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Planned Time of Induction and Intravenous Antibiotics for Term Prelabour Rupture of Membranes

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Abstract: Prelabour rupture of membranes.Describe prelabour rupture of membranes. Labor typically starts in 24 hours. Prelabour rupture of membranes occurs in 8-10% of pregnancies and the management of term PROM focuses on preventing infection and inducing labour in a timely fashion, which is different from the management of preterm PROM. Aim to compare the need for IV antibiotic in the intrapartum period and the maternal and neonatal outcomes following induction of labour within 6 hours after prelabour rupture of membranes (PROM) at term. The study was conducted at the Bint Al-Huda Hospital for Maternity and Children from 1st November 2024 to 1st November 2025, using the prospective cohort study design. One hundred women with term spontaneous prelabour rupture of membranes were enrolled in the study. The subjects were divided into early induction group (≤6 hours) and delayed induction group (>6 hours). Maternal and obstetric, clinical and neonatal data were included. Induction methods were Bishop scored and antibiotics administered only if necessary. Maternal outcomes (type of delivery, infection, complications) and neonatal outcomes (Apgar score, admission to NICU, mortality) were prospectively evaluated. 100 women were included (50 early induction and 50 delayed induction) and there was no significant difference in baseline characteristics between the groups. Early induction was associated with a significant decrease in rupture of membranes-to-delivery time (12.5 hours vs 19.8 hours, $p<0.001$). The early group required intrapartum IV antibiotics (30%) versus the delayed group (68%) ($p<0.001$) with a shorter duration of antibiotics (1.7 days vs. 3.1 days, $p<0.001$). Vaginal delivery rates were 76% and 60% with early and delayed induction, respectively. Delayed induction was associated with increased maternal complications, in this case chorioamnionitis (14% compared to 6%) although this was not significant. Early induction (2.6 days vs. 3.4 days; $p=0.002$) was associated with a shorter hospital stay. Neonatal outcomes were similar. Early induction of labour (within 6 hours of term prelabour rupture of membranes) is clinically advantageous and safe, as it decreases the length of labour, reduces the need for intrapartum antibiotics and hospitalisation and has good maternal outcomes without an increase in complications associated with caesarean section or the neonate.

Keywords: Term Prelabour Rupture of Membranes (PROM), Early Labour Induction, Delayed Labour Induction, Intrapartum Antibiotics, Maternal Outcomes

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1. Introduction

The medical definition of prelabour rupture of membranes (PROM) is spontaneous rupture of fetal membrane before onset of labour at or after 37 weeks. It affects around 8-10% of pregnancies and most women will enter spontaneous labour within 24 hours. While term PROM also complicates delivery, it is associated with infection issues and questions of timing of delivery as well as preterm PROM, which is associated with preterm related issues [1].

Pathophysiology of PROM is characterised by collagen remodelling, cell death and increased matrix metalloproteinases in the chorioamniotic membranes. After rupture of the membrane, the absence of the protective barrier allows ascending bacterial infections to occur, which can lead to maternal chorioamnionitis, postpartum endometritis and early onset neonatal sepsis. The more time that passes between the rupture and the delivery, the greater the chances of these complications [2,3].

Planned labour induction and expectant management are management options, as spontaneous labour. While expectant management may decrease the need for unnecessary obstetric interventions, extended latency will increase the risk of infectious complications. In contrast, early induction may help reduce the rupture-to-delivery interval and infections among mothers at the same time without substantially increasing cesarean delivery rates. Common induction techniques are intravenous oxytocin, prostaglandins, and mechanical cervical ripening, depending on the cervical favourability and clinical conditions [4].

Women colonised with Group B Streptococcus, those with suspected intra-amniotic infection or with certain risk factors (e.g. prolonged rupture of the membranes) continue to require intrapartum IV antibiotics. However, if the induction is done in time, it can minimize the unnecessary use of antibiotics and the burden on health care systems [5,6].

