Commentary: public and private intervention rates in obstetric practice

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The paper by Shorten and Shorten published in the last edition of Australian Health Review highlights differences in intervention rates (induction of labour, caesarean section, use of epidural analgesia) between women receiving private obstetric care and those receiving public obstetric care (Shorten &Shorten 2004). Similarly, the authors highlight the more frequent occurrence of "less favourable birth outcomes such as emergency CS, instrumental birth, episiotomy and (perineal) tear requiring suturing" in women giving birth in private hospital settings. These differences persisted after controlling for the risk profile of the woman or development of complications during birth (Shorten &Shorten 2004). These findings are not new in Australia, having been reported previously by King (1993 and 2000), and Roberts and colleagues (2000 and 2002). However, Shorten and Shorten's link to subsidies for private insurance raises a new concern.

The global interest in obstetric intervention rates and in particular rates of caesarean section has been underpinned by the assumption that there is in fact an "ideal" rate of intervention, where benefits outweigh risks. Much of this discussion developed after the World Health Organization published a statement to the effect that a caesarean section rate of 15% was appropriate (WHO 1985). However there has been little critique of the derivation of this figure and there is a lack of evidence in the scientific literature supporting it. The rate of any particular intervention should not be considered in isolation – what is important is how the intervention relates to increasing or decreasing maternal and infant mortality and morbidity.

Health costs and benefits of obstetric interventions: the evidence

The Cochrane Library of Systematic Reviews is regarded as providing the best available single source of clinical evidence in assessing the benefits and harms of any health care intervention. The Library also provides information about interventions that may be harmful, or those requiring further assessment. What then is the evidence that these obstetric interventions are linked to better or worse health outcomes for the woman or her infant?

Induction of labour in specific situations: There are a number of clinical situations where elective induction of labour has been advocated with the aim of reducing adverse outcomes for both mother and/or fetus. These situations have included induction to reduce the risks associated with the development of fetal macrosomia in women requiring insulin therapy for diabetes (Boulvain *et al.* 2004); induction of labour where a clinical suspicion of fetal macrosomia exists (Irion &Boulvain 2004); and induction of labour for women with an otherwise low risk singleton pregnancy after 41 weeks (Crowley 2004). On the basis of these systematic reviews, induction of labour after 41 weeks is the only intervention associated with a reduction in perinatal mortality.

Prostaglandins for induction of labour: When compared with no treatment or placebo, the use of vaginal prostaglandin E_2 or $F_{2\alpha}$ for the induction of labour is associated with more women achieving vaginal birth within 24 hours, and an improvement in cervical favourability after 24 hours (Kelly *et al.* 2004). There were no detected increases in caesarean section rate or operative vaginal birth rate.

Epidural Analgesia: The Cochrane Library includes a review comparing epidural analgesia with other forms of analgesia or no analgesia in labour (Howell 2004). The use of epidural analgesia was associated with women experiencing greater pain relief during labour, but at the expense of a longer labour, increased risk of fetal malpresentation, need for oxytocin augmentation and instrumental vaginal birth. There were no differences identified with regards to caesarean section rate.

Instrumental vaginal birth: There have been no randomised controlled trials comparing instrumental vaginal birth with normal vaginal birth. When comparing vacuum extraction with forceps for assisted vaginal birth, the vacuum was associated with reduced maternal genital tract trauma, but an increased risk of neonatal cephalhaematomata and retinal haemorrhages (Johanson &Menon 2004).

Episiotomy: The routine versus restrictive use of episiotomy during labour has been compared, and routine episiotomy during the birth process was associated with greater posterior perineal trauma (including anal sphincter damage), greater need for suturing, and more healing complications when compared with restrictive use of episiotomy (Carroli &Belizan 2004). There were no apparent differences in reported pain measures.

