

National guidelines for antenatal testing

It's time to adopt a cost-effective approach

HYPERTENSIVE DISORDERS IN PREGNANCY, and particularly pre-eclampsia, remain major causes of maternal and perinatal mortality,^{1,2} accounting for 15% of maternal deaths and 4% of perinatal deaths. Therefore, a key aim of modern antenatal care is the timely detection and management of pre-eclampsia.^{1,2} A traditional belief is that this is best achieved by regular, and increasingly frequent, antenatal visits, allowing for both blood pressure measurement and dipstick urinalysis to detect new-onset proteinuria. This strategy underpins the schedule of antenatal care that is still most commonly followed in Australia; namely, monthly visits until 28 weeks of pregnancy, fortnightly visits until 36 weeks and weekly visits thereafter.³ However, it has been apparent for some time that the frequency of visits could be safely reduced without adversely affecting outcomes,⁴ a notion now confirmed by randomised controlled trials both in the developed and developing world.⁵ Similarly, it has long been recognised that dipstick urinalysis performs poorly in the detection of proteinuria,¹ requiring confirmation by either a formal 24-hour urine collection or a spot urine protein/creatinine ratio.² However, the accuracy of a dipstick reading is significantly improved if it is read with an automated device rather than visually,⁶ offering the possibility that routine automated testing for proteinuria may have a place in the detection of pre-eclampsia.

In this issue of the Journal, the study by Murray and her colleagues (page 477) explores this possibility.⁷ The authors prospectively evaluated automated dipstick urinalysis in the diagnosis of pre-eclampsia in almost 1000 unselected women. In a quarter of the women who developed pre-eclampsia proteinuria arose before hypertension. From this, the authors concluded that if the initial screening urinalysis is negative then routine urinalysis thereafter is unnecessary in women with no high-risk factors for pre-eclampsia.

These findings and conclusions should encourage providers of antenatal care to reflect on their own practice and to consider whether routine urinalysis is justified, thereby facilitating the provision of the most cost-effective care.

The report by Murray et al should also stimulate us to reflect on the cost-effectiveness of the other tests routinely undertaken during antenatal care. It is of concern that there is considerable variation in routine antenatal testing in our hospitals, and that practice is often at odds with available evidence.⁸ These inconsistencies are not only indicative of inequalities in care, but also suggest wastage of precious and limited resources. Standardisation of antenatal care across Australia, through the development of clinical practice guidelines, might reasonably be expected to reduce this wastage.

In the United Kingdom, the National Institute of Clinical Excellence has commissioned the development of such guidelines with 43 recognised stakeholders and a projected completion date by September 2003 (www.nice.org.uk). In Australia, through a project funded by the Victorian Department of Human Services, the three largest public hospital providers of

maternity services in Victoria have already developed consensus guidelines on antenatal care. These encompass the delivery of antenatal care, including guidelines for most of the routine tests undertaken in pregnancy.⁸ These guidelines provide an evidence-based foundation for the rational delivery of antenatal care in these three hospitals. However, they offer far more. The guidelines could be used as a catalyst for the development of national guidelines for antenatal care. An important component of any such development, and one missing from the Three Centres Consensus Guidelines, must be a thorough cost-effectiveness analysis of the various tests and interventions recommended.

A cost-effectiveness analysis is important because much of the evidence for the various antenatal testing is imported from overseas and may not be readily applicable to Australia. For

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example, a recent cost appraisal of screening methods for Down's syndrome in the United Kingdom costed a first-trimester ultrasound examination at about £4 (\$12),⁹ a fraction of the Medicare cost in Australia (\$60–\$70). In addition, the prevalence of the various infections, such as syphilis and HIV, varies in different regions of Australia, and consequently the currently recommended strategies for screening may need to be modified on a regional basis.¹⁰ Such analyses are critical components of the further development of evidence guidelines, but, frustratingly, there has been little support at a national level for the funding necessary for their development and implementation. This is despite an estimate that between \$75 million and \$100 million is spent annually on antenatal screening in Australia.¹¹

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