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Information for authors, news and resources.
The UK national research assessment exercise (RAE) is reaching its grand finale and on 18 December, the results will be made public. On 5 January, confidential reports will be made available to academic institutions. Before the results have time to arrive and the impact is celebrated or commiserated, we have already switched off RAE 2008 and turned on REF 2013. This is evidenced in the reported 22 institutions that are involved in piloting the new REF assessment process (Higher Education Funding Council for England, 2008a).

We need a robust system to ensure equitable allocation of research funds. However, it is important to note: research funding allocation is a global issue. There are no valid and reliable measurement systems available and the Higher Education Funding Council for England (HEFCE) is acting appropriately by piloting the new bibliometric citation index: ‘As bibliometric techniques have the potential to provide robust and usable indicators of research quality across a number of disciplines. However, citation data should be used with caution to construct indicators that can be used in research assessment. They must be constructed using robust methods, the indicators should be interpreted by experts who understand the limitations and the patterns of citation behaviour in that discipline, and they should be used alongside other indicators of research quality’ (HEFCE, 2008b).

Our RAE provides individual and institutional assessment data analyses on publications, research grants, students, environment and peer review. The new ‘outdated’ UK RAE was assessed in relation to the rest of the world and was congratulated on its overall comprehensive approach (Thelwall, 2008). In comparison to other countries, it is surprising to discover that somewhere like the US has no national system for research assessment, and funding allocation depends on competitive grants with national evaluations of little concern. Peer review forms only a small part of the Australian research evaluation system with greater emphasis placed on research income (Thelwall, 2008).

Leaving 2008 RAE in the hands of the assessors let us move forward to prepare ourselves for success in REF 2013. Guidance at this stage is difficult and although I have sought advice from the UK’s eminent academics, the repeated nature of the response is familiar and similar: focus remains on publication, peer review, research grants and citations. Therefore, the important message is to develop a deeper understanding of publication impact factors (IF) and bibliometrics.

Bibliometrics is an electronically-supported process in which measures of the number of publications, their properties, word frequencies, citation analysis, co-word analysis and author details can be collated at the touch of a button. The recognised index systems are the Institute for Scientific Information (ISI) and Science Citation Index (SCI) developed by Eugene Garfield in 1955 (Garfield, 2006) primarily to support scientific literature searching. In 1992, Garfield sold ISI to Thomson Scientific who provide citation data on approximately 7000 of the 23,000 journals available. It is useful to note that new competitors, Google Scholar and Scopus (Elsevier Science) are now producing large-scale online databases, which contain embedded citation indices (Thelwall, 2008). However, the original value of citation systems remains the same as its primary focus was and is to provide researchers with citation data that enables them to know how other researchers have cited a research paper and whether or not the research has been updated. It also provides data on scattered publications in non-mainstream journals thus ensuring collective knowledge acquisition. The ability to review citations and produce statistics on their numbers, all articles by an author, research group or country led to the development of the IF.

Noble assumptions that counting citations would be a reliable measure of scientific value were evidenced in the perception that the more influential the research was, the more likely it was to be cited (Mowday, 1997). However, it was not long before many of the process’ and system’s limitations were identified: lack of assessment of the citations’ quality, poor comparability between subject specific groups and across groups, self-citation and the bias towards English language (Dong and Mondray, 2005).

The formula for determining the IF is calculated by the number of citations from ISI-indexed articles published in year x to articles in the journal published in the years x-1 and x-2, divided by the number of citable items published in years x-1 and x-2.

New developments are constantly facing us and one important new challenger is ‘webometrics’. This name is given to the quantitative analysis of all web data. One major advantage of the webometrics is the speed at which citation data can be produced. One major disadvantage is the lack of quality control.

In conclusion, our preparation for REF 2013 must be to keep our focus on doing high-quality research that makes a difference to public health and wellbeing. IF is going to continue to be a major indicator of research output. With rapidly developing new technologies and five years for globalisation impact, who can really plan with confidence for a sea of change?

References


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Feasibility study to test Designer Breastfeeding™: a randomised controlled trial

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The development and testing of Designer Breastfeeding™ was funded by the Research and Development Office of Northern Ireland. All work was carried out independent of the funding agency.

This paper was given at the Doctoral Midwifery Research (DMRS) meeting on 11 February 2008 at the University of Ulster. Please visit the DMRS website: www.docmidwifery.org

Abstract

Background. The World Health Organization challenges health professionals to increase breastfeeding rates, which means increasing initiation and duration rates. Initiation rates in the UK are improving, but evidence on duration is equivocal. Research shows increased maternal confidence and professional and peer support as key determinants in increasing breastfeeding duration rates.

Aim. To compare current breastfeeding instruction with a motivationally-enhanced version. It was hypothesised that increasing motivation to breastfeeding would lead to increased persistence of breastfeeding.

Design and setting. Single, blind, randomised controlled trial with participants blinded to group membership. The setting was a single suburban hospital and community trust serving an urban and rural population.

Intervention. Pragmavimd women (n=182) recruited at the 20-week antenatal appointment gave written informed consent to participate.

Intervention. A model of motivational design for routine breastfeeding instruction led to the creation of an intervention package intended to increase maternal confidence through routine antenatal and postnatal instruction.

Outcome measures. Women’s motivation to sustain breastfeeding, as measured by three components of the breastfeeding motivational instructional measurement scale: total value placed on breastfeeding, total perceived midwife support and total expectancy for success.

Results. The motivationally-designed instruction significantly increased maternal confidence (t=5.64; df=1; p<0.001). There were no differences in midwife support and total expectancy for success.

Conclusions. Breastfeeding is a complex with known benefits and influences. The findings present breastfeeding educators and researchers with two challenges: to explore the role of expectancy for success further in relation to women’s perceived experience of breastfeeding and to re-direct the development and testing of interventions based on the trial findings.

Key words: Motivation, breastfeeding value, expectancy for success, support, randomised controlled trial

Introduction

Breastfeeding is beneficial for baby, mother and society as it has nutritional, psychological and economic benefits. The World Health Organisation (2003) recommends that breastfeeding is sustained for at least six months. Strategies such as the Baby Friendly Initiative (1998) have been put in place to protect and support breastfeeding across the world, with initiation rates improving significantly; however, national and international statistics show that although more women are starting to breastfeed, many stop long before the recommended six-month period (European Commission 2004; Infant Feeding Survey, 2005). Moreover, Dykes (2006) reported that almost a fifth of women stopped breastfeeding before leaving hospital and figures reveal a steady decline in breastfeeding behaviour resulting in a negligible number of women in the UK breastfeeding for the recommended six months. Factors associated with this decline are that breastfeeding persistence is embedded in a complex means-end structure. Motivated behaviour is not associated with any one factor, but is the result of a complex cognitive process which can be summarised as follows:

- Individuals search for information then cognitively process and decide how they might use it
- The decision to perform the behaviour or not is influenced by an ability to predict the consequences of the option chosen

Based on the resulting evaluation, individuals will then set personal goals and then regulate their behaviour to reach these goals.

