

COMPREHENSIVE MIDWIFERY CARE FOR MRS.N 19 YEARS OLD, WITH NUCHAL CORD

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ABSTRACT

Background: Nuchal cord is a condition in which the umbilical cord wraps around the fetal neck or other body parts. Although most cases do not cause complications, a tight nuchal cord may interfere with fetal oxygenation and increase the risk of fetal distress during labor. Proper midwifery management is essential to prevent adverse maternal and neonatal outcomes. **Objectives:** This case study aimed to describe the implementation of midwifery care using Varney's Seven-Step Management Approach in a primigravida mother with a nuchal cord at Klinik Pratama Nirmala in 2026. **Methods:** This study used a descriptive case study design. Data were collected through anamnesis, physical examination, observation, labor monitoring, and documentation using Varney's Seven-Step Midwifery Management and SOAP format. The subject was Mrs. N, a 19-year-old primigravida at term pregnancy diagnosed with a nuchal cord during labor. **Results:** The assessment revealed that the mother was in active labor with stable maternal and fetal conditions. During the second stage of labor, a single tight nuchal cord was identified around the baby's neck. Immediate management was performed by clamping and cutting the umbilical cord according to standard procedures. The baby was delivered spontaneously, cried strongly at birth, and showed no signs of asphyxia. The placenta was delivered completely, postpartum bleeding was within normal limits, and both mother and newborn remained in good condition during the postpartum period. **Conclusions:** The application of Varney's Seven-Step Midwifery Management in this case was effective in identifying and managing a nuchal cord, resulting in a safe delivery and favorable maternal and neonatal outcomes.

Keywords: Midwifery Care, Nuchal Cord, Labor, Varney Management, Primigravida

INTRODUCTION

Maternal and neonatal health remains a major global health concern, particularly in preventing complications during labor that may contribute to maternal and neonatal morbidity and mortality (Sari et al., 2025). One of the obstetric complications that can occur during childbirth is a nuchal cord, a condition in which the umbilical cord wraps around the fetal neck. Globally, nuchal cord occurs in approximately 20–30% of deliveries and, although most cases do not result in serious complications, a tight nuchal cord may interfere with fetal oxygenation and increase the risk of fetal distress, hypoxia, and neonatal morbidity (Sone et al., 2025).

In Indonesia, efforts to improve maternal and neonatal outcomes have been implemented through various programs, including Antenatal Care (ANC), Skilled Birth Attendance, Early Initiation of Breastfeeding (IMD), and Integrated Emergency Obstetric and Neonatal Care (Azhar et al., 2020). Previous studies have shown that appropriate monitoring and timely management can minimize complications associated with nuchal cord during labor. However, delayed recognition and inadequate management may negatively affect maternal and neonatal outcomes (Silva et al., 2025). Therefore, comprehensive midwifery care based on Varney's Seven-Step Management Approach is essential in identifying and managing potential complications (Manurung et al., 2025). This case study was conducted because a 19-year-old primigravida woman (Mrs. N) experienced labor complicated by a tight nuchal cord at Klinik Pratama Nirmala in 2026. The study aimed to describe the implementation of midwifery care using Varney's Seven-Step Management Approach in managing labor with a nuchal cord. The research question was: "How is the implementation of midwifery care using Varney's Seven-Step Management Approach for Mrs. N, a 19-year-old primigravida with a nuchal cord at Klinik Pratama Nirmala in 2026?" It is expected that the findings of this study will contribute to improving the quality of midwifery services and serve as a reference for the management of similar cases.

METHODS

This study employed a descriptive case study design to describe the implementation of midwifery care using Varney's Seven-Step Management Approach in the management of a labor case complicated by a nuchal cord (Sabara et al., 2024).

The subject of this study was Mrs. N, a 19-year-old primigravida (G1P0A0) who underwent labor with a tight nuchal cord at Klinik Pratama Nirmala in 2026. The study participant was a 19-year-old primigravida woman diagnosed with a nuchal cord during labor at Klinik Pratama Nirmala in 2026. The case was selected because it met the criteria for a case study and provided an opportunity to describe the implementation of midwifery care using Varney's Seven-Step Management Approach. As this study involved a single case, no sample size calculation was required (Alpi & Evans, 2019).

The focus of this case study was the implementation of midwifery care based on Varney's Seven-Step Management Approach. Maternal outcomes were assessed through labor progress, postpartum condition, and the occurrence of complications, while neonatal outcomes were assessed through birth condition, Apgar score, birth weight, and adaptation to extrauterine life (Harahap et al., 2025). Data were collected through interviews, direct observation, physical examinations, labor monitoring using a partograph, and review of medical records. Multiple data collection methods were employed to obtain comprehensive information regarding maternal condition, labor progress, and neonatal outcomes (WHO, 2022).

The instruments used included a maternal assessment form, a partograph sheet, a sphygmomanometer, a stethoscope, a thermometer, a fetal Doppler device, and standard delivery equipment commonly used in midwifery practice (Bedwell et al., 2017). Maternal condition was assessed through vital signs, labor progress, and postpartum recovery, while neonatal outcomes were assessed through birth condition, Apgar score, birth weight, and physical examination.

