

Case Report: Monitoring of a High-Risk Pregnancy in a Patient with Imminent Preterm Labor and a History of Poor Obstetric Outcomes

Resma Putri Bahari¹, Ratih Kusuma Wardhani^{2*}

^{1,2} Prodi Sarjana Terapan Kebidanan Malang, Jurusan Kebidanan, Poltekkes Kemenkes Malang

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ABSTRACT/ ABSTRAK

ABSTRACT. Imminent preterm labor can lead to preterm birth, which is the leading contributor to perinatal morbidity and mortality worldwide, accounting for 70% of neonatal deaths. This study aims not only to reduce the incidence of preterm birth but also to improve the quality of care for pregnant women and support optimal fetal health. This research employed a qualitative design with a case study approach and was documented using Varney's seven-step midwifery management process. The research subject was Mrs. L, a 23-year-old woman pregnant with her third child at 36–37 weeks of gestation, diagnosed with imminent preterm labor and a bad obstetric history. Data were collected through interviews and head-to-toe physical assessments conducted on the pregnant woman. The instruments used included an assessment form and the Puji Rohyati Score (a screening tool used to identify low-risk or high-risk pregnancies). Primary data were utilized. The conclusion drawn after approximately two hours of observation was that there was no progression of labor.

ABSTRAK. Partus prematurus imminens dapat mengarah pada partus prematurus, kondisi partus prematurus merupakan kontributor tertinggi terhadap morbiditas dan mortalitas perinatal di seluruh dunia, yang mencakup 70% dari mortalitas neonatal. Tujuan penelitian ini untuk mengurangi angka kelahiran prematur tetapi juga untuk meningkatkan kualitas perawatan bagi ibu hamil serta mendukung kesehatan janin secara optimal. Penelitian ini menggunakan desain penelitian kualitatif dengan pendekatan studi kasus dan didokumentasikan dalam bentuk 7 langkah Varney. Responden penelitian yaitu Ny. L umur 23 tahun hamil anak ketiga dengan gestasi 36-37 minggu dengan partus prematurus imminens dan *Bad Obstetric History*. Pengumpulan data melalui wawancara serta hasil pemeriksaan secara *head to toe* yang dilakukan pada ibu hamil. Instrument yang digunakan form pengkajian dan skor puji rohyati (form skrining yang digunakan untuk mengidentifikasi kehamilan resiko rendah atau kehamilan resiko tinggi). Jenis data primer. Kesimpulan dilakukan observasi selama kurang lebih 2 jam, ditemukan hasil bahwa tidak ada kemajuan persalinan.

Corresponding Author:

Ratih Kusuma Wardhani

Prodi Sarjana Terapan Kebidanan Malang, Jurusan Kebidanan, Poltekkes Kemenkes Malang

Email: wardhanipc@gmail.com

INTRODUCTION

Imminent preterm labor is characterized by uterine contractions accompanied by cervical effacement and dilation in pregnant women with gestational age less than 37 weeks, which can lead to preterm birth. Preterm birth remains the leading contributor to perinatal morbidity and mortality globally, accounting for approximately 70% of neonatal deaths (Hage et al., 2022).

The World Health Organization (WHO) estimated that 13.4 million babies were born prematurely in 2020 (Ohuma et al., 2023). In East Java Province, Indonesia, the number of preterm births in 2021 reached 20,627 cases (3.7%) out of 563,716 live births (Dinas Kesehatan Provinsi Jawa Timur, 2021). In Malang City, there were 92 infant deaths recorded throughout 2023, resulting in an infant mortality rate of 7.41 per 1,000 live births. The high number of infant deaths in Malang was attributed to several factors, including low birth weight and prematurity (32 cases), asphyxia (24 cases), infection (16 cases), congenital anomalies (11 cases), diarrhea (2 cases), pneumonia (2 cases), and other causes (26 cases) (Dinkes Kota Malang, 2023). A preliminary study at Kanjuruhan Regional Public Hospital in 2024 reported 215 preterm infants.