The motivational requirements related to breastfeeding persistence have been explored using an expectancy-value theory, namely the ‘theory of planned behaviour’ (Janke, 1994; Wambach, 1997; Duckett et al, 1998; Avery et al, 1999; Këll, 1992; Doddson et al, 2003) and the findings consistently suggest that value (measured in terms of attitudes towards breastfeeding) and expectancy for success (measured in terms of maternal confidence) are the key factors related to sustained breastfeeding behaviour.

It is recognised that there is a need for health professionals to educate and support breastfeeding mothers to gain greater success and achieve higher breastfeeding rates. However, it was concluded that the same interventions used by midwives in many countries across the world (Chezem et al, 2003; Hanss, et al, 2000; Schmied et al, 2001; Avery et al, 1999) did not achieve the desired increases in breastfeeding rates. While it is known that value and expectancy are factors associated with breastfeeding persistence, no differences were noted in the incidences of breastfeeding between the wards on discharge from hospital or the postnatal period of time (mean three days).

Participants, assignment and blinding

The sample of 234 primigravids was comparable in demographic terms and 191(87%) were eligible to participate. Exclusions were due to anticipated infant-maternal separation (n=1), language barrier (n=3) and teenagers who had already attended a breastfeeding workshop (n=30). Nine women declined to be involved prior to obtaining information about the research project because of a strong intention to bottle feed (n=3), intention to move home prior to birth of the baby (n=3) and maternal illness (n=3). A further nine women declined involvement after recruitment, resulting in an exclusion rate of 95% (182 women giving antenatal consent). Following consent a further 38(19%) withdrew or were excluded: 14 in the antenatal phase and 24 in the postnatal phase. A total of 144 women completed the study (see Figure 1).

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The research aimed to test the effectiveness of a motivationally-enhanced version of midwife instruction in terms of increasing women’s expectancy for successful breastfeeding, compared to best practice. Based on previous work by Stockdale et al (2005, 2008), significant mean differences were expected in two of these three motivational factors: total perceived midwife support and total expectancy for success. While it was hypothesised that these two motivational factors would influence rate expectancy significantly, it was also hypothesised that there would be no significant group differences in the total value placed on breastfeeding, already regarded as high in the authors’ context.

Research governance procedures were followed and ethical approval was obtained prior to the commencement of the trial from the University of Ulster, the Trust and the Office of Research Ethics Committees for Northern Ireland.

Design and setting

A feasibility study consisting of a single, blind, randomised controlled trial was conducted in one suburban hospital and community trust serving an urban and rural population. The breastfeeding instruction offered by midwives was given in accordance with best practice as defined by NICUC and the Trust held the Baby Friendly Initiative (BFI) status. Midwives in the experimental group were assigned to both the control or intervention groups for the duration of the study. To determine baseline equivalence, the hospital statistics for the year 2003 were examined. No differences were noted in the incidences of breastfeeding between the wards on discharge from hospital or the average postnatal length of time (mean three days).

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Research and setting

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Results

The motivationally-enhanced instruction significantly increased maternal confidence (t=4.81; df=89.22; p<0.001) and at three weeks postnatal discharge (t=5.64; df=1; p<0.02) and at three weeks postnatal discharge (t=5.64; df=1; p<0.02) and at three weeks postnatal discharge (t=5.64; df=1; p<0.02).
Feasibility study to test DesignBreastfeeding™: a randomised controlled trial. Evidence Based Midwifery 6(3): 76-82


A mastery-orientated environment was created where participants were encouraged to view breastfeeding in the postnatal environment, performance feedback indicators were introduced that were designed to help sustain breastfeeding effort, by addressing perceived insufficiency of milk. To ensure the perceived relevancy of the instruction, goal structures for specific breastfeeding situations were presented in a user-friendly format. Clinical terms such as ‘the areola’ were avoided and a common language between midwives and women was facilitated. This early detection when breastfeeding was not satisfactory. The user-friendly format of the instructional materials could be used as a quick reference tool.

A motivational name was developed for the intervention materials. The name DesignBreastfeeding™ was selected as it suggested to women that they could design and take control over their own breastfeeding experience. In an attempt to avoid potential contamination between women in the control group and those receiving motivationally-enhanced instruction, copies of the motivationally-enhanced resources were only available to participants in the experimental environment. The timing of the intervention mirrored the schedule of current best instruction, thus resulting in a motivationally-enhanced intervention consisting of four components:

- Antenatal infant-feeding class (32 to 36 weeks’ gestation)
- A breastfeeding classroom (provided in the antenatal phase)
- A breastfeeding CD-ROM
- Postnatal instructional support provided by midwives (up to three weeks postnatal) and additional lactation consultancy on request.

The postnatal midwives who supported the intervention attended an additional one-day training session that focused on the role of human motivation and the use of effective strategies to increase participants’ expectancy for success.

Outcome measures

The main outcome measure was women’s motivation towards breastfeeding. This was measured using the newly-developed BMIMS by Stockdale et al (2008). The BMIMS measures three essential motivational components associated with duration to breastfeeding (total value placed on breastfeeding (reliability coefficient, r=0.86), total perceived midwife support (r=0.85) and total expectancy for success (r=0.87)).

Important difference and trial size

The expected variance in relation to the motivational outcomes was unknown, due to the lack of previous motivationally-designed interventions. Therefore the minimum clinical important difference (MCID) in the study focused on the secondary outcomes related to the initiation and duration rates of breastfeeding. Previous statistics within the Trust for the period 2002 to 2005 recorded that 61% to 63% of primigravid women initiated breastfeeding.

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Table 1. Cross-tabulation analysis of sample characteristics to explore group equivalence between the control and experimental groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Pearson chi-square value</th>
<th>Asymp. sig. (two-sided)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance at antenatal class</td>
<td>20.21</td>
<td>0.000</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Maternal age</td>
<td>4.81</td>
<td>0.196</td>
<td>NS</td>
</tr>
<tr>
<td>Maternal occupation</td>
<td>4.81</td>
<td>0.172</td>
<td>NS</td>
</tr>
<tr>
<td>Age of baby on discharge</td>
<td>14.80</td>
<td>0.002</td>
<td>&lt;0.01*</td>
</tr>
<tr>
<td>Analgesia in labour</td>
<td>4.26</td>
<td>0.511</td>
<td>NS</td>
</tr>
<tr>
<td>Delivery type</td>
<td>1.63</td>
<td>0.802</td>
<td>NS</td>
</tr>
</tbody>
</table>

NS: Not significant *Indicates statistical significance

Table 2. The motivational outcomes (total value, total perceived midwife support and total expectancy for success) in relation to the instruction received

<table>
<thead>
<tr>
<th>Group</th>
<th>Total value placed on breastfeeding</th>
<th>Total perceived midwife support</th>
<th>Total expectancy for success</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Mean</td>
<td>SD</td>
<td>t value</td>
</tr>
<tr>
<td>Baby Friendly Initiative</td>
<td>88.4</td>
<td>10.6</td>
<td>t=1.51</td>
</tr>
<tr>
<td>Designer Breastfeeding</td>
<td>91.4</td>
<td>9.7</td>
<td>5.49</td>
</tr>
</tbody>
</table>

