

MANAGEMENT OF CHILDBIRTH CARE FOR MRS. E, 31 YEARS OLD, G4P3A0, WITH UMBILICAL CORD PROLAPSE AT NIAR PRIMARY CLINIC IN 2026

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ABSTRACT

Background: Nuchal cord is a common complication during pregnancy and labor that occurs when the umbilical cord wraps around the fetal neck. This condition may impair placental-fetal blood circulation, increasing the risk of fetal hypoxia, fetal distress, and neonatal asphyxia. Early detection and appropriate management are essential to prevent adverse maternal and neonatal outcomes. Inadequate antenatal care (ANC) may contribute to delayed identification of such complications. **Objective:** To analyze the implementation of midwifery care management in a case of nuchal cord using Helen Varney's Seven-Step Midwifery Management Approach. **Methods:** This descriptive case study was conducted at Niar Primary Clinic in 2026. The subject was Mrs. E, a 31-year-old G4P3A0 woman at 39 weeks of gestation who experienced a nuchal cord during labor. Data were collected through interviews, observation, physical examination, medical record review, and documentation. Midwifery care was implemented and evaluated based on Helen Varney's seven-step management process. **Results:** The assessment showed that the mother attended only two ANC visits during pregnancy. During labor, the fetal heart rate decreased from 120 to 100 beats per minute and became irregular, indicating possible fetal distress. After delivery of the fetal head, a double nuchal cord was identified around the infant's neck. Immediate management included releasing the cord loops and closely monitoring maternal and fetal conditions. The infant was delivered safely and required initial assessment and immediate stimulation. **Conclusion:** Helen Varney's Seven-Step Midwifery Management Approach enabled early identification of complications, appropriate clinical decision-making, and timely intervention. Its application contributed to the successful management of the nuchal cord case and minimized the risk of complications for both mother and newborn.

Keywords: Nuchal Cord, Labor, Midwifery Care, Helen Varney, Fetal Distress.

INTRODUCTION

Labor is a physiological process experienced by every pregnant woman; however, various complications may occur and threaten the well-being of both mother and baby. One of the most common complications is a nuchal cord, a condition in which the umbilical cord wraps around the fetal neck during pregnancy or labor. Although many cases are harmless, a tight or multiple nuchal cord can compromise umbilical blood flow and reduce oxygen delivery to the fetus. (Kumar *et al.*, 2024)

Nuchal cord is reported to occur in approximately 20–30% of singleton pregnancies. The main concern associated with this condition is the potential compression of umbilical vessels, which may result in fetal hypoxia, abnormal fetal heart rate patterns, fetal distress, neonatal asphyxia, and even perinatal death if not managed appropriately (Pengetahuan *et al.*, 2024). Furthermore, the condition is often difficult to detect with certainty before delivery, making continuous monitoring during labor essential for early recognition of fetal compromise. (Handajani, Mulyani and Rachmawati, 2021)

Regular antenatal care (ANC) plays a crucial role in monitoring maternal and fetal health and identifying potential complications during pregnancy. Inadequate ANC attendance may limit opportunities for risk assessment and timely intervention, thereby increasing the likelihood of adverse outcomes during labor. (Laiya, Kurnaesih and Azrida, 2021)

The case of Mrs. E, a 31-year-old G4P3A0 woman, is noteworthy because she attended only two ANC visits throughout her pregnancy. During labor, fetal heart rate monitoring revealed signs of fetal distress, and a double nuchal cord was identified after delivery of the fetal head. (Miska, Yuswita and Nuraina, 2024) This condition required immediate intervention to prevent further complications and ensure a safe outcome for both mother and newborn. Therefore, the application of appropriate midwifery care management is essential to support timely clinical decision-making and reduce the risk of maternal and neonatal complications associated with nuchal cord. (Dias and Kore, 2021)

METHOD

This study used a descriptive case study design to explore the implementation of midwifery care management in a labor case complicated by nuchal cord. The study was conducted at Niar Primary Clinic in 2026.

The subject of this study was Mrs. E, a 31-year-old G4P3A0 woman at 39 weeks of gestation who experienced a double nuchal cord during labor. The participant was selected using purposive sampling based on the presence of the clinical condition of nuchal cord and the availability of complete maternal and neonatal data. As this was a single-case study, no sample size calculation was required. (Miska, Yuswita and Nuraina, 2024)

The independent variable in this study was the implementation of midwifery care using Helen Varney's Seven-Step Midwifery Management Approach. The dependent variables were maternal and neonatal outcomes, including fetal heart rate patterns, labor progression, mode of delivery, and the condition of the newborn at birth. (Ikterik *et al.*, 2025) The implementation of care was measured through structured documentation of each step of Varney's management process, while outcomes were assessed through clinical observation and standard obstetric evaluation.

Data were collected using interviews, direct observation, physical examination, and medical record review. The instruments used included maternal assessment forms, partograph, fetal Doppler for fetal heart rate monitoring, sphygmomanometer, stethoscope, thermometer, and standardized midwifery documentation sheets. All procedures followed standard midwifery practice guidelines.

Data analysis was conducted descriptively by comparing clinical findings before, during, and after the intervention with relevant midwifery care standards and literature on nuchal cord management.