Caesarean section: There is no evidence from randomised controlled trials that indicate vaginal birth to be of greater benefit for mother and infant than caesarean birth, for women with a singleton pregnancy and cephalic presentation. In the absence of the so-called "Term Cephalic Trial", many extrapolate the findings of the Term Breech Trial to indicate that in current modern obstetrics, caesarean birth is to be preferred to vaginal birth (Hannah *et al.* 2001). The Cochrane Systematic Review comparing planned caesarean birth with planned vaginal birth for women with a singleton fetus in breech presentation includes three randomised controlled trials (Hofmeyr &Hannah 2004). While planned caesarean section was associated with a reduction in perinatal or neonatal death or serious neonatal morbidity, it was at the expense of increased short-term maternal morbidity. For many women, the risk of urinary or fecal incontinence after vaginal birth is a significant factor influencing decisions regarding mode of birth. Three-month follow-up of women in the Term Breech Trial indicated a significant reduction in the occurrence of urinary incontinence with planned caesarean birth (Hannah *et al.* 2002). Longer-term effects of caesarean birth, including continence, fertility and outcomes in subsequent pregnancies have been inadequately assessed to date.

In addition to the immediate benefits and harms of caesarean birth, there must be consideration of mode of birth in a subsequent pregnancy for women who have had a previous caesarean birth. In South Australia, prior caesarean birth is the main indication (56.6%) for an elective caesarean, with almost 14% of emergency caesareans occurring in women who have had a prior caesarean birth (Chan *et al.* 2001). Despite the publication of American College of Obstetricians and Gynecologists guidelines encouraging vaginal birth after caesarean section (VBAC) (ACOG 1988), VBAC rates in the United States have declined from 28.3% in 1996 to 12.7% in 2002 (Hamilton *et al.* 2003), influenced by recent literature reports of maternal and infant risks, including uterine rupture (Sachs *et al.* 1999; Hibbard *et al.* 2001; Lydon-Rochelle *et al.* 2001). A recent meta-analysis (Guise *et al.* 2003) indicated that the current literature surrounding appropriate recommendations on the benefits and harms of VBAC is "significantly flawed" and inadequate. There appeared to be an increased risk of perinatal death and symptomatic uterine rupture with VBAC; there was no increased risk of asymptomatic rupture, maternal death or hysterectomy from either route; and there was an increased risk of infection from elective repeat caesarean. However, it was not possible to assess the magnitude of the risks due to the poor methodological quality of the studies to date.

Discussion

There are benefits and harms associated with many of the above interventions in terms of maternal and infant outcomes. If the woman is fully informed of these benefits and risks, and chooses a particular model or form of care, then the actual rate of any intervention becomes a secondary issue, but will remain a concern for health funders. The great difficulties lie in ensuring that caregivers have sufficient reliable information on which to make these decisions and inform women of the options for care. Since this is particularly difficult in situations where the available literature is inadequate, health professionals have an obligation and responsibility to ensure

that reliable information is available, at the individual level, through active participation in research efforts, and at a more corporate level in ensuring that trials of high methodological quality are adequately funded and supported. Armed with such evidence, planners can model costs, and define the settings for care linked to specific outcomes.

The differences in observed rates of intervention between women receiving public obstetric care and private obstetric care will remain for debate. They may reflect the degree to which women are involved in decisions relating to their care, for example in the decision for caesarean section (Turnbull *et al.* 1999). As Shorten and Shorten (2004) imply, not all women need to receive care from medical practitioners. However, the Victorian surveys of recent mothers have reported that satisfaction with care was greatest when there was continuity of care provider (Lumley 1990). Private care by specialists or general practitioners and midwifery models of care had much higher satisfaction rates than care provided through clinics in public hospitals. The challenge for the future is to redesign care in public hospitals to achieve similar rates of satisfaction. Birthing centres were an early step towards this goal and more recent ones include team midwifery or 'midwifery caseload'. Achieving the same maternal and infant outcomes where junior medical staff provide care will require new initiatives to provide satisfaction for women while ensuring adequate training opportunities for junior medical staff.

If the 'rate' of intervention needs to be addressed, it can only be done by encouraging a change in the way that consumers view private obstetric care, while at the same time encouraging greater transparency and accountability from the private health care system. Re-engineering these changes will be the challenge, but will remain difficult while most private obstetricians are also gynaecologists, and work in several settings; and where non-clinical factors may have a greater impact on interventions than evidence from systematic reviews. There is a need to provide funding for new models and for their evaluation, as previously recommended (NHMRC 1996).

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