Table 3. Chi-square analysis of initiation and duration of breastfeeding on an intention to treat basis

<table>
<thead>
<tr>
<th>Group</th>
<th>Initial breastfeeding (%)</th>
<th>Discharge on breastfeeding (%)</th>
<th>Breastfeeding exclusively at three weeks (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group</td>
<td>53/75 (70)</td>
<td>33 (44)</td>
<td>15 (20)</td>
</tr>
<tr>
<td>Experimental group</td>
<td>57/69 (82)</td>
<td>44 (64)</td>
<td>36 (53)</td>
</tr>
<tr>
<td>p</td>
<td>&lt; 2.94</td>
<td>5.64</td>
<td>16.26</td>
</tr>
<tr>
<td>Asymp. sig. (two-sided)</td>
<td>p=0.092</td>
<td>p=0.018</td>
<td>p=0.000</td>
</tr>
</tbody>
</table>

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Strengths

The application of a motivational framework to routine breastfeeding instruction by midwives has provided evidence that it is possible to systematically increase women's motivation to sustain breastfeeding. Through increasing the relevancy and effectiveness of professional instruction, the barriers associated with the introduction of breastfeeding problems in the antenatal phase can be overcome. In addition, application of a motivational measure of success (BMIMS) provides future researchers with an important baseline measure.

Limitations

Limited time and research resources impacted upon the size of this feasibility study. This may have introduced bias; however, response bias is unlikely to result in a significant difference in the data collected.

Discussion

Principal findings

Application of the voluntarily-enhanced version of breastfeeding instruction found significant increases in initiation rates but no group differences in relation to women's perceived self-efficacy and breastfeeding persistence. When compared with the current study, the same motivational strategies were applied, for example, the introduction of a goal structure and positive feedback. However, an important difference lies in the incorporation of potential breastfeeding challenges in the antenatal phase.

Relevance of the results

Comparison of the results can be limited by differences in the design and population. However, the findings contribute to the evidence base by providing evidence of the efficacy of voluntarily-enhanced breastfeeding instruction. Further research is required to develop and test the intervention beyond the role of the midwife.
of confidence was protected. Moreover, this change in the presentation of breastfeeding ‘problems’ to one of breastfeeding ‘challenges’, forced a transition in the instructional environment from one where women learned to breastfeed in a performance-orientated environment, to a mastery-orientated environment. Women who learned to breastfeed in a mastery-orientated environment had greater confidence in their ability and expectation to succeed.

By introducing different conceptualisations of ‘normal’ breastfeeding in the antenatal phase, not only were women’s expectations of breastfeeding successfully moderated, but so were their perceptions of the support and advice they receive. Through motivational enhancement, midwife instruction became more relevant to women’s experience of breastfeeding. Thus, when health professionals provide a motivational match between antenatal expectancies and postnatal experiences, women will have the opportunity to receive relevant instruction that effectively sustains their breastfeeding behaviour.

Future research
This study provides preliminary evidence that motivationally-enhanced instruction is effective. Future research must focus on re-defining ‘normal’ breastfeeding and re-writing the breastfeeding curriculum. The support infrastructure provided by health professionals must also be motivationally adapted. Further research is required in relation to the proposed concept and intervention development.

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World Health Organization. (2005) Up to what age can a baby stay well


Ability to detect intrauterine fetal growth restriction… ‘Must try harder’

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This paper was given at the Doctoral Midwifery Research Society (DMRS) meeting on 11 February 2008 at the University of Ulster. Please visit the DMRS website: www.doctoralmidwiferysociety.org

Abstract
Background. In total, 4000 stillbirths (one in every 200 births) occur every year in the UK, and the babies are often growth restricted, however, this is rarely identified before birth.

Key questions. Why are they undetected? Could they have been detected? Who should detect them? Does UK professional positioning deter their detection? Do doctors interfere too much? Do midwives not interfere enough? Should methods of interference be reassessed? Is our performance good enough, or should we try harder?

Conclusion. Attempts are made to address the above questions in the following paper and the suggestion is made that routine ultrasound of fetal wellbeing should be considered for all pregnancies, and that all mothers would benefit by receiving care from both midwives and doctors.

Key words: Intrauterine fetal growth restriction (IUGR), professional positioning, routine ultrasound, stillbirth, low risk

Background
I am not sure exactly what is written in our job descriptions as midwives and obstetricians, but would hope and believe that it should say that we are ‘committed to caring for UK mothers, and must endeavour to make every effort to ensure that they are delivered of healthy babies as safely and successfully as possible’. At the time of writing this paper, I believe that our annual appraiser would sign us off with the words, ‘Must try harder’.

This paper will evaluate the present ability of accoucheurs and accoucheuse in the UK to clinically detect intrauterine fetal growth restriction (IUGR), and thus potentially prevent the unacceptably high incidence of stillbirth, which is often associated with abnormal fetal growth patterns. Should we continue to rely on the traditional manual abdominal assessment of growth when perhaps simple low technology ultrasound could be employed to the benefit of all the Confidential Enquiries into Maternal and Child Health (Lewis, 2007)?

Difficulties in detecting IUGR
Over 700,000 babies are born in the UK annually. The vast majority of the mothers of these babies have not only come through the process in a healthy manner, but are indeed grateful for the care they have received. Our responsibility, as the provider of this care, is to make sure that nature does not get up to her old trick of only believing in ‘survival of the fittest’. We see far too much of the outcome of that policy in the under-resourced world, where nature sees mothers as instantly replaceable, and babies often as ‘toxic by-products of pregnancy’, which is how one of my earliest paediatric teachers, Dr Muriel Fraser thought most obstetricians considered babies.

Surely, many correctly ask, nature is best? She allows healthy, happy mothers to give birth to healthy, happy babies. In the majority of cases, this is exactly what happens, but Lewis (2007) tells us with constant repetition that in the UK mothers still die needlessly, and an incredible 4000 babies are stillborn every year, the majority are associated with growth restriction. The majority of these babies are unacceptably classified as ‘unexplained’, when in fact the majority were ‘unpredicted’ and could have been saved.

The Confidential Enquiry into Sudden Death in Infancy (1997) stated that ‘45% of stillbirth was associated with sub-optimal care, poor risk assessment, poor referral patterns, and failure to detect IUGR’. Furthermore, ‘failure to respond to decreased fetal movement, and poor communications’ were identified as the main areas for improvement. The most recent report from Lewis (2007) repeats the message, and reveals that while the number of stillbirths occurring in the intrapartum period have fallen dramatically over the last decade, antenatal ones have significantly increased. This cannot be
allowed to continue.

Perinatal mortality (PNM) causes are of multi-origin. Antenatal fetal death, for ‘unexpected’ reasons, accounts for 50% of fetal deaths, two-thirds of which occur after 35 weeks’ gestation. Most of these deaths are not detected during the pregnancy when it is least expected (Gardosi et al, 2005). The persistent finding of antenatal death by a no apparent problem encourages the carer to think ‘all has been well in this pregnancy. No problems have been identified. Why should it go wrong now?’ (see Table 1).

