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Midwifery Care for Over 35 Years Multigravida Mothers with Premature Rupture of Membranes at the Age of a Term Pregnancy

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Abstract:
Premature rupture of membranes (PROM) is a condition of rupture of the amniotic membrane after 37 weeks of gestation but before labor begins, which can increase the risk of intraamniotic infection, preterm labor, and operative measures such as cesarean section. This study aims to provide midwifery care for a case of PROM in a multigravida mother aged >35 years with a term pregnancy. This study used a case study design with an in-depth approach to the subject, Mrs. LN, age 40 years, G4P3003, gestational age 37 weeks, who came with complaints of discharge from the birth canal without adequate contractions. Data was collected through interviews, observation, physical examination, and documentation study. Examination using the Leopold palpation method, vaginal toucher, and examination with red litmus paper, which turns purple, indicating the presence of amniotic fluid. The diagnosis was the first stage of the labor latent phase with PROM. Obstetric interventions were carried out through observation, education, and referral to the hospital due to indications for postpartum MOW contraception. The study results showed that the mother and baby were born in good health, and the postpartum contraception plan could be implemented. This study emphasizes the importance of early detection of PROM and collaborative management in supporting maternal and infant safety.

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INTRODUCTION

Premature rupture of membranes (PROM) is the spontaneous rupture of the amniotic sac after 37 weeks of gestation but before the onset of labor (Tiruye et al., 2021). This condition occurs when the amniotic membranes rupture more than one hour before initiating regular uterine contractions. PROM complicates approximately 8–10% of pregnancies and is a critical obstetric concern due to its association with increased risks of maternal and fetal morbidity (Alene et al., 2024). The absence of intact membranes heightens susceptibility to intraamniotic infections, such as chorioamnionitis, while also increasing the likelihood of preterm delivery or emergency cesarean section. Effective management of PROM is essential to mitigate complications and ensure favorable outcomes for both mother and fetus (Sorrenti et al., 2024).

PROM disrupts the natural protective barrier of the amniotic cavity, exposing the fetus to potential ascending infections and the mother to systemic inflammatory responses (Xu et al., 2024). Chorioamnionitis, placental abruption, and umbilical cord accidents are among the most severe complications linked to PROM, particularly when labor does not ensue promptly (Brandt & Ananth, 2023). For the fetus, the risk of neonatal sepsis, respiratory distress syndrome, and fetal distress escalates due to prolonged membrane rupture. These risks underscore the urgency of timely

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diagnosis and intervention, especially in term pregnancies where the balance between expectant management and active labor induction must be carefully evaluated (Chiossi et al., 2021).

Multiple factors contribute to the occurrence of PROM, including bacterial vaginosis, cervical incompetence, excessive uterine distension, and lifestyle-related influences such as smoking or poor nutrition (Vaduva et al., 2024; Novelia et al., 2023). Trauma to the abdomen, prior history of PROM, and iatrogenic interventions like amniocentesis further predispose women to this complication (Navti, 2021). Notably, multiparous and grand multiparous women face heightened risks due to repetitive stretching of the uterus, reduced cervical integrity, and accelerated cervical dilation. These physiological changes compromise membrane stability, increasing vulnerability to premature rupture (Putri et al., 2024).

Advanced maternal age (>35 years) is a well-documented risk factor for PROM, attributed to age-related declines in connective tissue quality and vascularization of the amniotic membranes (Goldrich et al., 2023). Women in this demographic often exhibit suboptimal collagen synthesis and reduced elasticity of reproductive tissues, leading to structurally weaker membranes prone to rupture. Additionally, older mothers are more likely to experience comorbidities such as diabetes or hypertension, which further impair placental and membrane integrity. Combined with multiparity, these factors create a synergistic effect that amplifies the likelihood of PROM in term pregnancies.

Midwifery care emphasizes a patient-centered, continuity-based model that prioritizes comprehensive assessment, diagnosis, and individualized interventions throughout the perinatal period. For women with PROM, midwives are pivotal in monitoring maternal and fetal well-being, educating patients on infection prevention, and facilitating timely referrals for advanced care (Dickinson et al., 2022). Their approach integrates evidence-based practices, such as sterile speculum exams, fetal heart rate monitoring, and judicious use of antibiotics, while fostering shared decision-making to align care with maternal preferences and clinical needs (Burgoyne et al., 2022).

In cases involving multigravida mothers over 35 years of age, midwifery care must address the compounded risks of PROM, including rapid labor progression, infection, and postpartum hemorrhage (Nahar et al., 2023). Individualized care plans often involve close observation for signs of chorioamnionitis, proactive management of cervical changes, and counseling on postpartum family planning options like MOW (female sterilization). Midwives also address psychosocial stressors, such as anxiety related to pregnancy complications, through empathetic communication and support systems. This tailored approach ensures that high-risk women receive targeted interventions while maintaining autonomy in their birthing experience (Challacombe et al., 2024).