Data analysis was performed descriptively by comparing the findings obtained during the implementation of care with existing theories and standards of midwifery practice. The case management process followed Varney's Seven-Step Midwifery Management, including data collection, interpretation of data, identification of potential problems, immediate actions, planning, implementation, and evaluation. Ethical principles were maintained by obtaining informed consent from the participant and ensuring confidentiality of all personal information throughout the study.

RESULTS AND DISCUSSIONS

This case study was conducted at Klinik Pratama Nirmala in 2026 involving Mrs. N, a 19-year-old primigravida (G1P0A0) at term pregnancy who presented in labor. Upon admission, the mother complained of regular uterine contractions accompanied by lower back pain radiating to the abdomen. Physical examination showed that the maternal condition was stable with blood pressure of 110/70 mmHg, pulse rate of 84 beats per minute, respiratory rate of 20 breaths per minute, and body temperature of 36.8°C. Obstetric examination revealed a fundal height of 32 cm, cephalic presentation, fetal heart rate of 140 beats per minute, and an estimated fetal weight of 2500 grams. During the first stage of labor, maternal and fetal conditions remained stable and labor progress was monitored using a partograph (Sinaga et al., 2024). The diagnosis of labor with a nuchal cord was confirmed during the second stage of labor when a single tight loop of the umbilical cord was found around the fetal neck after delivery of the head (Hanna et al., 2023). Immediate management was performed by clamping and cutting the umbilical cord according to standard obstetric procedures before completing the delivery process. The baby was delivered spontaneously with a birth weight of 2500 grams and a body length of 48 cm, cried strongly at birth, and showed no signs of neonatal asphyxia. The placenta was delivered completely during the third stage of labor, with blood loss estimated at approximately 150 ml, which was within normal limits. During postpartum observation, the mother remained in stable condition, uterine contractions were adequate, and no complications were identified. The newborn successfully initiated breastfeeding and remained healthy.

The findings of this study demonstrate that comprehensive midwifery care using Varney's Seven-Step Management Approach was effective in managing labor complicated by a nuchal cord (Sembiring & Sinaga, 2024). According to the literature, nuchal cord is one of the most common umbilical cord abnormalities and occurs in approximately 20–30% of deliveries (Młodawska et al., 2022). Although most cases do not result in serious complications, a tight nuchal cord may interfere with blood flow and oxygen delivery to the fetus, potentially causing fetal distress, hypoxia, or neonatal asphyxia. In this case, fetal heart rate remained within normal limits throughout labor, indicating that fetal oxygenation was maintained despite the presence of a tight nuchal cord. This finding is consistent with previous studies reporting that many nuchal cord cases can be managed safely when recognized promptly and treated appropriately during labor (Młodawska et al., 2022).

The favorable maternal and neonatal outcomes observed in this case can be attributed to continuous monitoring, timely identification of the complication, and immediate intervention by skilled healthcare providers. The newborn was delivered safely without evidence of fetal distress or asphyxia, while the mother experienced no postpartum complications. These results support previous findings that proper intrapartum management plays a crucial role in preventing adverse outcomes associated with nuchal cord. The strength of this study lies in the systematic application of Varney's Seven-Step Management Approach, which enabled comprehensive assessment, planning, implementation, and evaluation of care. However, as a single case study, the findings cannot be generalized to all cases of nuchal cord, and no comparison group was available to evaluate alternative management strategies (Simanullang & Iii, 2020). Nevertheless, this study suggests that comprehensive midwifery care based on Varney's Seven-Step Management Approach may contribute to safe delivery and favorable maternal and neonatal outcomes in cases complicated by a nuchal cord. The systematic process of assessment, monitoring, planning, implementation, and evaluation facilitated appropriate clinical decision-making throughout labor. Although the findings cannot be generalized beyond this case, they underscore the potential value of structured midwifery management in optimizing outcomes when intrapartum complications occur (Silva et al., 2025).

CONCLUSIONS

Based on the results and discussion of this case study, it can be concluded that the implementation of midwifery care using Varney's Seven-Step Management Approach was effective in managing Mrs. N, a 19-year-old primigravida with a nuchal cord at Klinik Pratama Nirmala in 2026. Comprehensive assessment, accurate diagnosis, identification of potential problems, timely intervention, and continuous monitoring enabled the successful management of labor complicated by a tight nuchal cord. The complication was identified during the second stage of labor and managed promptly through appropriate clamping and cutting of the umbilical cord according to standard procedures. As a result, the baby was delivered spontaneously in good condition without signs of asphyxia, while the mother experienced no postpartum complications. Therefore, the research question regarding the implementation of Varney's Seven-Step Management Approach in the management of a nuchal cord case was answered positively, demonstrating that systematic and evidence-based midwifery care can contribute to favorable maternal and neonatal outcomes. Based on these findings, midwives are encouraged to continuously improve their knowledge and clinical skills in identifying and managing labor complications, particularly nuchal cord cases, through adherence to evidence-based practice and standard operating procedures. Health facilities should strengthen maternal and neonatal monitoring systems to ensure early detection and prompt management of obstetric complications (Id et al., 2020). Pregnant women are advised to attend regular antenatal care visits to support early identification of potential risks during pregnancy and childbirth. Furthermore, future studies involving larger sample sizes and multiple healthcare settings are recommended to provide more comprehensive evidence regarding the effectiveness of midwifery management in cases of nuchal cord and other labor complications.