Major fetal abnormalities, which in the past led to higher PNM rates have all but been excluded from the national statistics by a vigorous government-promoted antenatal screening policy. Pre-term delivery, although increasing in incidence is not the problem, it was thanks to the judicious use of prenatal steroids and the endeavours of our paediatric teams. The extremes of fetal weight are now the most worrisome categories of perinatal death on our horizon, with being too small or too large the areas of highest risk in trying to address the problem of unexpected (unexplained) death.

Of particular concern is the increasing age of mothers when they become pregnant, and especially those with a sub-optimal economic status (Frøen et al, 2004). However, poor past obstetric history, cigarette smoking and alcohol consumption are not associated with ‘unexplained’ death, though when these features actually do come to the attention of those proffering antenatal care, the mother is invariably placed into a ‘high risk’ category from which she finds it difficult to escape.

Undetected IUGR is invariably the problem (Atten- ius et al, 1995). Yet, how do we blame those who fail to detect IUGR, when its very definition is not universally agreed? Even though we accept that children and adults are all appropriately different, we do not accept the same premise for the fetus. Rather, if the estimated fetal weight is assessed to be less than the tenth centile, as denoted from whole population birthweight standards, the baby ‘may’ be on track and will be on the 11th centile, it is deemed to be normal. Around 70% of IUGR is undetected until delivery, while at the same time, for every three mothers where the problem was explained, only one will be confirmed (McKenna et al, 2003).

Failure to identify an appropriate fetal weight for a particular pregnancy, and failure to determine when the fetus is becoming unwell is the major failing of fetal antenatal care being provided throughout much of the UK and the Republic of Ireland. We must universally implement customised fetal growth charts forthwith; at present only approximately one-third of units in the UK use them (Gardosi et al, 2005).

We have known about the problems of poor fetal growth for 30 years. Williams et al (1982) commented that of the 23,000 fetal deaths in California, the strongest causal link was between low fetal weight for gestational age and fetal demise. Why are we continuing to let this ‘slide’? One of the reasons why normal pregnancies are not detected lies in the assumption that an undue focus is given by carers to the method and experience of birth, rather than the health and welfare of the fetus. Mothers in general are now fairly healthy by any standard. The problem of providing antenatal care assumes that a low-risk pregnancy is normal, with normal pregnancies, the mother was left to have labour induced at 41 weeks. The accoucheur or accoucheuse, given the responsibility of providing antenatal care assumes that a low-risk mother will give birth to a low-risk fetus. This premise probably arises from the known fact that high-risk mothers often carry, and give birth to high-risk fetuses. Therefore, antenatal care in the UK is focused on the care of high-risk mothers only.

Until our research colleagues can find out what causes IUGR, and point the way to the problem being treated or avoided, we are left with the imperative to improve our ability to detect it antenatally, so that appropriate management strategies may be implemented.

Meanwhile, too many perinatal deaths are being falsely identified as being at high risk, with its attendant intensive antenatal investigations and maternal anxiety being engendered, before an actual normal pregnancy is confirmed. At the same time, two-thirds of mothers who actually have fetuses with IUGR, fail to have the problem detected antenatally. Many of these babies come to no harm when nature wisely induces labour, but those that do not occur, and stillbirth follows. With only 35% of fetuses with IUGR being diagnosed antenatally, perhaps we need to identify not who looks for the problem, but what means are used to detect it? (McKenna et al, 2003).

How do we detect IUGR? The National Institute for Health and Clinical Excellence (NICE) guidelines state that the problem starts right at the beginning. In the UK, pregnancies are divided at booking into low risk and high risk, and we are all appropriate caregivers, we do not accept the same premise for the fetus. If, rather, the estimated fetal weight is assessed to be less than the tenth centile, as denoted from whole population birthweight standards, the baby ‘may’ be on track and will be on the 11th centile, it is deemed to be normal. Around 70% of IUGR is undetected until delivery, while at the same time, for every three mothers where the problem was explained, only one will be confirmed (McKenna et al, 2003).
These three parameters were chosen as Proud and Grant (1987) showed that the identification of an inappropriately mature placenta occurs in 15% of cases at 35 weeks’ gestation, and this group of mothers has a higher PNM. Perhaps even more important was that they showed that by informing the auxecouches of this finding, and timely intervention being offered, the PNM of this ultrasonically-detected high-risk group could have their PNM reduced to that of the normal population. The association of oligohydramnios and an increase in perinatal mortality and morbidity has been known for 20 years. Estimating fetal weight by ultrasound seems a very obvious way of detecting IUGR.

Conclusion

Stillbirth should be an embarrassment to all of us who offer antenatal care. It is often unpredicted, potentially avoidable, shameful, and tragic, but rarely ‘unexplained’. There is no doubt that there is a well meaning, but misguided lobby that seems to be quite comfortable with this huge number of stillborn babies, and appears to accept that the number cannot be reduced.

The evidence is there that the vast majority of these babies can be saved, and by appropriate detection and timely delivery can lead perfectly normal lives. Perhaps what is needed is a trade-off, where we increase the number of appropriate interventions in all pregnancies, while at the same time reduce the amount of inappropriate interventions in truly identified normal pregnancies. Multidisciplinary, multicentred research is needed to find how best to do this.

Why are we in this sad situation? It is because the care of pregnant mothers in the UK is profession-centred, rather than mother-centred. If all low-risk mothers had low-risk fetuses, and high-risk mothers had high-risk fetuses, then the system whereby midwives look after apparently low-risk mothers and obstetricians look after high-risk ones, would work. Sadly nature is not like that. The system that we have in place in the UK does not account for nature’s low-risk mother with the high-risk fetus, and produces far too much interference for the allegedly high-risk mother with the low-risk fetus.

Obstetricians in the UK medicalise far too much. Each year we perform 100,000 inductions of labour for prolonged pregnancy, with all its attendant risks, to save 200 babies, when it would certainly be better to develop a system whereby we induced, perhaps 1000 mothers in order to save those babies.

Midwives normalise too much, for such is their desire to care for normal mothers that they keep examining them until they are normal. Pregnancies with problems need expert midwifery skills as much as pregnancies that have no problems. Pregnancies without apparent problems need expert medical skills to determine that they are such. All mothers should be looked after by both midwives and medics.

We owe it to mothers to stop dividing the spoils up largely based on apparent maternal risk at booking. Nature at her best is beautiful. Nature at her worst is lethal. We have the ability to know when to let her blossom, while at the same time stop her strangling some of her youngest and most beautiful flowers. We ‘must try harder’.

References


Routine screening and detection of fetal anomalies in a predominantly midwifery-led ultrasound service

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This paper was given at the Doctoral Midwifery Research Society (DMRS) meeting on 11 February 2008 at the University of Ulster. Please visit the DMRS website: www.doctoralmidwiferysociety.org

Abstract

Background. To assess the sensitivity of a routine ultrasound examination programme performed predominantly by midwives to detect fetal anomalies in an unselected population.

Setting. Tertiary referral centre in the Republic of Ireland with over 8000 births per year.