This case study investigates midwifery care strategies for a 40-year-old multigravida mother with PROM at term, highlighting the interplay between advanced maternal age, multiparity, and clinical outcomes. By documenting the assessment, diagnosis, and management of PROM within a structured midwifery framework, the study contributes practical insights into optimizing care for similar high-risk populations. It underscores the importance of integrating evidence-based protocols, patient education, and interdisciplinary collaboration to reduce PROM-related complications (Rath et al., 2021). Findings aim to inform midwifery practice guidelines and enhance maternal-fetal safety in resource-limited settings where access to specialized obstetric care may be delayed.

STUDY DESIGN

This research employed a qualitative case study approach to comprehensively examine the condition of Mrs. LN, a 40-year-old multiparous woman (G4P3003) at 37 weeks of gestation. She presented with complaints of vaginal discharge in the absence of adequate uterine contractions, raising concerns about potential complications during the late stages of pregnancy. Data were

collected through multiple methods, including structured interviews to gather subjective information, direct observation of clinical symptoms, physical examinations to assess maternal and fetal status, and a review of medical documentation. The study prioritized an in-depth understanding of the case, focusing on the interplay between clinical findings, patient history, and diagnostic outcomes. Ethical clearance was obtained from the Ethics Committee of Poltekkes Kemenkes Malang to ensure adherence to research standards and participant rights.

Systematic clinical assessments were performed to confirm the diagnosis. The Leopold palpation technique was utilized to evaluate fetal position and engagement, while a vaginal toucher was conducted to assess cervical dilation and effacement. A key diagnostic step involved testing the vaginal discharge using red litmus paper, which changed to purple, confirming the presence of amniotic fluid—a hallmark of premature rupture of membranes (PROM). These findings, combined with the absence of regular contractions, led to the diagnosis of the first stage of labor in the latent phase complicated by PROM. Integrating physical exams, laboratory tests, and clinical observations ensured a robust diagnostic process, guiding subsequent interventions.

Following the diagnosis, obstetric care focused on stabilizing the patient and preventing complications. Continuous monitoring of maternal vital signs, fetal heart rate, and signs of infection was prioritized during the latent phase. Health education was provided to Mrs. LN regarding the risks of PROM, activity restrictions, and signs of labor progression. Given the need for advanced care and postpartum family planning, she was referred to a hospital for further management, including consideration of Female Operative Method (MOW) contraception post-delivery. The study highlights the importance of timely referrals, patient education, and multidisciplinary collaboration in managing PROM. These interventions align with improving maternal outcomes while adhering to ethical guidelines throughout the research and clinical decision-making processes.

PATIENT INFORMATION

The assessment results are obtained based on the assessment of the client and family, and the problem that can be established in this case is the premature rupture of membranes. Researchers will describe the results of research based on the stages of the midwifery process. Based on the results of the assessment, subjective data was obtained: Mrs. LN stated that she felt fluid coming out of the birth canal since 19.00. From the objective data, the following results were obtained: Gestational age 37 weeks, Blood Pressure 100/70 mmHg, Weight 76 kg, Palpation Leopold I Palpable 3 fingers below px, round not bouncy (buttocks), Leopold II Right back (PuKa), Left small part, Leopold III Round stiff bouncy (head), has entered PAP, Leopold IV Divergent (U), Fetal Heart Rate 147x/min, regular, Uterine Fundus Height 31 cm, Estimated Fetal Weight (31-12) x 155 = 2945 grams, Vaginal Toucher 1 cm, Amniotic (-), eff 25%, Hodge I, presentation small fontanel presentation. Based on the data analysis, the diagnosis of G4P3003 UK 37-38 weeks, first stage of labor, latent phase with PROM can be established. Intervention in the problem of premature rupture of membranes is carried out by observation and referral.

CLINICAL FINDINGS

This data was obtained since the ANC visit at 26 - 37 weeks of gestation; the client had a problem of shortness of breath when talking a lot, cramps in the legs, and pain in the groin, and at 37 weeks of pregnancy, the client complained of a sudden discharge from the birth canal. Based on objective examination data, it can be proven by doing a vaginal touch and a red litmus paper test.

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This theory states that if the red litmus paper changes color to purple, the fluid is proper amniotic fluid. At 32 weeks of gestation, the mother decided to use MOW contraception after this delivery.

The interventions arranged are informing the results of the examination, observing the condition of the mother and fetus, informing the mother and family that a referral must be made because the mother has PROM and the mother wants MOW contraception so that the delivery process must be supervised by a doctor, giving informed consent to the mother and family for approval of the referral action to be taken, prepare the necessary letters for referral, medicines, tools and vehicles used for referral, documentation of examination results. In the opinion of the researcher, based on subjective data and objective assessment of Mrs. LN, and based on theory, the researcher raised the problem of premature rupture of membranes.