Although induction has been proven to provide clinical benefits within 24 hours, the clinical benefits of early induction (within 6 hours) are still important to explore. The purpose of this study is to assess the effect of early labour induction within six hours of term PROM on the need for IV antibiotics during labour and neonate and maternal outcomes, versus delayed induction.

2. Method

This study was a prospective cohort study carried out at Bint Al-Huda Hospital for Maternity and Children from November 1, 2024 to November 1, 2025. The aim of this study was to determine if initiating labour induction within 6 hours of term prelabour rupture of membranes (PROM) would decrease the need for intrapartum antibiotic therapy through intravenous route and improve maternal and neonatal outcomes. One hundred pregnant women who had spontaneous PROM at term (sPROM) were recruited. Patients were selected if they were in the 37th week or later, had experienced spontaneous rupture of membranes prior to regular uterine contractions, were in cephalic presentation, and had a reassuring fetal status when they were admitted. Women at less than 37 weeks gestation with PROM, who presented in labour, had clinical chorioamnionitis, a non-cephalic presentation, multiple pregnancies, major fetal congenital anomalies, placenta previa, placental abruption, contraindications to vaginal delivery or a previous classical caesarean section or uterine surgery contraindicated induction.

A structured questionnaire and clinical assessment form were used to collect data. Demographic characteristics of the mother, such as age, residence, education level, and occupation, obstetric and gynaecological history, previous illnesses, use of medication, and reported time of membrane rupture were all recorded. A clinical assessment of the general physical examination, fundal height, fetal lie, presentation and uterine contractions were performed. Clinical assessment of vital signs (temperature,

blood pressure, pulse rate and respiratory rate) were done. Obstetric abdominal and pelvic examinations were conducted to assess fetal contraction, presentation, fetal lie, and fundal height. Fetal heart rate monitoring was also carried out. The amniotic fluid was found to be pooling due to rupture of membranes on sterile speculum examination and the colour and consistency of the fluid was recorded. Each participant was given a cervical favourability score at a baseline to assess the favourability of the cervical situation.

The time of rupture of the membranes was recorded from the point the woman reported seeing fluid ooze or gush or when the speculum was used to confirm the rupture. The induction time was calculated as the time when the first method of induction (prostaglandins, insertion of a Foley catheter, or oxytocin infusion) was started. The two groups were split into equal parts based on the time interval between membrane rupture and induction. There were 50 women in each of the early induction and delayed induction groups, those in the early induction group having their induction commenced within six hours of PROM, and those in the delayed induction group being induced greater than 6 hours after PROM. For each participant the RT-D interval was determined. Induction was chosen based on the Bishop score and comprised of cervical ripening, insertion of a Foley catheter, or intravenous infusion of oxytocin, which was titrated based on uterine response. Fetal heart rate monitoring was used to monitor maternal vital signs every four hours. Intravenous antibiotics were only given when clinically necessary and indication, antibiotic type, timing of first dose and length of antibiotic treatment was noted for each.

All subjects were followed up prospectively during labour and the post-natal period until discharge from hospital. Maternal outcomes included mode of delivery (vaginal or caesarean), development of chorioamnionitis, development of postpartum fever, postpartum haemorrhage, length of stay at the obstetric ward, and admission to the intensive care unit (ICU). Immediate afterbirth and hospital stay neonatal outcomes assessed included birth weight, Apgar scores at one and five minutes, neonatal intensive care unit (NICU) admission and neonatal mortality. All maternal and neonatal complications were recorded prospectively.

The study was done after getting the ethical approval from the Ethics Committee of the Iraqi Board of Medical Specialisation. Written informed consent was obtained from all participants before enrolment. Participants' personal information and medical data were kept confidential throughout the study.