Methods. A total of 16,511 pregnant women had a routine ultrasound performed in a tertiary referral maternity hospital in Dublin and were eligible for analysis. All of the examinations were performed between 2004 and 2005 and were reviewed retrospectively. Postnatal ascertainment of birth defects was obtained by reviewing neonatal case notes and/or postmortem examinations from all infants born over 500g. The main outcome measure was the efficacy of a one-stage programme in detecting fetal anomalies.

Results. Altogether 389 infants were born with anomalies, giving an incidence of 2.3%. However, the number of infants born with an anomaly scanned by midwives was 229 giving an overall sensitivity of the midwifery-led ultrasound screening service of 57.2% (95% confidence interval [CI], 50.5 to 63.6). In total, 101 were detected in the second trimester, yielding a sensitivity of 46.8% (95% CI, 0.39 to 0.53) before 24 weeks’ gestation. A total of 98 infants remained undiagnosed (false negatives) with an additional two fetuses detected later in pregnancy, which gives an overall specificity of 99% and a positive predictive value of 100%. Almost all anomalies suspected were confirmed postnatally. The median gestational age at diagnosis was 22 weeks. The sensitivity for detecting anomalies ranged from 15% to 75% according to the fetal anatomical system.

Conclusions. Ultrasound is a powerful tool in fetal anomaly detection in an unselected population, even when checklists of the anatomical structures to be examined are not in use. The data demonstrate that routine ultrasound performed by midwives can achieve a sensitivity rate comparable with tertiary centres. However, a high specificity rate is influenced by whether soft markers are reported routinely.

Key words: Congenital anomalies, routine ultrasound screening, detection rates, midwifery, audit, sensitivity, specificity

Background

Recent decades have seen ultrasound revolutionise the management of pregnancy and its possible complications (Goldberg, 2000; Hemmingsway, 1991). Its contribution in this regard is uncontested (Bucher and Schmidt, 1993; Campbell et al, 1985; Elk-Nes et al, 1984; Nakling and Backe, 2005). Ultrasound screening for fetal anomaly has been the subject of much debate, (Levi, 2002) due, in part, to the broad range in detection rates (5.8% to 90%) that have been reported (Boyd et al, 1998; Boyd et al, 2004; Carrera et al, 1995; Chitty et al, 1991; Ewigman et al, 1990; Garne et al, 2005; Goncalves et al, 1994; Grandjean et al, 1999; Hagenfeldt et al, 1998; Levi et al, 1991; Nakling and Backe, 2005; Tabor et al, 2003). Major congenital anomalies have a significant impact on perinatal morbidity and mortality, and despite their low prevalence (2% to 4% of all births), they account for approximately 30% of perinatal deaths in the developed world (Grandjean et al, 1999). A systematic review of the effectiveness of ultrasound prior to 24 weeks’ gestation has found that a reduction in perinatal mortality secondary to screening is achievable under certain conditions, that is, if detection of fetal malformations is an important objective and a high level of diagnostic expertise exists and if termination of pregnancy for fetal abnormality is widely accepted in the population screened’ (Bricker et al, 2000: 11). Consequently, health service providers outside the Republic of Ireland offering screening for fetal anomalies also offer access to termination of pregnancy services to the couple, as ‘this knowledge allows them to prepare for the birth of their child, or to consider termination of pregnancy’ (Boyd et al, 1998: 1577).

The situation in Ireland is unique, and in order to provide context for the reader, an overview of the differences between the legal situation regarding abortion between mainland UK (Scotland, England and Wales), Northern Ireland and the Republic of Ireland will be highlighted. Termination of pregnancy is legally available in the UK and its regulation is addressed within the Abortion Act of 1967. Although several amendments to the Act have been made, section 1(1)(d) includes the situation where ‘there is a substantial risk that if the child were born, it would suffer from such physical or mental abnormalities as to be seriously handicapped. Because fetal abnormality is specified as a ground for termination of pregnancy, it suggests that a termination of pregnancy for serious abnormality can be offered legally without gestational restrictions.

The law relating to termination of pregnancy in Northern
Ireland differs from the rest of the UK as the Abortion Act of 1967 does not extend to Northern Ireland, and the relevant law is contained in sections 58 and 59 of the Offences Against the Person Act (Northern Ireland) 1967, and is interpreted with reference to the Bourne judgement (case of R v Bourne (1939)). Pregnancy in Northern Ireland is only legal if there is either a threat to the life of the mother or a risk of serious and real adverse harm to her long-term or permanent health. The presence of a fetal abnormality is not recognised as a specific ground for termination in the absence of a real and serious risk to the health of the pregnant mother.

The law in Ireland is even more restrictive, in that the right to life of the unborn has an equal right to that of the mother in the Irish Constitution (Government of Ireland, 1999). Article 40.3.3 states: "The State acknowledges the right to life of the mother or a risk of serious harm to the health of the mother.

Given the current situation, it is debatable as to whether fetal anatomical surveys should be offered routinely in Ireland (Byrne and Marmont, 1999), as there is considerable impact on perinatal mortality in the absence of termination of pregnancy (Bricker et al., 2000). However, the visual appeal of ultrasound to couples, withdrawal of a routine ultrasound service, advised against multiple pregnancy, multiple pregnancy and so on is, likely to meet with much resistance. However, the practice of offering a first trimester screening test for Down's Syndrome and the second trimester detailed scan (with detection of fetal anomaly as an imperative) in line with the National Institute for Health and Clinical Excellence (NICE) and UK National Screening Committee recommendations (National Collaborating Centre for Women’s and Children’s Health, 2008) is not readily adaptable to the Irish context. Hence, a situation exists where there is no national consensus or professional guidelines for practice. Therefore, it is unsurprising that an Irish survey of antenatal ultrasound services has shown that widespread variations in practices exist between the ultrasound pro-

Materials and methods

The ultrasound programme was a one-stage second trimester ultrasound offered to all women. Serum biochemistry was not performed routinely. Only 15 minutes were allocated to conduct the examination, which included introductions to the woman/couple, the ultrasound assessment and report writing. The standard procedure comprised biometric measurements of the bi-parietal diam-

Results

Since 1995, a routine second trimester USS has been offered by the hospital to all women. The routine ultrasound examination offers a low risk of carrying a baby with a fetal anomaly is performed by midwives. Fetal medicine specialists are involved in the care of women at high risk of carrying such a baby. The findings from the examination have been recorded prospectively in an USS database since 2000. A review of routine obstetric ultrasound examinations per-

Discussion

The prevalence of fetal anomaly in the hospital population was 2.34%. Infants born with an anomaly were diagnosed antenatally by midwives. Some 62 of the infants were diagnosed by fetal medicine specialists during nuchal translucency measure-

Definitions

Malformations were coded according to the anatomical system (see Table 2) and their likely clinical consequences (see Table 3) as proposed by ROGIC (1997).