The risk factors for imminent preterm labor include idiopathic causes, pregnancy history (preterm birth, premature rupture of membranes), short interpregnancy intervals, cervical incompetence, placental insufficiency, uterine overdistension, and multiple pregnancies. Other risk factors include trimester bleeding, uterine abnormalities, trauma, and medical conditions such as hypertension, systemic lupus erythematosus (SLE), restrictive lung disease, hyperthyroidism, diabetes mellitus, heart and kidney disease, polyhydramnios, and congenital anomalies. Socioeconomic factors, exposure to smoke, infections, and poor antenatal care services also play significant roles (Gofur, N. R. P., Gofur, A. R., Gofur, R. N. R., & Putri, 2022).

In Indonesia, efforts to address preterm labor have been implemented through various maternal and child health programs. One strategic step is the provision of high-quality and integrated antenatal care (ANC). Through ANC services, pregnant women are educated to recognize warning signs of pregnancy, such as severe abdominal pain, bleeding, or premature rupture of membranes. This education aims to raise maternal awareness of the importance of early detection and prompt medical intervention when symptoms arise (Kemenkes RI, 2023). According to Handayani (2022), the management of preterm labor in healthcare facilities requires a multidisciplinary approach involving midwives, obstetricians, and neonatal nurses. Corticosteroid therapy is often administered to mothers at risk of preterm labor to accelerate fetal lung maturation. Meanwhile, preterm infants require intensive care in neonatal intensive care units (NICUs) to minimize potential complications such as respiratory distress syndrome (RDS) or infections. The monitoring and care of preterm newborns include immediate neonatal care, early initiation of breastfeeding (EIBF), kangaroo mother care (KMC) if possible, and referral of infants with respiratory distress or very low birth weight. A comprehensive understanding of imminent preterm labor and appropriate management is essential to prevent preterm births.

The objective of this case report is to assess the high-risk pregnancy experienced by a pregnant woman with imminent preterm labor and a bad obstetric history, including potential complications during pregnancy. Through this report, the importance of regular maternal and fetal health monitoring, along with necessary medical interventions to reduce the risk of

complications, is emphasized. Additionally, this report aims to present effective strategies in midwifery care and management to prevent complications for both mother and baby, raise maternal awareness about routine antenatal check-ups, and promote better access to healthcare services and education for the community. Therefore, this case report intends to generate data and findings that can serve as a basis for further research on the prevalence and management of high-risk pregnancies among pregnant women, as well as the effectiveness of existing preventive strategies.

RESEARCH METHOD

This study employed a qualitative research design with a case study approach. The research was conducted in the Emergency Room (ER) of Kanjuruhan Regional Public Hospital, Malang Regency, and utilized primary data. The research subject was Mrs. L, a 23-year-old woman pregnant with her third child at 36–37 weeks of gestation, diagnosed with imminent preterm labor and a bad obstetric history. The instruments used were an assessment form and the Puji Rohyati Score (a screening tool for pregnant women used to classify them into low-risk or high-risk pregnancy categories). Data collection was carried out through interviews (anamnesis), head-to-toe physical examinations, and supporting examinations performed on the pregnant woman. After data collection, the analysis was conducted using Varney’s seven-step midwifery management process, which includes: data collection, data interpretation, identification of potential problems, identification of immediate needs, care planning, care implementation, and evaluation.

RESULTS

An assessment was conducted on Mrs. L, a 23-year-old woman, in the Emergency Room (ER) of Kanjuruhan Regional Public Hospital on October 16, 2024, at 10:00 AM by Resma Putri Bahari. Mrs. L was referred from Wonokerto Public Health Center in Malang with a diagnosis of imminent preterm labor and a bad obstetric history.

Subjective data indicated that Mrs. L reported complaints of abdominal cramps, the passage of mucus, and a tightening sensation in the abdomen. These symptoms began on October 16, 2024, at around 2:00 AM, prompting her to visit the Wonokerto Health Center, where she was subsequently referred to Kanjuruhan Hospital. Her menstrual history showed a regular 28-day cycle, with her last menstrual period on February 5, 2024. Mrs. L had two previous pregnancies with poor obstetric outcomes: the first in 2022, in which the baby was born weighing 700 grams, and the second in 2023, with a birth weight of 600 grams. Both infants died shortly after birth. She is currently pregnant with her third child at 36–37 weeks of gestation. The family medical history reveals that her mother had a history of heart disease and diabetes. Mrs. L had attended six antenatal care visits—four at the health center and two with an independent midwife practice (TPMB).

