

## Evidence Assessment: Summary of a Systematic Review

### Who is this summary for?

For Doctors and Health Personnel, Administrators and Managers of health facilities and partners involved in mother and child health.

## Planned early birth versus expectant management for women with preterm prelabour rupture of membranes prior to 37 weeks' gestation for improving pregnancy outcomes

### Key findings

- Early birth increased the risk of infant death after birth, as well as breathing problems, with the newborn needing extra help to breathe.
- The babies of women who had a planned early birth were more likely to be admitted to the neonatal intensive care, and were born earlier than babies of women who waited to give birth.
- Early birth also increased the rate of caesarean section, induction of labour and the risk of infection of the lining of the womb but decreased the risk of infection in the membranes.

### Background

Being born too early can increase the chance of problems linked to prematurity, such as breathing difficulties and longer stays in the neonatal intensive care unit. However, staying in the womb may cause infections for both mother and baby that can lead to serious health problems and even death. If a pregnant woman's waters break without contractions before 37 weeks of pregnancy there are two options: for the baby to be born as soon as possible, or to wait for labour to start naturally. We need to carefully look at the risks and benefits of both options.

### Questions

What are the effect of planned early birth versus expectant management for women with preterm prelabour rupture of the membranes between 24 and 37 weeks' gestation for foetal, infant and maternal well-being?

**Planned early birth versus expectant management for women with preterm prelabour rupture of membranes prior to 37 weeks' gestation for improving pregnancy outcome in Cameroon.** According to the demographic and health survey the 2011, maternal mortality has doubled in Cameroon between 2002 and 2011 from 430 to 782 deaths per 100,000 live births. According to the 2014 demographic health survey, 2.4% of women had caesarian sections. The premature rupture of membranes are responsible for 13% of premature birth in Yaoundé, complications are premature birth, neonatal infections and neonatal deaths.

**Table 1: Summary of the systematic review**

	<b>What the review authors searched for</b>	<b>What the review authors found</b>
<b>Studies</b>	Randomized controlled trials	Twelve randomized controlled trials met the inclusion criteria
<b>Participants</b>	Women with preterm prelabour rupture of the membranes before 37 weeks' gestation with no specific maternal or foetal contraindications to expectant management	The studies included women with pregnancies complicated by preterm prelabour rupture of the membranes (PPROM) of differing gestational ages.
<b>Interventions</b>	Planned early birth compared with expectant management. Planned early birth is planned birth soon after PPRM. The mode of birth may either be via induction of labour by any means and a vaginal birth, or by caesarean section. Expectant management involves planning to wait for birth until the baby is at term	The mean latency from PPRM to birth in four studies indicated that birth was planned as soon as practicable from randomisation and less than 24 hours, although this was not explicitly stated in all the trials. One study did not indicate when birth was intended but results indicated a median latency of three days. One study had an even longer delay in the early birth group and planned for early birth 48 to 72 hours after PPRM and initiation of steroid treatment. One study defined timing of birth as birth scheduled as close to randomisation as possible and preferably within 24 hours. In two studies women were randomised if not spontaneously delivered within 24 hours after initial rupture of membranes and women randomised to early birth were induced within 24 hours after randomisation. Only one study had a control arm of early birth for PPRM. Three studies did not specify the intent of expectant management, although they indicated in an outcomes table that the reasons for delivery in the expectant management group were onset of labour, infection, oligohydramnios and foetal distress. In three studies women were allowed women to be discharged home at the discretion of the attending physician or according to local protocol, while the remainder of the studies required the women in the trial to be hospitalised until birth.
<b>Controls</b>	<ul style="list-style-type: none"> <li>Expectant management</li> </ul>	<ul style="list-style-type: none"> <li>Expectant management</li> </ul>
<b>Outcomes</b>	<p><b>Primary outcomes :</b> Neonatal infection/sepsis:</p> <ul style="list-style-type: none"> <li>Proven neonatal infection with positive blood culture within 48 hours of birth;</li> <li>Proven neonatal infection with positive blood culture 48 hours or more after birth.</li> </ul> <p><b>Secondary outcomes</b> <b>Fetal/perinatal outcomes</b></p> <ul style="list-style-type: none"> <li>Perinatal death</li> <li>Intrauterine death</li> <li>Cord prolapse</li> <li>Gestational age at birth</li> </ul> <p><b>Neonatal outcomes</b></p> <ul style="list-style-type: none"> <li>Neonatal death</li> <li>Suspected neonatal infection</li> <li>Treatment with antibiotics</li> <li>Treatment with surfactant</li> </ul> <p><b>Maternal outcomes</b></p> <ul style="list-style-type: none"> <li>Chorioamnionitis</li> <li>Endometritis</li> <li>Postpartum fever</li> </ul>	<p><b>Primary outcomes :</b> Neonatal infection/sepsis:</p> <ul style="list-style-type: none"> <li>Infection;</li> <li>Respiratory distress syndrome</li> </ul> <p>Maternal outcomes</p> <ul style="list-style-type: none"> <li>Caesarean section</li> </ul> <p><b>Secondary outcomes :</b> Neonatal outcomes</p> <ul style="list-style-type: none"> <li>Neonatal mortality</li> <li>Neonatal morbidity</li> <li>Neonatal hospitalisation</li> <li>Long-term disability</li> </ul> <p>Maternal outcomes</p> <ul style="list-style-type: none"> <li>Infection</li> <li>Mode of birth</li> <li>Duration of maternal hospital stay</li> <li>Time from randomisation to birth</li> <li>Satisfaction and breastfeeding</li> </ul>

**Date of the most recent search:** 30 September 2016.

**Limitations:** This is a high quality systematic review, **AMSTAR =11/11**

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## Table 2: Summary of findings

<b>Planned early birth compared to expectant management for preterm prelabour rupture of membranes prior to 37 weeks' gestation</b>			
<b>Patient or population:</b> women with preterm prelabour rupture of membranes prior to 37 weeks' gestation			
<b>Settings:</b> USA, the Netherlands, Mexico, Albania, Australia, New Zealand, Argentina, South Africa, Brazil, UK, Norway, Egypt, Uruguay, Poland, and Romania			
<b>Intervention:</b> planned early birth			
<b>Comparison:</b> expectant management			
<b>Outcomes</b>	<b>Relative effect (95% CI)</b>	<b>No of Participants (studies)</b>	<b>Quality of the evidence (GRADE)</b>
<b>Neonatal infection/sepsis</b> <b>Follow-up: 28 days</b>	0.93 [0.66-1.3]	3628 (12)	Moderate
<b>Neonatal respiratory distress syndrome</b> <b>Follow-up: 28 days</b>	1.26 [1.05-1.53]	3622 (12)	High
<b>Need for ventilation</b>	1.27 [1.02-1.58]	2895 (7)	High
<b>Admission to neonatal intensive care</b> <b>Follow-up: 28 days</b>	1.16 [1.08-1.24]	2691 (4)	Moderate
<b>Caesarean section</b>	1.26 [1.11-1.44]	3620 (12)	High
<b>Chorioamnionitis</b>	0.50 [0.26-0.95]	1538 (8)	Moderate

### Applicability

One study was performed in Albania (two in the Netherlands and one included 11 countries: Australia, Argentina, Brazil, Egypt, New Zealand, Norway, Poland, Romania, South Africa, UK and Uruguay). The other seven studies were performed in the USA. These interventions are not resource intensive and may be applied in other low resources settings such as Cameroon.

### Conclusions

In women whose waters break before 37 weeks of pregnancy, waiting for labour to begin naturally is the best option for healthier outcomes, as long as there are no other reasons why the baby should be born immediately.

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