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[Intervention Review]

Bed rest with and without hospitalisation in multiple pregnancy for improving perinatal outcomes

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ABSTRACT

Background

Strict or partial bed rest in hospital or at home is commonly recommended for women with multiple pregnancy to improve pregnancy outcomes. In order to advise women to rest in bed for any length of time, a policy for clinical practice needs to be supported by reliable evidence and weighed against possible adverse effects resulting from prolonged activity restriction.

Objectives

The objective of this review is to assess the effectiveness of bed rest in hospital or at home to improve perinatal outcomes in women with a multiple pregnancy.

Search methods

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (30 May 2016), ClinicalTrials.gov, the WHO International Clinical Trials Registry Platform (ICTRP) (30 May 2016) and reference lists of retrieved studies.

Selection criteria

We selected all individual and cluster-randomised controlled trials evaluating the effect of strict or partial bed rest at home or in hospital compared with no activity restriction during multiple pregnancy.

Data collection and analysis

Two review authors independently assessed trials for inclusion, extracted data and methodological quality. We evaluated the quality of the evidence using the GRADE approach and summarised it in 'Summary of findings' tables.

Main results

We included six trials, involving a total of 636 women with a twin or triplet pregnancy (total of 1298 babies). We assessed all of the included trials as having a low risk of bias for random sequence generation. Apart from one trial with an unclear risk of bias, we judged all remaining trials to be of low risk of bias for allocation concealment.



Five trials (495 women and 1016 babies) compared strict bed rest in hospital with no activity restriction at home. There was no difference in the risk of very preterm birth (risk ratio (RR) 1.02, 95% confidence interval (CI) 0.66 to 1.58, five trials, 495 women, assuming complete correlation between twins/triplets, low-quality evidence), perinatal mortality (RR 0.65, 95% CI 0.35 to 1.21, five trials, 1016 neonates, assuming independence between twins/triplets, low-quality evidence) and low birthweight (RR 0.95, 95% CI 0.75 to 1.21, three trials, 502 neonates, assuming independence between twins/triplets, low-quality evidence). We observed no differences for the risk of small-forgestational age (SGA) (RR 0.75, 95% CI 0.56 to 1.01, two trials, 293 women, assuming independence between twins/triplets, low-quality evidence) and prelabour preterm rupture of the membrane (PPROM) (RR 1.30, 95% CI 0.71 to 2.38, three trials, 276 women, low-quality evidence). However, strict bed rest in hospital was associated with increased spontaneous onset of labour (RR 1.05, 95% CI 1.02 to 1.09, P = 0.004, four trials, 488 women) and a higher mean birthweight (mean difference (MD) 136.99 g, 95% CI 39.92 to 234.06, P = 0.006, three trials, 314 women) compared with no activity restriction at home.

Only one trial (141 women and 282 babies) compared partial bed rest in hospital with no activity restriction at home. There was no evidence of a difference in the incidence of very preterm birth (RR 2.30, 95% CI 0.84 to 6.27, 141 women, assuming complete correlation between twins, low-quality evidence) and perinatal mortality (RR 4.17, 95% CI 0.90 to 19.31, 282 neonates, assuming complete independence twins, low-quality evidence) between the intervention and control group. Low birthweight was not reported in this trial. We found no differences in the risk of PPROM and SGA between women receiving partial bed rest and the control group (low-quality evidence). Women on partial bed rest in hospital were less likely to develop gestational hypertension compared with women without activity restriction at home (RR 0.30, 95% CI 0.16 to 0.59, P = 0.0004, 141 women).

Strict or partial bed rest in hospital was found to have no impact on other secondary outcomes. None of the trials reported on costs of the intervention or adverse effects such as the development of venous thromboembolism or psychosocial effects.

Authors' conclusions

The evidence to date is insufficient to inform a policy of routine bed rest in hospital or at home for women with a multiple pregnancy. There is a need for large-scale, multicenter randomised controlled trials to evaluate the benefits, adverse effects and costs of bed rest before definitive conclusions can be drawn.

PLAIN LANGUAGE SUMMARY

Bed rest with and without hospitalisation for women who are pregnant with twins or triplets for improving outcomes

What is the issue?

Twins, triplets or pregnancies with a greater number of babies have a higher risk of preterm births (birth before 37 weeks of gestation) and poor growth of the babies compared with single baby pregnancies. Women with a multiple pregnancy are often advised to rest in bed at home or in hospital to reduce the risk of preterm birth and other pregnancy complications.

Why is this important?

Although bed rest is widely used in multiple pregnancies currently there is insufficient evidence to support the routine use of bed rest to reduce the risk of preterm birth. Furthermore, many studies have reported on adverse effects of bed rest. It is important to evaluate bed rest and weigh up the potential benefits and risks for women with multiple pregnancies.

What evidence did we find?

We searched for evidence on 30 May 2016. We identified six randomised controlled trials involving a total of 636 women and 1298 babies. The women were at 17 to 33 weeks pregnant when they entered the trials. The overall risk of bias of the trials was low and the evidence in general was of low quality.

Advising women with a multiple pregnancy to either continuously rest in bed (five trials, 495 women and 1016 babies) or rest in bed for several hours during the day but with some physical activity allowed (one trial, 141 women and 282 babies) in hospital did not reduce the risk of very preterm birth (birth before 34 weeks of gestation), infant deaths before or up to one week after the birth or, low birthweight babies (strict bed rest only) compared with women who maintained daily activities at home. Women receiving strict bed rest in hospital were more likely to go into labour normally (four trials, 488 women) and had babies with a higher mean birthweight (three trials, 314 women) compared with women without activity restrictions at home. Partial bed rest in hospital reduced the number of pregnant women developing high blood pressure (one trial, 141 women, low-quality evidence) but the same benefit was not observed with strict bed rest (five trials, 495 women).

Adverse effects such as the development of venous thromboembolism or mental, emotional, social and spiritual well-being (psychosocial) effects, and women's views and experiences of bed rest were not reported in the included trials. Neither were the costs of the intervention reported on.

What does this mean?



We did not find sufficient evidence to support or refute bed rest for women with a multiple pregnancy as a way of preventing preterm birth and other pregnancy complications.