Contraceptive history: Mrs. L had used a three-month injectable contraceptive for 10 months following her first child without any complaints, after which she discontinued its use. Psychosocial aspects: The mother expressed concern about her baby’s condition but made efforts to remain calm due to the presence and support of a midwife. She demonstrated strong support from her husband and family. She reported a harmonious family relationship with no

beliefs that negatively impacted her health. Decision-making regarding healthcare was in the hands of her husband, who was supportive of both maternal and fetal health.

Functional health data: Mrs. L's nutritional pattern consisted of eating four times a day with sufficient portions (rice, protein, vegetables). She drank approximately seven glasses of water daily. Regarding elimination, she urinated 5–6 times a day and defecated 1–2 times daily without complaints. Her sleep pattern included around 9 hours at night and 2 hours during the day. Her daily activities consisted of household chores, infrequent physical exercise, and no heavy physical activities. Personal hygiene was maintained with two showers per day.

General examination indicated that Mrs. L was in good condition. Vital signs showed a blood pressure of 141/91 mmHg, body temperature of 36.5°C, pulse rate of 88 beats per minute, and respiratory rate of 20 breaths per minute. Her pre-pregnancy weight was 48 kg, and her current weight was 69 kg, with a Body Mass Index (BMI) of 19.97 kg/m², which is within the normal range. Physical examination revealed no facial edema, no icterus in the eyes, and conjunctivae free from signs of anemia. Abdominal examination using Leopold's maneuvers showed that Leopold I identified a round, soft, non-ballotable mass (buttocks); Leopold II revealed a long, firm structure (fetal back) on the right and small parts (fetal extremities) on the left; Leopold III detected a round, firm, and ballotable presenting part (head) engaged in the pelvic inlet; and Leopold IV confirmed that a small portion of the fetal head was already within the pelvic inlet. Fetal heart rate was 144 beats per minute, and uterine contractions were recorded at a frequency of twice every 10 minutes, lasting 20 seconds each (2x10'x20"). Genital examination revealed the presence of bloody mucus discharge per vaginam, while internal examination confirmed bloody mucus, cervical dilation of 1 cm, and intact membranes. Laboratory results obtained from the Wonokerto Health Center during an integrated antenatal visit on May 4, 2024, showed a hemoglobin level of 13.9 g/dL, blood type A with Rh-positive, and negative results for HIV, syphilis, and HBsAg. Ultrasound examination showed a single fetus in cephalic presentation with a fetal heart rate of 140 beats per minute. Screening using the Puji Rohyati Score indicated a high-risk pregnancy, with a total score of 6. Prior treatment from the Wonokerto Health Center included Ringer's Lactate (RL) infusion at 20 drops per minute and a 24 mg dexamethasone injection administered at 09:40 AM.

The current diagnosis and identified problems are: G3P0110Ab000, 36–37 weeks of gestation, a single live intrauterine fetus in cephalic presentation with imminent preterm labor and a bad obstetric history. Potential maternal and fetal problems identified include low birth weight, asphyxia, and infection. Immediate management needs include monitoring of CHPB (contractions, fetal descent, fetal heart rate, and Bandl's ring), and collaboration with the ER physician and the obstetrician-gynecologist. Appropriate management and strong support from both family and healthcare providers are essential to ensure the well-being of the mother and fetus during this high-risk pregnancy.

The detection of reactive hepatitis virus in this examination was a first-time experience for the patient, as she had not undergone blood tests in her previous pregnancies. She was unaware of her hepatitis status and had not received any treatment from healthcare providers. Sidotopo Wetan Health Center referred her to Dr. H.M. Soewandhie Hospital for further evaluation. She followed the recommendation and visited the hospital, where she was then referred to Dr. Soetomo Regional Hospital in Surabaya for HBV DNA testing and scheduled follow-up at the maternity outpatient clinic on August 29, 2024.

In the case of Mrs. L, a 23-year-old woman in her third pregnancy with imminent preterm labor and a bad obstetric history, the management provided focused on a comprehensive approach to handling this high-risk pregnancy. The care provided included CHPB monitoring, repeat laboratory testing, administration of RL infusion at 20 drops per minute as per the general physician's recommendation, and pulmonary maturation therapy prescribed by the obstetric and gynecology specialist. If uterine contractions became adequate, the patient would be administered magnesium sulfate at a dose of 1 gram per hour.