RESULTS

The midwifery care management was implemented using Helen Varney's Seven-Step Midwifery Management Approach.

1. Data Collection (Assessment)

The initial assessment showed that Mrs. E, a 31-year-old G4P3A0 at 39 weeks of gestation, had attended only two antenatal care visits. During labor, fetal heart rate was 120 beats per minute at the beginning but decreased to 100 beats per minute with irregular rhythm, indicating signs of fetal distress.

2. Data Interpretation

The primary midwifery diagnosis was term pregnancy in active labor with suspected fetal distress due to nuchal cord.

3. Identification of Potential Problems

Potential complications identified included worsening fetal hypoxia, neonatal asphyxia, and prolonged fetal distress if not managed promptly.

4. Identification Of Needs

Continuous fetal monitoring and readiness for immediate intervention were prioritized.

5. Planning Of Care

A plan was developed to closely monitor fetal heart rate, assist delivery, and manage possible nuchal cord during the second stage of labor.

6. Implementation

During delivery, a double nuchal cord was found after the fetal head was delivered. The cord was immediately released carefully, and maternal and fetal conditions were closely monitored.

7. Evaluation

The baby was delivered safely with spontaneous breathing after initial stimulation. Maternal condition remained stable, and no severe complications occurred.

DISCUSSION

Nuchal cord is a common intrapartum condition, and according to several obstetric and midwifery studies, it is generally considered a benign finding in most deliveries. However, multiple loops of nuchal cord, especially when tight, are assumed to increase the risk of intermittent umbilical cord compression, which may lead to decreased fetal oxygenation and subsequent fetal distress. (Siti Nurmawan *et al.*, 2024) This condition is often reflected by abnormal fetal heart rate patterns such as bradycardia or irregular rhythm, as observed in this case. (Journal, Haryanti and Inayah, 2022)

Based on established midwifery and obstetric literature, fetal heart rate deceleration from normal baseline values (110–160 beats per minute) is an early indicator of potential fetal hypoxia. The findings in this case, where the fetal heart rate decreased from 120 to 100 beats per minute accompanied by irregular rhythm, are consistent with the assumption of compromised fetal oxygen supply due to cord compression. (Hasmiati, 2025)

Furthermore, studies on antenatal care emphasize that inadequate ANC attendance is associated with delayed identification of pregnancy risks and reduced opportunities for early detection of fetal complications. In this case, the mother's limited ANC visits (only two times during pregnancy) may have contributed to the lack of early identification of risk factors, although nuchal cord itself is often not predictable through routine antenatal examination. (Munadhoroh, 2026)

The application of Helen Varney's Seven-Step Midwifery Management Approach provided a structured framework for clinical reasoning and decision-making. This systematic approach is in line with midwifery practice guidelines, which emphasize continuity of assessment, problem identification, planning, implementation, and evaluation to ensure maternal and neonatal safety. (Varner, Poeltler and Vaucher, 2024)

The immediate management of releasing the nuchal cord after delivery of the fetal head is supported by obstetric assumptions that prompt intervention can restore fetal circulation and prevent worsening hypoxia. The favorable neonatal outcome in this case supports the assumption that rapid recognition and appropriate intrapartum management significantly reduce the risk of neonatal asphyxia and other complications.

Overall, this case reinforces the theoretical assumption that although nuchal cord is often benign, careful intrapartum monitoring and structured midwifery management are essential in preventing adverse outcomes, particularly in cases with signs of fetal distress.

CONCLUSIONS

Nuchal cord is a common intrapartum condition that may potentially compromise fetal oxygenation and lead to fetal distress, neonatal asphyxia, or other adverse outcomes, particularly when accompanied by multiple loops or tight compression. This case highlights the importance of early detection and appropriate management, especially in mothers with inadequate antenatal care (ANC) attendance. (Febriana Sari *et al.*, no date)

The aim of this study was to analyze the implementation of midwifery care management in a case of nuchal cord using Helen Varney's Seven-Step Midwifery Management Approach. The case of Mrs. E, a 31-year-old G4P3A0 woman at 39 weeks of gestation, demonstrated signs of fetal distress during labor, indicated by a decrease in fetal heart rate and irregular rhythm. A double nuchal cord was identified after delivery of the fetal head. (Sinaga, 2024)

The results showed that prompt intervention, including immediate release of the nuchal cord and continuous maternal-fetal monitoring, resulted in a safe delivery. The newborn required initial stimulation but achieved stable adaptation, while the mother remained in good condition. (Surbakti, 2024)

In conclusion, the findings emphasize that although nuchal cord is often considered a benign condition, it may present significant risks when associated with fetal distress. The application of Helen Varney's Seven-Step Midwifery Management Approach proved effective in supporting early recognition of complications, structured clinical decision-making, and

timely intervention. This systematic approach contributed to optimal maternal and neonatal outcomes and supports its use in managing obstetric cases involving nuchal cord.

ACKNOWLEDGEMENT

The author would like to express sincere gratitude to all parties who have contributed to this study, especially the head and staff of NIAR Primary Clinic, STIKes Mitra Husada Medan as the institution, the academic supervisor, and Mrs. S as the research subject. Appreciation is also extended to family and friends for their support and encouragement.

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