Fewer antenatal visits reduced high-risk referrals and preterm births in Zimbabwe


Objective
To evaluate the effectiveness of a reduced-visit, goal-oriented antenatal programme.

Design
2-year randomised controlled trial (RCT).

Setting
7 maternity clinics in Harare, Zimbabwe.

Patients
15 532 pregnant women (mean age 24 y) who attended 1 of 7 maternity clinics in Harare. The clinics offered total antenatal, intrapartum, and postpartum care to women at low risk for complications. All antenatal care, including deliveries, was given by midwives. Women who were at high risk for complications were referred to the central hospital.

Intervention
3 clinics were allocated to continue the standard-care programme (6138 patients); 4 were allocated to a reduced-visit programme (9394 patients). Patients who attended standard-care clinics optimally made 14 visits and received routine blood pressure measurement, abdominal palpation, fetal heart auscultation, oedema examination, weight change measurement, and urinalysis. Patients who attended reduced-visit clinics were to make 6 visits with no routine weight change measurements; urinalysis was not done unless the blood pressure was raised. Each of the 6 visits had a specific objective.

Main outcome measures
Perinatal and maternal mortality, length of gestation, low birthweight, number of antenatal visits, referral patterns, and obstetrical interventions.

Main results
Reduced-visit and standard-care clinics did not differ for perinatal mortality (17.2 vs 14.3 deaths/1000 infants, P = 0.18) or maternal mortality (6 vs 5 deaths, P = 0.69%). Fewer women who attended reduced-visit clinics required antenatal referral to the high-risk unit than did patients who attended standard clinics (13.6% vs 15.3%, P = 0.003%). (This absolute risk reduction (ARR) of 1.7% means that 58 women would need to attend (NNT) reduced-visit clinics (rather than standard clinics) to prevent 1 additional high-risk referral, 95% CI 2 to 120; the relative risk reduction (RRR) was 11%, CI 4% to 18%). Fewer patients who attended reduced-visit clinics had preterm (<37 wk) deliveries (15.2% vs 11.5%, [P = 0.005]) (ARR 1.4%; NNT 70, CI 41 to 323; RRR 12%, CI 4% to 20%).

The median gestation at booking was 28 weeks in both groups. The median number of antenatal visits was 4 in reduced-visit clinics and 6 in standard-care clinics.

Conclusion
Compared with standard care, an antenatal programme of fewer, more goal-oriented visits had no adverse effect on maternal or perinatal outcomes and resulted in fewer referrals to a high-risk unit and fewer preterm births.

Source of funding: Swedish Agency for Research and Cooperation with Developing Countries.

For article reprint: Dr. S.P. Munjanja, Department of Obstetrics and Gynaecology, University of Zimbabwe, P.O. Box A 178, Avondale, Harare, Zimbabwe. FAX 263-4-723-711.

*Numbers calculated from data in article.

Commentary
In many countries, antenatal care is patterned on the British model, which is based on tradition. Recommendations for change have not been based on evidence. Until recently, only 2 small RCTs existed that investigated patterns of antenatal care (1). Then in 1996, an RCT among low-risk women in London compared traditional care with a schedule of reduced visits. It showed fewer day admissions, fewer ultrasound scans, fewer fetuses suspected to be small for gestational age, and no differences in other clinical outcomes, but women in the reduced-visit group were less satisfied and more worried about the baby before and after delivery (2). An RCT done in Scotland that compared obstetrician-led care with care provided by general practitioners and midwives concluded that routine specialist visits for low-risk women offered little or no clinical or consumer benefit (3).

The risks for pregnancy complications are higher in Africa than in the United Kingdom. Antenatal care should not be standardised across the globe, and we should be cautious about extrapolating the findings of RCTs. Nevertheless, the study by Munjanja—only the third large RCT of antenatal care—reaches similar conclusions about clinical outcomes to those of the U.K. studies.

The lesson learned is that the health needs of each country should be assessed without regard for traditions elsewhere. In developing countries particularly, this approach may help focus resources where they are most needed. We have also learned that high-quality trials can be successfully done in developing countries.

One final thought: The average gestation at booking in the study by Munjanja and colleagues was 28 weeks, although the investigators tried to encourage early booking. Could the benefits of early booking be assessed by an RCT?

James Drife, MD University of Leeds, England, UK

References