The Statistical Package for the Social Sciences (SPSS) was used for the statistical analysis. Categorical data were summarized in terms of frequencies and percentages, while continuous data were summarized in terms of mean ± SD. Independent-samples t-test or Chi-square test and Fisher's exact test were used for comparing the early and delayed induction groups, whichever was appropriate. P-value < 0.05 was regarded as statistically significant.

3. Results

Table 1 indicates that 100 pregnant women with spontaneous labour were included in the study. The women were randomly allocated into two groups; 50 women with early induction and 50 women with delayed induction. There is no significant statistical difference between the two groups (p-value 0.621) with the mean maternal age of 27.8 ±5.1 years for the first group and 28.3 ±5.4 years for the second group. For their residence, approximately 60% of women in both groups resided in urban areas and the majority of the women in the study had primary and secondary education. BMI mean was almost 28.0 ± 3 in both groups in women. The p-value is >0.05, meaning there is no significant statistical difference between the two groups with respect to the above-mentioned variables.

Table 1. Maternal Demographic and Baseline Characteristics of Both Study Groups

Variable	Category	Early induction ≤6 hours (n=50)	Delayed induction >6 hours (n=50)	p-value
Maternal age	Mean ± SD	27.8 ± 5.1	28.3 ± 5.4	0.621
Residency	Urban	30 (60.0)	28 (56.0)	0.683
	Rural	20 (40.0)	22 (44.0)	
Educational level	Illiterate	5 (10.0)	6 (12.0)	0.943
	Primary	15 (30.0)	16 (32.0)	
	Secondary	18 (36.0)	17 (34.0)	
	College and higher education	12 (24.0)	11 (22.0)	
BMI	Mean ± SD	28.0 ± 3.0	28.4 ± 3.2	0.840
	Normal	18 (36.0)	16 (32.0)	
	Overweight	22 (44.0)	23 (46.0)	
	Obese	10 (20.0)	11 (22.0)	

The obstetric history and the clinical findings at admission are summarized in table 2 Regarding the parity, most women in both groups had a parity between 1-4, and there is no statistical difference as p-value =0.890. Woman with early or late induction had a mean gestational age at ROM of 39.1 and 39.0 weeks, respectively, without significant differences between the groups. 16% of women in the first group and 18% of women in the second group had a history of previous cesarean section.

Table 2. Obstetric History and Clinical Characteristics at Admission

Variable	Category	Early induction ≤6 hours (n=50)	Delayed induction >6 hours (n=50)	p-value
Parity	Nullipara	21 (42.0)	18 (36.0)	0.890
	1–4	26 (52.0)	27 (54.0)	
	≥5	3 (6.0)	5 (10.0)	
Gestational age at ROM (weeks)	Mean ± SD	39.1 ± 0.9	39.0 ± 0.8	0.542
Previous CS	Yes	8 (16.0)	9 (18.0)	0.798

As shown in Table 3, the labour timing interval for early and delayed induction groups was not statistically different. The mean ROM to induction time was 3.1 ±1.2 hours in group 1 and 9.4 ±2.8 hours in group 2, and this is significantly different, with a p-value <0.001. The mean time from ROM to delivery was 12.5 ±4.0 hours in the first group VS 19.8 ±5.2 hours in the second group; there was a significant statistical difference as p< 0.001. First group 9.6 ±3.5 and Second group 10.3 ±3.4 hours with p-value=0.210.

Table 3. Comparison of Labour Timing Intervals Between the Early and Delayed Induction Groups

Variable	Early induction ≤6 hours (n=50) Mean ± SD	Delayed induction >6 hours (n=50) Mean ± SD	p-value
Time from ROM to induction (hours)	3.1 ± 1.2	9.4 ± 2.8	**<0.001**
Time from ROM to delivery (hours)	12.5 ± 4.0	19.8 ± 5.2	**<0.001**
Time from induction to delivery (hours)	9.6 ± 3.5	10.3 ± 3.4	0.210

The intrapartum antibiotics use and duration in the two study groups is presented in Table 4. 30% of women in the first group received IV antibiotics in comparison to 68% of women in the second group, and there is a significant statistical difference between the two groups p-value <0.001. In the early induction group, antibiotic therapy was 1.7 days compared to 3.1 days in the. The difference between the two was statistically significant (p-value<0.001) and the delayed induction group was the group with a higher number of participants.