The evaluation results of all actions taken in the case of Mrs. LN and her baby were healthy, with no complaints. Mrs. LN experienced a premature rupture of membranes. This condition can lead to spontaneous labor or, if labor is not initiated, increase the risk of complications such as intraamniotic infection and placental abruption, especially at term. PROM risk factors are abdominal trauma, smoking, bacterial infection, or inflammation. In addition, PROM puts the mother at risk of infection (chorioamnionitis) and preterm labor and increases the risk of Caesarean section. Therefore, early detection and prompt management are essential to lower the risk of complications. In the case of Mrs. LN, the decision to refer to an advanced healthcare facility was made based on applicable clinical procedures. After the referral of Mrs. LN, induction of labor was carried out, but the induction failed, so a Caesarean section had to be performed immediately.

DISCUSSION

Based on the research data that has been found in LN mothers with a diagnosis of premature rupture of membranes. If pregnant women experience PROM, careful monitoring must be carried out immediately by adequate medical personnel. The main risk factors include unprepared cervical conditions, as well as the presence of pregnancy complications such as hypertension and PROM (Lin et al., 2024).

Sectio Caesarea was performed because there was no development of cervical opening and no spontaneous contractions, even though the membranes had broken (Sulistiorini et al., 2022). Induction was done, but it failed. This was the cause of Mrs. LN's Caesarean section surgery. This is to the principles of handling PROM, especially if the duration is more than 12 hours, because these conditions can cause a reduction in the volume of amniotic fluid. Lack of amniotic fluid can interfere with the umbilical cord and oxygen exchange between mother and fetus, thus increasing the risk of asphyxia. In the case of Mrs. LN, the factors that caused the induction to fail were maternal age> 35 years and multigravida. The age of mothers at risk of premature rupture of membranes is under 20 years and over 35 years. The risk of PROM is high in multiparous and grand-multiparous due to excessive uterine motility and reduced uterine neck determination, so premature opening of the cervix can occur (Putri et al., 2024)

The decision to perform SC was made collaboratively by the medical team at the referral facility. This shows the importance of coordination in emergency obstetric care. This management is also in line with the guidelines, which state that in a term pregnancy (≥37 weeks) with PROM, induction or SC is performed according to indications, accompanied by the administration of drugs for intraamniotic infection if needed, as well as infection prophylaxis (Bellussi et al., 2021). In the case of Mrs. LN, antibiotics were administered to prevent infection in the mother and baby.

The implementation of SC was also done with informed consent and involved active collaboration between doctors, midwives, and the patient's family. This reflects the implementation

of collaborative care by step IV of midwifery care management. Effective communication and service ethics were maintained during the medical decision-making process, and the active role of the mother and family was valued (Mau et al., 2023; Musviro et al., 2024).

Mrs. LN's experience undergoing SC was an important part of building psychological readiness for the postpartum period (Damayanti & Arofi, 2022). Efforts to support the bonding process between mother and baby and family involvement were optimized to accelerate postpartum recovery and adaptation. Health workers' support was also provided through home visits and counseling. These aspects demonstrate sustainable and holistic midwifery care (Kurniyawan et al., 2023; Putri, 2024).

CONCLUSION

The administration of deep breath relaxation therapy was effective in reducing pain levels in patients with hydronephrosis. A significant decrease in pain levels can be seen from measuring the pain scale, which was initially on a scale of 6, gradually decreasing until it reached a scale of 3. Nurses can use deep breath relaxation therapy as a non-pharmacological therapy in patients with hydronephrosis to reduce the patient's pain level. Patients can also use deep breath relaxation therapy as an independent therapy because it is an easy-to-do therapy, and no other special equipment is required.

LIMITATION OF STUDY

Long-term studies with a large number of patients are needed to establish the results of this study.

CONCLUSION

This study concluded that the respondent, Mrs. LN G4P3003 UK 37 weeks, with a diagnosis of premature rupture of membranes, obstetric problems in its implementation had been carried out by predetermined interventions, and the client's condition. Established objectives and outcome criteria can resolve midwifery care to address client problems. Implementation applied to clients is with predetermined interventions. Its application refers to the theory adapted to the client's circumstances, making it easier to carry out the midwifery care process. Implementation is the stage in carrying out the midwifery action plan that has been set for midwives, clients, and families. The planned intervention is to carry out the implementation. In the researcher's opinion, the implementation from the first to the last day went according to the intervention plan, namely, making the condition of Mrs. LN and her baby healthy without any complaints.

DECLARATION OF PATIENT CONSENT

The authors state that they have obtained the appropriate patient consent form. In the form, the patient consented to her clinical information being reported in the journal. The patient understands that his/her name and initials will not be published, reasonable efforts will be made to conceal his/her identity, and the study remains confidential.

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