Results

The prevalence of fetal anomaly in the hospital population was 2.34%. Infants born with an anomaly were diagnosed antenatally by midwives. Some 62 of the infants were diagnosed by fetal medicine specialists during nuchal translucency measure-

Table 1. Sample selection from hospital population

<table>
<thead>
<tr>
<th>Total population</th>
<th>Number</th>
<th>Number of infants born in the study</th>
<th>Number of infants born with a congenital anomaly</th>
<th>Number of infants born with a congenital anomaly scanned by ultrasound</th>
<th>Number of infants referred directly to fetal medicine specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of births</td>
<td>16,573</td>
<td>100</td>
<td>16,511</td>
<td>229</td>
<td>62</td>
</tr>
<tr>
<td>Number of births</td>
<td>16,573</td>
<td>100</td>
<td>16,511</td>
<td>229</td>
<td>62</td>
</tr>
<tr>
<td>Total population</td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>Number</td>
<td>Number</td>
</tr>
<tr>
<td>Total population</td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>Number</td>
<td>Number</td>
</tr>
<tr>
<td>Total population</td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>Number</td>
<td>Number</td>
</tr>
<tr>
<td>Total population</td>
<td>Number</td>
<td>%</td>
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</tr>
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<td>100</td>
<td>16,511</td>
<td>229</td>
<td>62</td>
</tr>
</tbody>
</table>
as soft markers were not reported routinely. A total of 20 women opted to travel to the UK and terminate pregnancy following diagnosis of the following anomalies: central nervous system (CNS) (n=8), gastrointestinal tract (n=2), musculoskeletal (n=5) and chromosomal (n=5) (see Table 3). Sensitivity of the second trimester ultrasound examination for fetal anomaly was 51.2% (95% CI, 44.7 to 57.7), if the 20 cases are included in the analysis. When they are excluded, sensitivity levels of 46.8% (95% CI, 0.39 to 0.53) were found. It can be seen in Table 2 that there were marked differences in the sensitivity for the different malformations based on anatomical system. In total, 101 anomalies (46.7%) were detected prior to 24 weeks’ gestation (median gestation of diagnosis 22 weeks). The most common defects identified were found in the renal system (32%), CNS (16%), musculoskeletal system (19%) and the gastrointestinal tract (12%). The lowest rate of detection was for cardiac anomalies (15.7%); however, those amenable to detection using a four chamber view were more likely to be identified than those requiring visualisation of the outflow tracts (see Table 2). There were no false positive tests. This is likely due to the fact that soft markers are not reported routinely. Confirmation of the anomaly on postmortem examination following termination of pregnancy (n=20) was not possible within an Irish context. Antenatal images of the defect were therefore examined by two of the authors (JL and NR) in order to classify the findings as true positives for statistical purposes. Some 98 infants remained undiagnosed falsely negatives, with an additional 17 anomalies identified later in pregnancy (that is, undetected at the second trimester scan, but subsequently identified when referred for ultrasound for an obstetric indication). The sensitivity of the second trimester scan ranged from 15.7% to 75% according to the fetal anatomical system (see Table 2). The prevalence of congenital anomalies was 2.3% when infants screened by fetal medical specialists were included, suggesting that postnatal ascertainment was likely to have been accurate. There were three twin pregnancies. In one case, both fetuses were affected by omphalocele-esthropley-imperforate anus-spinal defects complex. Of the two other cases, each had one affected and one normal fetus, one with anencephaly and one with obstructive uropathy.

There were 31 infants born with undetected chromosomal anomalies, 20 were diagnosed in pregnancy and offered karyotyping. A total of 17 were detected at the second trimester scan because of co-existing structural anomalies. Two infants born with trisomy 21 were detected after 24 weeks, due to the appearance of small bowel obstruction not evident at the second trimester scan, and one case of trisomy 18 was detected in a woman who booked late, indicated by the presence of structural anomalies.

Of the 17 cases where a second trimester scan was performed and the diagnosis made in the third trimester, two lesions were low sacral meningoceles with no cerebral signs. The case of ventriculomegaly was not evident on review of the second trimester images, suggestive of development post scan. There was one case of bowel dilatation due to meconium ileus, one case of cardiac arrhythmia and three cases of hydrenephrosis, which could also have developed after 24 weeks. With regard to the 13 women who booked after 24 weeks and did not have a routine second trimester scan, the following anomalies were identified: ventriculomegaly (n=2), arthrythmia (n=3), gastrointestinal (n=2), hydrenephrosis (n=3), hand deformity (n=1), trisomy 18 (n=1) and other (n=1). These women were offered a third trimester scan to assess fetal wellbeing, and predominantly to assess fetal weight.

For lethal anomalies, the overall sensitivity of detection was 74% versus 49% for anomalies associated with possible survival or long-term morbidity (see Table 3).}

### Table 2. Detection of congenital anomalies from a total of 16,511 fetuses (n=229)

<table>
<thead>
<tr>
<th>System</th>
<th>Total Detected</th>
<th>Total Identified</th>
<th>Sensitivity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNS</td>
<td>16</td>
<td>6</td>
<td>39.3</td>
</tr>
<tr>
<td>Pulmonary system</td>
<td>2</td>
<td>1</td>
<td>50.0</td>
</tr>
<tr>
<td>Cardiac system</td>
<td>3</td>
<td>1</td>
<td>33.3</td>
</tr>
<tr>
<td>Gastrointestinal system</td>
<td>32</td>
<td>7</td>
<td>31.3</td>
</tr>
<tr>
<td>Gastrointestinal abnormalities</td>
<td>15</td>
<td>2</td>
<td>30.0</td>
</tr>
<tr>
<td>Urinary tract abnormalities</td>
<td>19</td>
<td>6</td>
<td>31.6</td>
</tr>
<tr>
<td>Renal dysplasia</td>
<td>5</td>
<td>1</td>
<td>20.0</td>
</tr>
<tr>
<td>Renal agenesis</td>
<td>2</td>
<td>1</td>
<td>50.0</td>
</tr>
<tr>
<td>Obstructive uropathy</td>
<td>6</td>
<td>4</td>
<td>66.7</td>
</tr>
<tr>
<td>Total urinary tract</td>
<td>32</td>
<td>7</td>
<td>21.9</td>
</tr>
<tr>
<td>Skeletal anomalies</td>
<td>13</td>
<td>2</td>
<td>28.6</td>
</tr>
<tr>
<td>Dwarfism</td>
<td>13</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>Limb abnormalities</td>
<td>19</td>
<td>3</td>
<td>15.8</td>
</tr>
<tr>
<td>Absent long bones/limbs</td>
<td>15</td>
<td>2</td>
<td>13.3</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>1</td>
<td>33.3</td>
</tr>
</tbody>
</table>

**Note:** Some 17 anomalies were assessed at the routine scan and detected in the third trimester. A total of 13 women booked late (>24 weeks), in the absence of detection in the third trimester they are excluded from sensitivity calculations.
Table 3. Subgroups of fetal anomalies classified according to likely clinical consequences (n=16,511 births). They were classified using the four pragmatic groups of congenital anomalies proposed by the RCOG based on likely clinical consequences (RCOG, 1997).