Table 4. Intrapartum Antibiotic Use and Duration in the Two Study Groups

Variable	Early induction ≤6 hours (n=50)	Delayed induction >6 hours (n=50)	p-value
Received IV antibiotics, n (%)	15 (30.0)	34 (68.0)	**<0.001**
Duration of antibiotic therapy (days), Mean ± SD	1.7 ± 0.8	3.1 ± 1.4	**<0.001**

In Table 5, maternal outcomes between women who had early and delayed induction were compared. In terms of mode of delivery, 76% of women in the first group and 60% of women in the second group had a vaginal delivery. A higher percentage of women in the delayed induction group had cesarean section (40%) but the p-value value did not reach significance. But it is not yet significant was Regarding maternal complications, 14% of women in the second group develop chorioamnionitis, 20% postpartum fever, 8% PPH, and two women need an ICU admission; all of these complication shows a higher rate among women with delayed induction, still, there is no significant statistical difference between the two groups. The mean hospital stay was 2.6 days for the women in the early induction group and 3.4 days for women in the second group, which is statistically significant (P value of 0.002).

Table 5. Maternal Outcomes Among Women Undergoing Early vs. Delayed Induction

Variable	Category	Early induction ≤6 hours (n=50)	Delayed induction >6 hours (n=50)	p-value
Mode of delivery	Vaginal delivery (VD)	38 (76.0)	30 (60.0)	0.080
	Caesarean section (CS)	12 (24.0)	20 (40.0)	
Maternal complications	Chorioamnionitis	3 (6.0)	7 (14.0)	0.060
	Postpartum fever	4 (8.0)	10 (20.0)	0.090
	Postpartum haemorrhage (PPH)	2 (4.0)	4 (8.0)	0.680

	ICU admission	1 (2.0)	2 (4.0)	0.620
Duration of hospital stay (days)	Mean ± SD	2.6 ± 0.9	3.4 ± 1.3	**0.002**

Table 6 reveals no significant difference between groups in neonatal outcomes such as birthweight, Apgar score, NICU admission or early neonatal mortality. The increased number of NICU admissions (13%) and one neonatal death in the delayed group did not reach significance p-value=0.359.

Table 6. Neonatal Outcomes in Early and Delayed Induction Groups

Variable	Early induction ≤6 hours (n=50)	Delayed induction >6 hours (n=50)	p-value
Birth weight (g), Mean ± SD	3100 ± 340	3120 ± 401	0.780
Low 1-minute APGAR (<7), n (%)	7 (14.0)	10 (20.0)	0.431
Low 5-minute APGAR (<7), n (%)	2 (4.0)	4 (8.0)	0.683
Admission to NICU, n (%)	4 (8.0)	7 (14.0)	0.359
Neonatal death, n (%)	0 (0.0)	1 (2.0)	0.320

4. Discussion

One of the most frequent obstetric presentations, with a frequency of about 8-10% of term pregnancy, the prelabour rupture of membranes (PROM) is a condition that presents significant clinical questions about when to induce labour to avoid maternal and fetal morbidity [26 7]. The major problems after PROM are ascending infections such as chorioamnionitis and neonatal septicemia which are more likely to occur with a longer latency period. The question of whether early induction can be used to decrease these infectious morbidities without compromising obstetric outcomes has therefore been of great clinical interest. This study takes place in a real-world regional maternity setting offering relevant evidence for clinical practice and ongoing efforts to improve the management of PROMs and optimized antibiotic stewardship.