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CONFLICT OF INTEREST AND FUNDING DISCLOSURE

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AUTHOR CONTRIBUTIONS

Write a description regarding the role of each author in writing this article. Author contribution roles: conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, resources, software, supervision, validation, visualization, roles/writing original draft, writing review & editing.

REFERENCES

- Alpi, K. M., & Evans, J. J. (2019). *Distinguishing case study as a research method from case reports as a publication type*. 107(January), 1–5.
- Azhar, K., Dharmayanti, I., Tjandrarini, D. H., & Hidayangsih, P. S. (2020). *The influence of pregnancy classes on the use of maternal health services in Indonesia*. 1–9.
- Bedwell, C., Levin, K., Pett, C., & Lavender, D. T. (2017). A realist review of the partograph : when and how does it work for labour monitoring ? *BMC Pregnancy and Childbirth*, 1–11. <https://doi.org/10.1186/s12884-016-1213-4>
- Hanna, M., Martini, N., Deeb, Y., Mahmoud, W., & Issa, S. Y. (2023). *A misdiagnosed case of a 150-cm umbilical cord coiled twice around the fetal neck with a true cord knot : A rare Syrian case report*. Volume 11, 10–13. <https://doi.org/10.1177/2050313X231164858>
- Harahap, N. M. R., Rinayanti, H., Marliani, Manurung, R., Sarangih, R. K., Rahayu, M., & Mulai Jore Br Sitepu. (2025). *Root Cause Analysis (RCA) Dalam Asuhan Kehamilan Resiko Tinggi* (Cetakan Pe). CV. AA. RIZKY.
- Id, D. J. L. H., Warland, J., Parast, M. M., Bendon, R. W., Hasegawa, J., Banks, J., Clapham, L., & Id, A. E. P. H. (2020). *Umbilical cord characteristics and their association with adverse pregnancy outcomes : A systematic review and meta- analysis* (Vol. 36). <https://doi.org/10.1371/journal.pone.0239630>
- Manurung, H. R., Sarah, W., Manurung, B., Butarbutar, D. S., Kamila, N., Suryani, I., & Arman, J. (2025). *Implementasi Best Practice Dalam Pelayanan Kebidanan Komprehensif*. CV. AA. RIZKY.

- Młodawska, M., Młodawski, J., Swiercz, G., & 'nski, R. Z. (2022). *The Relationship between Nuchal Cord and Adverse Obstetric and Neonatal Outcomes : Retrospective Cohort Study*. 40–47.
- Sabara, H. S., Alam, H. S., & Asriadi. (2024). *Antenatal Midwifery Care For Mrs."I" With Chromnic Energy Deficiency At Wajo Health Center*. 1(2), 8–15.
- Sari, F., Manurung, D. H. R., Fauzianty, A., & Ginting, S. S. T. (2025). *Konsep Kebidanan* (A. F. Pratama (ed.)). Buku Loka.
- Sembiring, I. S., & Sinaga, S. N. (2024). *Mutu Layanan Kebidanan Dan Kebijakan Kesehatan* (CV. AA. RIZKY (ed.); cetakan pe). CV. AA. RIZKY.
- Silva, G. V., Gontijo, C. T., Paola, A., Lunguinho, C., Sérgio, M., Caetano, G., Callado, G. Y., Júnior, E. A., & Peixoto, A. B. (2025). *Perinatal Outcomes Related to the Presence of a Nuchal Cord During Delivery : A Retrospective Cohort Study*. 1–12.
- Simanullang, E., & Iii, R. (2020). *The implementation of midwifery competency standards in applying behaviour of normal childbirth care (APN) on Bidan Praktik Mandiri Pera*. 30, 96–98.
- Sinaga, R., Handayani, F., Damanik, N. S., Sitorus, R., Azizah, N., & Sinaga, K. (2024). *Pengaruh Terapi Birthball terhadap Kemajuan Persalinan Kala I pada Ibu Bersalin di Pustu Bangun Rejo Kecamatan Tanjung Morawa Kabupaten Deli Serdang Provinsi Sumatera Utara Tahun 2024 Sekolah Tinggi Ilmu Kesehatan Mitra Husada Medan , Indonesia*. 8(1), 91–101.
- Sone, K., Iizuka, T., Yoshida, K., Tanaka, Y., Kagami, K., & Abiko, K. (2025). *A Case Report of a Postmortem Intrauterine Fetal Magnetic Resonance Imaging That Identified an Umbilical Cord Factor as the Cause of Fetal Death*. 1–5. <https://doi.org/10.1111/jog.70097>
- WHO. (2022). *WHO recommendations on maternal and newborn care for a positive postnatal experience*. World Health Organization.