DISCUSSION

The assessment of Mrs. L on October 16, 2024, revealed several important findings. The patient presented with complaints of abdominal cramps and tightening starting at 2:00 AM, accompanied by the discharge of mucus. Mrs. L had a history of two preterm births, in 2022 and 2023, with birth weights of 700 grams and 600 grams respectively; both infants died shortly after birth. This indicates a significant risk factor for preterm labor in the current pregnancy, particularly due to the short interpregnancy interval and a documented bad obstetric history, as well as limited experience with term deliveries. These findings align with the etiology of imminent preterm labor described by Gofur (2022), which identifies a history of preterm delivery and short birth spacing as major risk factors. Furthermore, a bad obstetric history includes previous miscarriages, bleeding during pregnancy, premature rupture of membranes, preterm delivery, stillbirth, or postpartum hemorrhage (Tinah & Pudwiyani, 2016).

Objective examination indicated that the patient's general condition was stable and she was alert and oriented. Abdominal examination revealed that the fundal height was three fingers above the umbilicus, and Leopold's maneuvers confirmed that the presenting part was the fetal head, which had not yet fully entered the pelvic inlet. Vaginal examination (VT) showed a cervical dilation of 1 cm with the presence of mucus but no blood. Fetal heart rate was 144 beats per minute, indicating a reassuring fetal condition. Uterine contractions occurred twice in 10 minutes with a duration of 20 seconds, suggesting the risk of preterm labor. These findings are consistent with the clinical signs and symptoms of imminent preterm labor as described by Wiknjastro (2016), which includes contractions occurring approximately four times every 20 minutes or eight times per hour.

Mrs. L was advised to undergo further examinations such as ultrasound to confirm gestational age and assess fetal well-being. Given the presence of risk factors for preterm birth, ultrasound examination was expected to help determine the fetal position and overall condition. This aligns with the statement by Nurbeti, Jtcsa et al. (2024), that ultrasound is used to assess gestational age, fetal number and size, fetal activity, congenital anomalies, placental location and maturity, amniotic fluid volume, and uterine abnormalities. Based on the collected data, the primary diagnosis was imminent preterm labor in a patient with a bad obstetric history. Potential complications include the risk of infection and preterm birth before fetal maturity is achieved (Tinah & Pudwiyani, 2016).

The planned nursing care and implementation included informing the patient about her diagnosis of imminent preterm labor to help her understand the situation and the importance of maintaining her condition to prevent preterm birth. Continuous monitoring of vital signs, fetal heart rate, and contraction frequency was conducted to detect any signs of complications. Collaboration with an obstetrician was also carried out to administer therapies

for fetal lung maturation and magnesium sulfate (MgSO₄) as a tocolytic to reduce uterine contractions. The care provided aligns with the theory proposed by Laksmana (2023), stating that the management of imminent preterm labor involves the administration of magnesium sulfate as a tocolytic and corticosteroids to accelerate fetal lung maturity.

This section presents data obtained from the methodology, which are critically analyzed and presented in a systematic and integrated manner. Data are described descriptively without drawing conclusions or implications. No citations are included in the results section. Mean values should be presented along with standard deviations. Tables, graphs, or figures must be clear, easy to interpret, and should not contain raw data that require further processing.

CONCLUSION

The case of Mrs. L, a 23-year-old pregnant woman diagnosed with imminent preterm labor and a bad obstetric history, highlights the critical importance of a comprehensive approach in managing high-risk pregnancies. Education on psychosocial support and the implementation of targeted care interventions are essential steps in safeguarding the health of both mother and fetus. The care provided included patient education, monitoring of vital signs and fetal heart rate, ultrasound examination, and preparation for delivery in the event of progressing contractions. Evaluation indicated that Mrs. L had understood her condition, her vital signs remained within normal limits, the fetal condition was stable, and uterine contractions had not intensified. Since there was no increase in contractions and no change in cervical dilation, the patient was transferred to the maternity ward for further observation to assess whether labor would progress. After approximately two hours of observation, it was concluded that there was no labor progression, and Mrs. L was discharged to return home.

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