Bed rest with or without hospitalization for hypertension during pregnancy

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Bed rest should not be recommended routinely for hypertension in pregnancy, especially since, given the choice, women appear to prefer unrestricted activity.

RHL Commentary by Oladapo OT

1. EVIDENCE SUMMARY

This Cochrane review (1) assessed the comparative benefits, risks and adverse effects of variable degrees of bed rest and routine activity, either at home or in the hospital, as primary treatment for hypertension in pregnancy. It also compared the effects of bed rest in the hospital with bed rest at home. The review included four randomized controlled trials involving 449 women who had either strict bed rest, some rest, or routine activity as the primary treatment for hypertension (with or without proteinuria) during pregnancy. All women in the trials were carrying singleton pregnancies of between 26 and 38 weeks of gestation.

1.1. Strict bed rest in hospital versus some rest in hospital

Comparison of strict bed rest in hospital with some rest in hospital showed no significant difference in the risks of severe hypertension [relative risk (RR) 1.18, 95% confidence interval (CI) 0.93–1.49], combined fetal and neonatal deaths (RR 1.07, 95% CI 0.52–2.19), preterm birth (RR 0.98, 95% CI 0.71–1.35) and other outcomes such as severe preeclampsia, eclampsia, elective delivery, placental abruption and neonatal morbidity.

1.2. Some rest in hospital versus routine activity at home

One trial, which randomized 218 women with hypertension without proteinuria, showed reduction in the risks of severe hypertension (RR 0.58, 95% CI 0.38–0.89) and preterm birth (0.53 95% CI 0.29–0.99) with some rest in hospital compared with normal activity, but no significant differences were found in the risks of pre-eclampsia, combined fetal and neonatal deaths, severe prematurity and other outcomes assessed in the review. Another trial (with 88 women), which compared women’s perspectives on the intervention received, showed that women in both groups are equally satisfied with the care they received. However, more women in the bed rest group said that they would prefer not to have the same management in future pregnancies (RR 3.00, 95% CI 1.43–6.31). However, this finding would have to be replicated in larger trials that employ validated methodological tools to assess women’s views and satisfaction with received care.
On the basis of the number of trials included in the review and the general lack of information on risks and benefits, no reliable conclusions can be drawn from this review to guide clinical practice on bed rest for the primary treatment of hypertension in pregnant women.

The criteria used in the review for identifying eligible studies allowed relevant trials to be considered. However, the degree of hypertension in pregnancy requiring the reviewed interventions was not specified. This is important for users to appreciate the external validity of the review findings. Nevertheless, since all the trials included in the review recruited pregnant women with diastolic blood pressure of between 90 mm Hg and 110 mm Hg, the findings may reasonably be applied to women within this blood pressure range. Although severe hypertension as the main outcome measure in this review suggests that the primary eligibility criterion is mild or moderate hypertension, this aspect needs to be clarified in the future update of the review.

The criteria employed for assessment of methodological quality of studies allowed only those with high quality to be included. The statistical methods used to summarize the findings are appropriate and the data are clearly presented, both graphically and in text. Future subgroup analysis should also be based on the gestational age at which interventions are commenced as this may also have significant implications on their risks/benefits.

2. RELEVANCE TO UNDER-RESOURCED SETTINGS

2.1. Magnitude of the problem

Worldwide, hypertensive disorders are one of the most common medical complications of pregnancy and are responsible for a significant proportion of perinatal and maternal morbidity and mortality, particularly in under-resourced settings. A WHO systematic analysis of the causes of maternal death has shown that hypertensive disorders are among the leading causes of maternal death in the developing countries, particularly in Africa, Latin America and the Caribbean (2). Developing countries continue to record comparatively higher rates of maternal and perinatal deaths from pregnancies complicated by hypertension as a result of poor utilization of antenatal and delivery care services as well as late presentation to specialist units for emergency care. Over the triennium 1999–2001, a total of 507 maternal deaths were associated with hypertensive disorders in South Africa (3). Although population-based data on the incidence of hypertension in pregnant women are not readily available for many other African countries, the contribution of hypertension to maternal mortality as shown by data from many reference hospitals reflects a high incidence of the condition within the population (4).

The problems with the management of hypertension in pregnancy lie not only in its unknown etiopathogenesis but also in the variation in its definitions, measurements and classifications used to categorize hypertension in pregnant women.

2.2. Applicability of the results

There is a fair representation of the developing country settings among the reviewed trials and the trial participants are unlikely to differ significantly from women in resource-limited populations. However, in view of the characteristics of the participants recruited in the included trials, readers of the review should realize that the findings are only valid for women with singleton pregnancies and those who present with mild/moderate hypertension (90–109 mm Hg diastolic). It should therefore not be generally applied to women with ‘raised blood pressure’ in pregnancy or to those carrying multiple pregnancy as the responsiveness to the intervention (risks/benefits) may be different. Similarly, the results may not be applicable to women who present with hypertension earlier than 26 weeks of gestation.

In the trials the authors noted the problem with quantification of bed rest and routine activity in recognition of the fact that the duration of interventions may have significant implications on their possible risks/benefits. The results may therefore need to be interpreted in this light. It is important to note that the
meaning of bed rest and routine activity may vary between settings and even between women in the same setting. Caution should be therefore be entertained in applying the results to populations where women perform strenuous works such as farming as their routine activity.

2.3. Implementation of the intervention

The review could not provide evidence on the most appropriate intervention that may warrant a change in existing clinical policy and practice. Although the review may have little or no impact on policy in settings where health-care providers consider their existing clinical practice beneficial, the review has shown that there is presently no scientific justification for recommending bed rest for the management of hypertension in pregnancy. In public health facilities where health-care provision is essentially based on fee-for-service, it is not a common practice to hospitalize women for bed rest for mild/moderate hypertension because most women are unlikely to comply with a recommendation for an asymptomatic condition. But more importantly, women may not comply also because of costs consideration. As long as there are no symptoms, women may prefer to continue with their routine activity rather than taking bed rest (either in hospital or at home). However, in the case of private care where hospitalization of pregnant women for bed rest may sometimes be profit-driven, implementation of the results of this review are likely face some difficulties, more so because there is no convincing evidence that bed rest is harmful to women.

3. RESEARCH

There is need to conduct large well controlled trials to provide more reliable information on the role of bed rest in the treatment of hypertension in pregnant women. Outcome measures in such trials should not only include maternal and fetal outcomes but also potential complications of bed rest, perspectives of women with respect to the interventions and costs to women and the health system. To improve the external validity of their results, future trials should recruit women on the basis of the type of hypertension (chronic or gestational) and should be more explicit in quantifying the intervention. Evaluation of women’s views and satisfaction with interventions should be based on more scientifically sound methodology which assesses women’s perspectives on the background of their specific sociocultural context and expectations from prescribed interventions.

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References