At baseline, the demographic and obstetric parameters were similar in the early induction group (≤ 6 hours) and the delayed induction group (> 6 hours). There were no statistically significant differences in maternal age, residency, education, BMI, parity distribution, gestational age at ROM, or previous caesarean section, indicating well-matched groups and minimizing the potential for confounding with maternal factors. This comparability enhances the reliability of clinical outcome differences observed.

The time intervals associated with labour progression were as expected to differ significantly between the groups. The early induction group had significantly faster ROM to induction (3.1 vs 9.4 hours, $p < 0.001$) and ROM to delivery (12.5 vs 19.8 hours, $p < 0.001$) times in comparison to the late induction group. This is similar to previous research by Alansari et al. (2025) and McConnell et al. (2025), who all found the latency reduced when induction was started.

soon after PROM. Similar induction-to-delivery intervals in this study (9.6 hours in Group 1 vs. 10.3 hours in Group 2, $p = 0.210$) suggest that the timing of induction, rather than labour efficiency, is the main reason for the difference in latency [8, 9].

Therefore it is beneficial that induction starts early, thus reducing the total time of ruptured membranes, which is one of the major factors of infectious morbidity. An important clinical finding was that,

compared with the control group, the early induction group used significantly fewer intrapartum intravenous antibiotics (30% vs. 68%, $p < 0.001$) and the duration of antibiotic therapy was shorter (1.7 vs. 3.1 days, $p < 0.001$). This hypothesis is strongly supported by these findings, which show that an earlier induction decreases the number of antibiotics given. The same has been noted by Sgayer et al. (2021) [10] Chu et al. (2023) [11] and Chen et al. (2024) [12] who found that the induction group had lower antibiotic use rates than the expectant group. The increase in the number of antibiotics needed can be explained by the difference in the increased latencies to induction and subsequent prolonged ROM (>18 hours), as is recommended in the guidelines.

Prescribe antibiotics if ROM is greater than 18 hours as there is an increased risk for infection.

This decrease in antibiotic use is especially critical when it comes to antimicrobial stewardship. Any measure that decreases unindicated use of antibiotics without negatively impacting maternal and fetal health is clinically important, as this has been linked to altered neonatal gut flora and long-term metabolic and immune effects [13, 14]

While not significant, important clinical trends were noted. Early induction group had lower rate of cesarean delivery (24% vs 40%, $p = 0.08$). While this was not statistically significant, it was similar to the absolute decrease of 16% reported by Litorp et al. (2013) and Bond et al. (2017) using expectant management versus early induction [15, 16].

This likely mechanism is to prevent any complications of labour that can occur due to long latency such as chorioamnionitis, dysfunctional labour patterns, and fetal distress [17].

There were similar patterns with maternal infectious complications. Chorioamnionitis was also less in the early group (6%) than the delayed group (14%) ($p = 0.06$) and the incidence of postpartum fever was also reduced (8% vs. 20%) ($p = 0.09$). These differences weren't significant,

At least, they are clinically relevant and they are consistent with the known connection between infection risk and the length of time the membranes are ruptured. Lukanović et al. 2023 [18] Cooney et al. 2014 [19] Beck et al. 2021 [20] and DeNoble et al. 2019 [21] all found rates of chorioamnionitis to be 6–10% with early induction and 15-25% with delayed induction, which was very similar to the present study.

These differences were significant, with the early induction group spending 2.6 days in hospital compared to 3.4 days for the late induction group ($p = 0.002$), consistent with previous studies showing that early intervention was associated with reduced morbidity and for shorter periods of inpatient care. The shorter the hospital stay, the more significant the resource use implications and satisfaction of the patient [22]. Neonatal outcomes were comparable between the study groups, with no statistically significant differences in birth weight, Apgar scores, NICU

Neonatal mortality, or admission rates. In the early induction group 8% of infants were admitted to a NICU compared with 14% in the delayed group ($p = 0.359$); these rates were similar to those reported in earlier meta-analyses that reported no significant differences in composite neonatal morbidity, but reported a trend for better outcomes with shorter latency [23]. The one infant death in the delayed induction group,

While not statistically significant, does signal some potential problems with long rupturing of the membranes. This is because there was no significant difference between the neonates at birth; this may be due to the fact that the foetal monitoring was reassuring and the gestational age was not too small on admission which reduced the baseline risk of the neonates. The observed trends however support evidence that the duration of membrane rupture is positively associated with the risk of infection in neonates [24].