<table>
<thead>
<tr>
<th>Anomaly</th>
<th>No fetuses discovered at screening/ total number with the anomaly</th>
<th>Prevalence per 1000</th>
<th>Termination outside Ireland (N)</th>
<th>Detection rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lethal anomalies</td>
<td>20/27</td>
<td>1.63</td>
<td>8</td>
<td>74</td>
</tr>
<tr>
<td>Hydropsplastic left</td>
<td>1/2</td>
<td></td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>Anencephaly</td>
<td>3/3</td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Lethal musculoskeletal</td>
<td>2/2</td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Bilateral renal agenesis</td>
<td>2/6</td>
<td></td>
<td></td>
<td>33</td>
</tr>
<tr>
<td>Trisomy 18</td>
<td>5/7</td>
<td>1</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Trisomy 13</td>
<td>4/4</td>
<td>2</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Triploidy</td>
<td>3/3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anomalies associated with possible survival/ long-term morbidity</td>
<td>50/99</td>
<td>6.0</td>
<td>9</td>
<td>49</td>
</tr>
<tr>
<td>Spina bifida</td>
<td>5/7</td>
<td>2</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Dandy-Walker anomaly</td>
<td>1/1</td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Congenital diaphragmatic hernia</td>
<td>2/3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCAM</td>
<td>1/1</td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Pleural effusion</td>
<td>0/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0/1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventriculomegaly</td>
<td>8/8</td>
<td>2</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Encephalocele</td>
<td>3/3</td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Cystic hygroma</td>
<td>1/1</td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Trisomy 21</td>
<td>4/28</td>
<td>1</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Turner’s Syndrome</td>
<td>1/2</td>
<td></td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>Complex cardiac abnormalities</td>
<td>6/17</td>
<td></td>
<td></td>
<td>27</td>
</tr>
<tr>
<td>Anterior abdominal wall defects</td>
<td>9/12</td>
<td></td>
<td></td>
<td>75</td>
</tr>
</tbody>
</table>

The data demonstrated that even when confirmation of gestational age is the primary purpose of the second trimester examination, obtaining biometric measurements to confirm/establish gestational age is inevitably led to the identification of fetal anomalies as demonstrated by an overall sensitivity for the second examination of 51.2%, ranging from 15% to 75% depending on the fetal anatomical system. These findings support the claim that ultrasound is a ‘powerful tool’ (Boyd et al, 1998: 1581), and although one may conduct the examination for a particular purpose, visualisation of the fetus can reveal much more information than fetal chromosomal anomalies detected with ultrasound alone. The organisation of the routine ultrasound clinic within the clinical site could also bias this result, as fetal medi- cine specialists work alongside the midwife ultrasonographers in the unit. It is possible that they may be requested to give an opinion regarding a variant which if normal is not recorded.

In relation to detection of anomalies associated with possible survival, 49% were detected antenatally comparing favourably with other studies (18.2% to 70.5%) (Chitty et al, 1991; Levi et al, 1991; Luck, 1992; RCOG, 1997).

Other non-physician-led services that adhere to checklists of fetal organs to be visualised have achieved a detection rate of 31.7% (Nakling and Backe, 2005) for anomalies associated with possible survival, demonstrating that this midwifery-led service compares favourably at 49%.

In relation to anomalies with short-term or immediate morbidity, fetal palpation and fetal movements accounted for 47% of this group. If the purpose of the examination was to move towards targeted fetal anomaly screening, this figure is likely to improve as anatomical views of fetal structures are extended. However, training in the detection of cardiac anomalies specifically would likely increase detection rates with an anticipated improvement in perinatal mortality/morbidity for this group of infants.

Conclusion

The data demonstrate that ultrasound is a valuable tool for the detection of congenital anomalies in an unselected population, but this may be further enhanced when checklists of the anatomical structures to be examined are in use. Some may question the value of assessing the effectiveness of a one-time USG programme, given that most centres have moved to a two-stage programme of first trimester screening for Down’s Syndrome and the second trimester routine fetal anomaly scan, in line with NICE guidelines (National Collaborating Centre for Women’s and Children’s Health, 2006). However, knowledge of the effectiveness of ultrasound as a screening tool in isolation is vital in situations where women refuse first trimester screening or attend too late to take up the offer of the test. In addition, there are many countries where targeted detection of fetal anomalies in combination with first trimester screening culminating in termi- nation of pregnancy may not be acceptable to the population or indeed to the state. To determine the feasibility and benefits of extending the purpose of the examination to include a fetal anatomical survey requires consideration, as management options after diag- noses are limited. Any potential guideline developed for the pur- poses of national implementation must be culturally acceptable.
support a uniform approach to screening and ensure equity and access for all pregnant women receiving care in each maternity unit. Seeking both parents’ and clinicians’ views in this area is critical to future service development. Since this review was undertaken, additional time has been allocated to the examination when planning the development and provision of prenatal screening programmes in the future, as detection rates for congenital anomalies in the midwifery-led service are comparable with other tertiary centres.

References

Vaginal or caesarean delivery? How research has turned breech birth around

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Abstract
Background. Breech presentation, where a baby is buttocks or feet first rather than head occurs in about 3 to 4% of singleton pregnancies at term. Worldwide, the vast majority of babies identified as breech are now delivered by planned caesarean section.

Aim. To identify relevant published research evidence relating to vaginal and caesarean breech birth and then to discuss the evidence, subsequent controversy and clinical implications that have influenced an ongoing obstetrical debate.

Method. A structured literature review was undertaken using the Cochrane Library, CINAHL, EMBASE and MEDLINE databases. Different permutations of ‘breech’ (‘frank’ or ‘complete’ or ‘extended’ or ‘flexed’) and ‘vaginal’ or ‘caesarean’ (‘cesarean’ or ‘cesarian’ or ‘caesarean’) and ‘term’ and ‘singleton’ in the title, key words or abstracts were the terms used.

Results. Over the last 50 years, there has been an increasing trend toward the routine use of caesarean section as a preventive way of reducing the poor outcomes associated with breech presentation. Research evidence has also played a pivotal role in influencing the routine use of caesarean breech birth and, in particular, a single research trial, the Term Breech Trial (TBT) has substantially influenced current policy and practice. There is no other area of research that has such an impact upon clinical practice in such a short period of time.

Conclusions. The speed and extent to which the recommendations of the TBT were implemented has given rise to new controversy surrounding the safety of breech birth, while raising important questions about how the findings of research are used in practice.

Key words: Breech presentation, safety of breech birth, vaginal delivery, caesarean delivery, research evidence, Term Breech Trial, dissemination

Introduction
It is imperative that midwives have a good knowledge base and awareness of the best available evidence to enable them to discuss with women the benefits and risks of vaginal versus caesarean birth for breech presentation. Fortunately, the majority of babies are a cephalic presentation at term, with only 3% to 4% presenting in the breech position (Royal College of Obstetricians and Gynaecologists, 2006). A presenting breech fetus may be in one of the following three positions:

- Extended or frank breech – hipsflexed, with the thighs against the chest, and feet up by their ears
- Flexed or complete breech – hips flexed with thighs against the chest, but knees also flexed with the calves against the back of the thigh and feet just above the bottom
- Footling breech – as above, but hips not flexed so much, and the feet lying below the bottom.

