

Practical obstetric multi-professional training – PROMPT

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'I look forward to the great advances in knowledge that lie around the corner, but I do sometimes wonder whether the vast sums of money now being spent on research might not produce more rapid and spectacular improvement in health if devoted to the application of what is already known.'

Max Rosenheim, President, Royal College of Physicians, 1968.

Introduction

Improving maternal and perinatal care, and in particular reducing preventable intrapartum harm is a global priority. Improved training for care during labour, particularly during emergencies, is at least part of the potential solution. We must, however, ensure that training is both effective and sustainable.

The PROMPT course is a low cost, research based effective training programme that has improved outcomes for women in Bristol to some of the best in the world literature, and is now helping accoucheurs provide the best care to women around the world.

Women, their families, and insurers value safety in labour as the highest priority.^{1,2} However, in 2008 the UK based King's Fund report entitled 'Safe births: everybody's business' observed that, whilst the overwhelming majority of births in England are safe, some births are less safe than they could and should be.³ This observation accurately summarises almost the last century of obstetric care in the United Kingdom.

When it occurs, this preventable harm is extraordinarily expensive. Substandard maternity care and its sequelae cost the NHS in England alone £3.1 billion in the decade 2000-2010,² amounting to an excess of £600 for each baby born in that decade; the individual, family, and societal costs notwithstanding.

Evidence based training

Improved multi-professional training appears to be one of the most promising strategies to improve perinatal outcomes. Annual 'skill drills' have been recommended by both the Royal College of Midwives and the Royal College of Obstetricians and Gynaecologists,^{4,5} as well as national bodies on both sides of the Atlantic; the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) in the

United States and the maternity Clinical Negligence Scheme for Trusts (CNST),⁶ whose risk management standards have mandated training in the United Kingdom since 2000.⁷ Moreover, teamwork training has also been recommended to improve team working.^{6,8}

Training is not magic and nor is it automatically effective; the effect of intrapartum training programmes has been inconsistent at the very least, if not conflicting. There are a number of studies evaluating the effectiveness of skills training for obstetric emergencies, with evidence that practical training can be associated with improvements in clinical outcomes.⁹⁻¹² However, not all training has been associated with such positive effects and there are a number of studies where training either did not improve the clinical outcome or was associated with an increase in perinatal morbidity.¹³⁻¹⁵

As a direct result of the introduction of multi-professional training using evidence from the simulation and fire-drill evaluation (SaFE) study, there have been clinical improvements at Southmead Hospital, Bristol:

- A 70% reduction in neonatal injury following the introduction of training to manage shoulder dystocia¹⁰
- Infants born with five minute Apgar scores of less than seven decreased by 50% to an incidence of 44.6 per 10 000 live births¹¹
- Teams work better together following training, with a significant decrease in the 'diagnosis to delivery' interval in cases of cord prolapse, and consequent improvements in neonatal outcomes.⁹

These reduced rates of birth complications remain some of the lowest recorded in the global literature, and this has translated into a reduction in medico-legal costs; damages paid out for maternity claims by Southmead Hospital decreased significantly in the 10 years after training commenced in 2000.

Pilot sites – evidence of effect

The improvements in outcome are not confined to Bristol or even to the United Kingdom. The Victorian Managed Insurance Authority (VMIA) have piloted PROMPT in the state of Victoria, and pre-publication results show both a reduction in Apgar scores of less than 7 and fewer babies being born with signs of hypoxia. The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) are now localising the PROMPT package to roll out the training programme nationwide.

In the United States, early data from a PROMPT pilot have demonstrated a reduction in the number of caesarean sections required, and since PROMPT training for the management of shoulder dystocia was first introduced there has not been a single reported case of permanent brachial plexus injury.

Impact on international development

PROMPT is a low resource training intervention which is ideal for supporting clinical improvements and staff development in resource poor settings. In partnership with diaspora from Zimbabwe and with the support of the Department for International Development and the Tropical Health and Education Trust, a pilot project to roll out PROMPT training was set up in the second largest maternity unit in Zimbabwe.

Since the introduction of the PROMPT course in early 2011, they have now trained over 130 staff members and have reported improved communication between doctors and midwifery staff. They have also introduced new systems on their labour ward, including a 'labour ward board' which enables staff to monitor a woman's progress in labour by charting it for all staff to review, and thus potential problems can be anticipated.

Effective training for intrapartum emergencies

The PROMPT team, based on their experience of implementation, have also produced a series of key steps that they consider to be vital for successful PROMPT implementation and, ultimately, for making childbirth safer.

These steps are similar to a recent review of training programmes, published in 2009, which was associated with an improvement in clinical outcomes and may be generalisable outside perinatal care to other healthcare training settings.¹⁶

Ten steps to successful PROMPT implementation are as follows:

- Use of multi-professional participants, trainers, and drills
- Locally run courses in your own unit, using your own facilities, and training all of your maternity staff
- Integrated team working
- Locally adopted and adapted training
- Support from in house clinical 'champions'
- Use of simple props and patient actors
- Use of the PROMPT birthing trainer for shoulder dystocia
- Inclusion of local implementation and testing of systems and protocols within training
- Participant debrief using clinical and teamwork checklists
- Evaluation of local clinical outcomes.