The results of this study confirmed early induction ($\leq$ 6 hours after PROM) to be an effective approach to

reduce latency, lessen antibiotic usage, reduce maternal infectious complications, and shorten hospital stay, while maintaining a comparable rate of C-section delivery and not compromising neonatal outcomes. These findings support guidelines from major guidelines recommending early induction following PROM in order to reduce postinduction morbidity due to infection.

5. Conclusions

The induction of labor within 6 hours of term prelabour rupture of membranes (PROM) showed a significant decrease in the rupture to delivery interval, the duration of antibiotic treatment and stay in the hospital. Reduced rates of caesarean delivery or maternal complications were noted, but were not statistically significant. No differences were seen in the neonatal outcomes.Overall, early induction appears to offer clinical benefits without an observed increase in adverse maternal or neonatal outcomes.

References

[1] Y. Siegler, Z. Weiner, and I. Solt, “ACOG Practice Bulletin No. 217: Prelabor rupture of membranes,” *Obstetrics & Gynecology*, vol. 136, no. 5, p. 1061, Nov. 2020.

[2] P. Delorme, E. Lorthe, J. Sibiude, *et al*., “Preterm and term prelabour rupture of membranes: A review of timing and methods of labour induction,” *Best Practice & Research Clinical Obstetrics & Gynaecology*, vol. 77, pp. 27–41, 2021.

[3] S. W. D. Carter, S. Neubronner, L. L. Su, *et al*., “Chorioamnionitis: An update on diagnostic evaluation,” *Biomedicines*, vol. 11, no. 11, Art. no. 2922, 2023.

[4] H. Rathore, A. J. Rahman, M. Salman, *et al*., “Frequency of early-onset neonatal sepsis following prolonged rupture of membranes,” *Cureus*, vol. 12, no. 2, Art. no. e6864, Feb. 2020.

[5] I. D. Hagen, J. M. Bailey, and R. E. Zielinski, “Outcomes of expectant management of term prelabor rupture of membranes,” *Journal of Obstetric, Gynecologic & Neonatal Nursing*, vol. 50, no. 2, pp. 122–132, 2021.

[6] A. Q. Ismail and S. Lahiri, “Management of prelabour rupture of membranes (PROM) at term,” *Journal of Perinatal Medicine*, vol. 41, no. 6, pp. 647–649, Nov. 2013, doi: 10.1515/jpm-2013-0078.

[7] M. E. Hannah, A. Ohlsson, D. Farine, *et al*., “Induction of labor compared with expectant management for prelabor rupture of the membranes at term,” *The New England Journal of Medicine*, vol. 334, no. 16, pp. 1005–1010, Apr. 1996, doi: 10.1056/NEJM199604183341601.

[8] B. Alansari, H. Almiraisi, R. Alani, *et al*., “Immediate induction versus expectant management in term premature rupture of membranes: A longitudinal analysis of maternal and neonatal outcomes,” *Cureus*, vol. 17, no. 7, Art. no. e87640, Jul. 2025.

[9] R. McConnell, N. O’Riordan, and D. Keane, “Prelabour rupture of membranes at term: Comparison between women with a failed induction and women who establish in labour,” *Irish Medical Journal*, vol. 118, no. 6, p. 94, Jun. 2025.

[10] I. Sgayer, K. Naskovica, R. Abu Shaqara, *et al*., “Early planned labor induction vs expectant management in late preterm pre-labor rupture of membranes: Maternal and neonatal outcomes,” *Ginekologia Polska*, vol. 92, no. 7, pp. 498–504, 2021.

