The football hold breastfeeding position was also recommended because it minimizes direct pressure on the surgical incision, enabling the mother to breastfeed comfortably while supporting successful lactation.⁽¹⁰⁾

Progressive improvement in wound healing was observed throughout the course of care. The REEDA score decreased from 4 to 0, while pain intensity measured by the NRS declined from 4 to 0. The wound gradually closed, with no evidence of purulent discharge, malodor, or other signs of infection during follow-up. These findings indicate that the combination of appropriate wound care, nutritional optimization, gradual mobilization, and continuous patient education contributed to successful healing of post-cesarean section wound dehiscence. This outcome is consistent with the case report by Thahura et al., which demonstrated that the MOLUSI intervention—consisting of mobilization, wound care, and nutritional management—effectively accelerated wound healing among women with post-cesarean section wound dehiscence.⁽¹¹⁾

Overall, this case highlights the importance of a comprehensive and continuous midwifery approach in promoting wound healing among postpartum women with obesity. Appropriate wound management, adequate nutritional support, gradual mobilization, and the patient's adherence to self-care recommendations collectively contributed to favorable clinical outcomes. Nevertheless, women with obesity remain at increased risk of postoperative wound complications following cesarean section and therefore require ongoing monitoring throughout the postpartum period.⁽³⁾ Midwives play a pivotal role in the early identification of wound complications, the provision of evidence-based education, and continuous follow-up to optimize recovery and minimize the risk of further complications.⁽⁴⁾

CONCLUSION

Write Comprehensive midwifery care for a postpartum woman with Grade II obesity who developed post-cesarean section wound dehiscence resulted in favorable clinical outcomes and supported effective wound healing. The interventions included aseptic wound care, education on self-wound care, a high-protein nutritional plan, gradual mobilization, instruction on proper body mechanics, non-pharmacological pain management, breastfeeding position education, and regular wound monitoring. Collectively, these interventions contributed to complete wound healing without signs of infection while improving the patient's ability to perform independent self-care during the postpartum period.

This case report highlights that successful healing of post-cesarean section wound dehiscence depends not only on appropriate wound management but also on continuous health education, adherence to nutritional recommendations and other self-care practices, and ongoing support from midwives throughout the postpartum period. Therefore, early identification of risk factors and the implementation of comprehensive, evidence-based

midwifery care should be strengthened to promote maternal recovery and reduce the risk of postoperative complications following cesarean section.

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Competing Interests

All the authors declare that there are no conflicts of interest.

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REFERENCES

1. Betrán AP, Ye J, Moller AB, Souza JP, Zhang J. Trends and projections of caesarean section rates: global and regional estimates. *BMJ Glob Heal* [Internet]. 2021;6(6). DOI: 10.1136/bmjgh-2021-005671
2. Adha MJ, Purwara BH, Anwar R. Perbandingan kejadian wound dehiscence pasca seksio sesarea antara pasien rujukan dan nonrujukan. *Indones J Obstet Gynecol Sci*. 2021;5(2):85–91. DOI: 10.24198/obgynia.v4i1.256
3. Ślabuszczyńska-Jóźwiak A, Szymański JK, Jóźwiak Ł, Sarecka-Hujar B. A systematic review and meta-analysis of wound complications after a caesarean section in obese women. *J Clin Med* [Internet]. 2021;10(4):675. DOI: 10.3390/jcm10040675
4. Trisnawati RE, Manggul MS, Hamat V. Determinan yang Berhubungan dengan Kejadian Infeksi Luka Sectio Caesarea. *Qual J Kesehat* [Internet]. 2023;17(2):95–103. DOI: 10.36082/qjk.v17i2.1043
5. Saragih EP. Mobilisasi dini, asupan nutrisi, dan personal hygiene serta hubungannya dengan proses penyembuhan luka post operasi Sectio Caesarea. *SIMFISIS J Kebidanan Indones*. 2023;3(1):526–533. DOI: 10.53801/sjki.v3i1.171
6. Denys A, Monbailliu T, Allaey M, Berrevoet F, Ramshorst GH. Management of abdominal wound dehiscence: update of the literature and meta-analysis. *Hernia*. 2021;25(2):449–462. DOI: 10.1007/s10029-020-02294-4
7. Man R, Le Vance J, Popa Y, Wilson D, Tohill S, Maltby J, et al. Healing-assessment tools for perineal and cesarean section wounds in postpartum women: A scoping review'. *Acta Obstet Gynecol Scand*. 2026;105(1):18–29. DOI: 10.1111/aogs.70089
8. Sulistiorini NS, S S. Post Caesarean Section Wound Healing among Postpartum Women who Consumed Boiled Eggs. *Nurs Heal Sci J*. 2021;2(2):132–138. DOI: 10.53713/nhs.v2i2.74
9. Thirtinia D, Aswan Y, Napitupulu M, Manurung DM. Hubungan Mobilisasi Dini Post Sectio Caesarea terhadap Penyembuhan Luka Bekas Operasi. *J Kesehat Ilm Indones*. 2025;10(1):45–52. DOI: 10.51933/health.v10i1.161
10. Berens P. ABM Clinical Protocol #26: Persistent Pain with Breastfeeding. *Breastfeed Med*. 2016;11(2):46–53. DOI: 10.1089/bfm.2016.29002.pjb
11. Thahura DS, Oktafia R, MOLUSI HEI. pada Ibu Post Sectio Caesarea Hari Ke-20 dengan Dehiscence Luka: Case Report. *J Mhs Ilmu Kesehat*. 2024;2(3):1–9. DOI: 10.59841/jumkes.v2i3.1195