Active improvement – 'Make the right way the easiest way'

A key part of the PROMPT course is 'active improvement.' Active improvement is a term we employ to describe the use of tools and artefacts to make it easy to do the right thing and to 'make the right way the easiest way' for clinical staff. We train staff to use these tools and measure the effects, and once we know the system is effective then it is mandated and enforced using audits and data.

NHS staff are constantly bombarded by missives, guidance, and well meaning centrally produced mandates; the Royal College of Obstetricians and Gynaecologists alone produce guidelines on clinical governance, consent, good practice, safety alerts, scientific impact papers, study group consensus statements, and working party reports, as well as 41 clinical guidelines.

We know what to do, but how do we make it easy for staff to do it?

For example, the current National Institute for Health and Care Excellence guideline for electronic fetal monitoring in labour is contained in two documents of 136 and 65 pages respectively. Staff have to record their opinion of the cardiotocography (CTG) hourly in the notes, using the classification recommended in these guidelines. While this is all good, evidence based material, how can staff be expected to use the information in 201 pages of guidance on an hourly basis at the coal face?

We have designed a sticker that summarises the key points in the guidelines and acts as an aide-mémoire, as well as a record of staff classification of the CTG (see figure 1).

The introduction of these stickers was associated with a 50% reduction in Apgar scores of less than seven at five minutes, as well as a reduction in cases of hypoxic ischaemic encephalopathy in Bristol.¹¹

The sticker itself, however, does not magically improve outcomes; all staff in the unit should be trained to use the sticker annually, its use should be mandated for all staff whenever a CTG is reviewed, and other contrary tools and systems should be stopped.

Finally, the use of stickers should be ‘policed’ using audits and noting the effect on outcomes, such as low Apgar scores.

This is one of a number of examples of tools – others include postpartum haemorrhage boxes, eclampsia boxes, and early warning charts – that help staff to implement evidence based interventions, thereby actively improving care and outcomes.

Future research

Although these early data for PROMPT training are extremely encouraging, it is important to determine whether these improvements can be generalised outside the host unit and enthusiastic early adopters, ideally across a health system. A recent report from the Health Foundation recognised that too often the benefits of interventions demonstrated in small studies fall short when applied at scale.¹⁷

The chief scientific officer in Scotland has recently funded a project to study the effect of implementation of training at scale, as only three of the 17 Scottish maternity units have undertaken PROMPT training. We will employ a stepped wedge design and, in line with the Medical Research Council recommendations for the investigation of complex interventions, we also aim to investigate any health economic benefits of the intervention, as well as any effect of context on training outcomes.

Conclusion

Reducing preventable harm is a priority for accoucheurs, women, and insurers across the globe. Active improvement and training appears to offer a direct route to reducing preventable harm, although the effect of intrapartum training programmes overall has been at the very least inconsistent, if not conflicting.

The fundamental questions that remain are: to whom the training is best provided, with which tools, and in which environment. More extensive and better research is required to investigate both this training and training more generally, using different lenses and diverse ways of knowing to improve care for mothers and their babies, as well as more generally across the NHS.

Figure 1: Example of sticker

| Intrapartum CTG Proforma | Reassuring (Acceptable) | Non-Reassuring | Abnormal | North Bristol NHS Trust |
|---|--|---|---|-------------------------|
| Baseline rate (bpm) | 110 - 160 Rate: | 100 - 109 Rate: 151 - 190 Rate: | Less than 100 Rate: More than 180 Rate: Sinusoidal pattern for 10 minutes or more | Comments:- |
| N.B Rising baseline rate even within normal range may be of concern if other non-reassuring / abnormal features present. | | | | |
| Variability (bpm) | 5 bpm or more | Less than 5 bpm for 40 - 90 minutes | Less than 5 bpm for 90 minutes | Comments:- |
| Accelerations | Present | None for 40 minutes | Comments:- | |
| Decelerations | None | Typical variable decelerations with more than 50% of contractions for more than 90 minutes | Atypical variable decelerations with more than 50% of contractions for more than 90 minutes | Comments:- |
| | Typical variable decelerations with more than 50% of contractions but for less than 90 minutes | Atypical variable decelerations with more than 50% of contractions for less than 30 minutes | Late decelerations for more than 30 minutes | |
| | Typical or atypical variable decelerations with less than 50% of contractions | Late decelerations for less than 30 minutes | | |
| | True early decelerations | Single prolonged deceleration for up to 3 minutes | Single prolonged deceleration for more than 3 minutes | |
| N.B If CTG has any non-reassuring or abnormal features from commencement of monitoring, it may not be appropriate to wait 30 or 90 minutes before requesting review | | | | |
| Opinion | Normal CTG (All 4 features reassuring) | Suspicious CTG (1 non-reassuring feature) | Pathological CTG (2 or more non-reassuring or 1 or more abnormal features) | |
| Cont'x: :10 | Maternal pulse: | Liquor colour: | Dilatation (cm): | Gestation (wks): |
| Action: | | | | |
| RVJ0191 (LGD) | | | | |
| Date: | Time: | Signature: _____ | Print: _____ | Designation: _____ |

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