[11] M. Chu, J. Lin, M. Wang, *et al*., “Restrictive use of empirical antibiotics is associated with improved short term outcomes in very low birth weight infants: A single center, retrospective cohort study from China,” *Antibiotics*, vol. 12, no. 4, Art. no. 741, Apr. 2023.

[12] J. Chen, X. Fang, W. Liu, *et al*., “Exploring factors influencing delayed first antibiotic treatment for suspected early-onset sepsis in preterm newborns: A study before quality improvement initiative,” *BMC Pediatrics*, vol. 24, no. 1, Art. no. 407, Jun. 2024.

[13] R. Thänert, S. S. Sawhney, D. J. Schwartz, *et al*., “The resistance within: Antibiotic disruption of the gut microbiome and resistome dynamics in infancy,” *Cell Host & Microbe*, vol. 30, no. 5, pp. 675–683, May 2022.

[14] C. Morreale, C. Giaroni, A. Baj, *et al*., “Effects of perinatal antibiotic exposure and neonatal gut

microbiota," *Antibiotics*, vol. 12, no. 2, Art. no. 258, Jan. 2023.
[15] D. M. Bond, P. Middleton, K. M. Levett, *et al*., "Planned early birth versus expectant management for women with preterm prelabour rupture of membranes prior to 37 weeks' gestation for improving pregnancy outcome," *Cochrane Database of Systematic Reviews*, vol. 2017, no. 3, Art. no. CD004735, Mar. 2017.
[16] H. Litorp, H. L. Kidanto, L. Nystrom, *et al*., "Increasing caesarean section rates among low-risk groups: A panel study classifying deliveries according to Robson at a university hospital in Tanzania," *BMC Pregnancy and Childbirth*, vol. 13, Art. no. 107, May 2013.
[17] N. E. Davidi, G. Gutvirtz, and E. Sheiner, "The association between term chorioamnionitis during labor and long-term infectious morbidity of the offspring," *Journal of Clinical Medicine*, vol. 13, no. 3, Art. no. 814, Jan. 2024.
[18] D. Lukanović, M. Batkoska, G. Kavšek, *et al*., "Clinical chorioamnionitis: Where do we stand now?" *Frontiers in Medicine*, vol. 10, Art. no. 1191254, May 2023.
[19] L. G. Cooney and J. A. Bastek, "The association between early artificial amniotomy and chorioamnionitis in nulliparous induction of labor," *International Scholarly Research Notices*, vol. 2014, Art. no. 628452, Dec. 2014.
[20] C. Beck, K. Gallagher, L. A. Taylor, *et al*., "Chorioamnionitis and risk for maternal and neonatal sepsis: A systematic review and meta-analysis," *Obstetrics & Gynecology*, vol. 137, no. 6, pp. 1007–1022, Jun. 2021.
[21] A. E. DeNoble, R. P. Heine, and S. K. Dotters-Katz, "Chorioamnionitis and infectious complications after vaginal delivery," *American Journal of Perinatology*, vol. 36, no. 14, pp. 1437–1441, Dec. 2019.
[22] J. Bowers and H. Cheyne, "Reducing the length of postnatal hospital stay: Implications for cost and quality of care," *BMC Health Services Research*, vol. 16, Art. no. 16, Jan. 2016.
[23] L. I. Parikh, U. M. Reddy, T. Männistö, *et al*., "Neonatal outcomes in early term birth," *American Journal of Obstetrics and Gynecology*, vol. 211, no. 3, pp. 265.e1–265.e11, Sep. 2014.
[24] P. Pharande, A. L. Mohamed, B. Bajuk, *et al*., "Preterm infant outcomes in relation to the gestational age of onset and duration of prelabour rupture of membranes: A retrospective cohort study," *BMJ Paediatrics Open*, vol. 1, no. 1, Art. no. e000216, Dec. 2017.