

## New WHO antenatal care model—quality worth paying for?

The 2016 WHO guidelines on antenatal care<sup>1</sup> were published earlier this month and are widely welcomed because they are not only academically robust, but also relevant to end-users and patients. The guidelines cover antenatal care for normal pregnancies and have adopted a woman-centred, holistic approach to care. They cover nutritional interventions, maternal and fetal assessment, preventive measures, interventions for common physiological pregnancy symptoms, and health systems interventions to improve the use and quality of antenatal care. The guidelines address antenatal evidence-based practices that improve outcomes and detail how these practices should be delivered. In addition to standard antenatal medical advice, the 49 recommendations include guidance on psychological support, nutrition, and domestic violence screening. Each recommendation is backed up with an evidence review, generally based upon systematic reviews conducted by the Cochrane Collaboration. But even with the most rigorous analyses of the evidence, there are conflicting opinions as to how to deal with some of the results, and what to recommend when there is very limited evidence to support or reject common practice. The WHO antenatal care Guideline Development Group (GDG) is to be congratulated for putting into practice the old adage that “no evidence of benefit is not the same as evidence of no benefit”. So in symphysis-fundal height measurement, for example, where there is limited

evidence for its benefit, they do not discard it but recommend that clinicians continue whatever is their current practice.

Some of the recommendations might come as a surprise to clinicians, for example, the use of acupuncture as an option for early pregnancy nausea or low back pain during pregnancy, or magnesium or calcium supplements for the treatment of leg cramps. Other recommendations represent a shift from the traditional model of antenatal care, such as the recommendations for caseload/team midwifery or group antenatal care in settings with well developed midwifery systems. Others represent a matter of judgment, including the recommendation for one routine ultrasound scan, performed before 24 weeks of gestation to estimate gestational age, improve detection of fetal anomalies and multiple pregnancies, reduce induction of labour for post-term pregnancy, and improve a woman's pregnancy experience. The choice of timing of this single scan has little evidence behind it but a late second trimester scan is too late for accurate dating, and too early for accurate placental site localisation or for detection of fetal growth restriction. The GDG has partly justified this timing so as to detect congenital abnormalities, even though there are few interventions available for this to change fetal outcome other than pregnancy termination. As such, the detection of fetal abnormalities is rarely a priority in resource constrained settings and, by 24 weeks, termination of pregnancy is illegal in many settings. It might have made more sense to recommend an earlier dating scan, ideally performed before 16 weeks of gestation, which would also detect multiple pregnancies and the most serious of abnormalities like anencephaly. A further optional scan could then be offered at 20 weeks of gestation according to culture, a woman's wishes, and availability of resources to detect and treat fetal abnormalities.

Perhaps the most striking of the recommendations in the new guidelines is that for antenatal care contacts. The new guidelines recommend a minimum of eight routine antenatal visits (now renamed contacts) for both primigravid and parous women with the initial contact in the first trimester, two contacts in the second trimester, and five contacts scheduled



in the third trimester. WHO studies undertaken in the 1990s had suggested that a four-contact schedule was adequate,<sup>2</sup> and WHO had implemented this approach.<sup>3</sup> However, updated systematic reviews now suggest that this is less acceptable to women and results in a 15% excess of perinatal deaths compared with eight or more visits, with no difference in maternal outcomes.<sup>4</sup> The GDG estimates that this equates to about four extra perinatal deaths per 1000 births in a typical low-resource setting with a perinatal mortality rate of 25 per 1000 births. Although the aspiration for additional care is to be welcomed, some will question the huge investment required to achieve this upscaling of antenatal visits for all women. Indeed, even the latest UK National Institute for Health and Care Excellence antenatal care guidelines recommend only seven antenatal contacts for healthy multiparous women, although ten for nulliparous women.<sup>5</sup> The GDG correctly points out that implementing these guidelines globally will result in an increased financial burden for both the health system and the healthy women who are advised to have fortnightly contacts in the last 6 weeks of pregnancy, often travelling long distances to reach the health facility. Over half of all perinatal deaths result from deficiencies in intrapartum care,<sup>6</sup> and care providers in settings with severely constrained budgets will need to consider carefully the relative benefits of investing in these additional antenatal care contacts for low risk women or improving the quality of intrapartum care.

And that takes us to the problem with most guidelines, especially for low-resource settings. Although they provide aspirations for optimal clinical care, they rarely address the relative cost-effectiveness of the various aspects of care, especially against other health interventions outside of that guideline. There is often intense competition for health budgets, and governments and health-care providers are frequently

left without robust evidence-based guidance on the critical issue of cost-effectiveness. This can often lead to the choice of the headline action—like eight antenatal care contacts—rather than the less tangible issue of quality improvement. Future guidelines would benefit from a list of the most cost-effective actions for implementation. For **in places with** highly constrained budgets, this can make the difference between life and death for many women and their babies.

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