The most common breech position is the extended or frank breech, the prevalence of which has been estimated to be 65% of all breech presentations (Banks, 1998).

The purpose of this paper is to identify relevant research evidence relating to vaginal and caesarean breech birth and then to discuss the evidence, subsequent controversy and clinical implications that have influenced an ongoing obstetrical debate.

Search strategy
At present, there is an ongoing obstetrical debate regarding the evidence to support the most safe and effective mode of delivery for breech presentation. The debate instigated the authors to carry out a search of the published literature and the implications this has had on clinical practice over the last 50 years. Literature was identified by systematically searching the Cochrane Library (Issue 2008), CINAHL (1982 to 2008 week 5), EMBASE (1980 to 2008 week 5) and MEDLINE (1950 to 2008 week 5). Different permutations of ‘breech’ (‘frank’ or ‘complete’ or ‘extended’ or ‘flexed’) and ‘vaginal’ or ‘caesarean’ (‘cesarean’ or ‘cesarian’ or ‘caesarean’) and ‘term’ and ‘singleton’ in the title, keywords or abstracts were used. The search strategy was specifically designed to identify research studies and commentary papers relating to the controversy surrounding...
whether breech presentations should be delivered vaginally or by planned caesarean section (CS). The search strategy identified a total of 324 papers, of which 122 duplicates. A total of 47 research papers were identified: four reviews, nine report- ing the findings of randomised controlled trials (seven of these relating to the Term Breech Trial (TBT)), six prospec- tive studies, 28 retrospective studies. A total of 87 papers were commentaries discussing breech birth and the con- troversy surrounding breech presentation and vaginal or caesarean delivery.

Breech presentation

Breech presentation is more common when:
- The woman has had a previous pregnancy with a breech presentation
- It is a multiple pregnancy (twins or more)
- Amniotic fluid is either too much or too little
- Shape of uterus is abnormal
- Abnormal menopause in the uterine wall (fibroids)
- Placenta previa
- Prematurity (American College of Obstetricians and Gynecologists, 2007; RCOG, 2006).

There is evidence to suggest that a breech presentation is associated with higher risks than a cephalic presentation (Albrechtsen, 1998). Higher risks such as congenital ab- normalities, birth asphyxia and birth injury have been re- ported (Fritchard and Macdonald, 1988; Cheng and Han- nah, 1993). In addition, a higher rate of cord prolapse has recently been reported in non-frank breech presentations (Broche et al, 2005). Therefore, in particular, a foetal or per- flexed breech presentation is regarded as unfavourable for a vaginal breech delivery (RCOG, 2006). In general, a breech presentation irrespective of mode of delivery is as- sociated with an increased risk of subsequent infant phys- ical or mental disability (Danielsen et al, 1996).

Breech birth

Independent midwife Mary Cronk has suggested that if the labour progresses spontaneously, (that is, the contrac- tions come often, last longer, get stronger, the cervix ef- fects and dilates, and the breech descends through the pelvis) the baby will be born. If this does not happen there is no place for augmentation, that is, trying to push the baby through the pelvis with contractions driven by oxytocin drugs. Nor is there any place for trying to pull breech babies through the pelvis with managed breech extrac- tions. Labours that do not progress are telling us that the baby should be born by CS (Cronk, 1998). The RCOG has recommended that a CS should be considered if there is a delay in the 2nd labour phases and 50% of CS are done at any stage in the overall rising CS rates. In 2000, the national CS rate for England was reported as 21.3%, with breech presen- tation as the primary indication for 10% of all caesareans performed (RCOG, 2001). General practitioners and Ca- serean Section Audit (RCOG, 2001) found that overall, 88% of breech presentations were delivered by CS (56% of these were planned and 44% were emergency). Statisti- cals have shown and it has been suggested by Alarab et al (2004) that the increasing use of CS for breech presenta- tion, particularly for primigravida women was already happening prior to evidence from randomised trials that the benefits outweighed the risks.

There were two randomised controlled trials of vaginal versus caesarean delivery for breech presentation under- taken in the northern part of Australia (Colles et al, 1980; Gimmovsky et al, 1983). A Cochrane review of planned CS for term breech delivery (Hofmeyr and Hannah, 2003) includes both of these trials, however the majority of the data in this review is from breech presentations undertaken were re- ported from Hannah et al (2000) in a large, multi-centred RCT – the TBT.

The Term Breech Trial (TBT)

The widely known TBT was a multi-centred trial of planned CS versus planned vaginal birth for breech presentation at term. It was undertaken at 21 centres in 26 countries, with 2089 women randomised: 1041 in a frank or complete breech presentation – they were randomly-assigned planned CS or planned vaginal birth. The primary outcomes were pereonatal mortality, neonatal mortality, or serious neonatal morbidity. There are several publications reporting the findings of this trial. These include the primary paper, which re- ported the results at delivery (Hannah et al, 2000), papers reporting outcomes at three months (Hannah et al, 2002) and papers reporting maternal and child outcomes at two years (Hannah et al, 2004; Whyte et al, 2004). There is also a paper reporting the financial costs of planned caesarean section versus planned vaginal birth in the TBT (Palencia et al, 2006).

The primary paper from the TBT was published in Oc- tober 1998, the breech babies, 2088 women, were randomised with the trial for the was to be 2800 women. However, following an interim analysis on the first 1600 women randomised, an independent data monitoring committee recommended that recruitment be stopped early owing to a significantly higher event rate than expected. Of the 1041 women as- signed to the planned caesarean group, 941 (90.4%) were delivered by CS and of the 1042 women assigned to the planned vaginal birth 591 (56.7%) delivered vaginally.

An intention to treat analysis of the findings reported that perinatal mortality, neonatal mortality or serious ne- onatal morbidity was found to be significantly lower in the planned CS group compared with the planned vaginal birth group (17 of 1039 (1.6%) vs 52 of 1039 (5%)). There was no difference reported between the two groups in terms of maternal mortality or serious morbidity (41 of 1041 (3.9%) vs 33 of 1042 (3.2%).

Impact of the TBT findings

Within a few months, the TBT had transformed obstet- ric opinion and practice. The TBT has been described as having "rarely in medical history has the results of a single research study so profoundly and so ubiquitously changed practice'. For example, within two months fol- lowing publication of the primary paper from the TBT, the overall CS rate for breech presentation in the Nether- lands was reported to have increased from 50% to 80% (Reilgberg et al, 2003). Moreover, in the Australian state of New South Wales, the rate of vaginal breech birth de- clined from 17% in 1999 to 14% in 2000 and 4.5% in 2001 (Roberts et al, 2004). In a survey of all obstetricians practising in Australia and New Zealand, 95% of centres were routinely offering vaginal breech birth for uncomplicated singleton breech pregnancies prior to the publication of the TBT, after which this rate declined to 20% (Phipps et al, 2002). A survey of term breech trial collaborators, from 80 countries in 23 countries, reported a 92.5% changed rate in clinical practice to planned caesarean birth for all term breech babies (Hogle et al, 2003). In 2001, the American College of Obstetricians and Gynecologists recommended a planned CS for women with a persistent breech presenta- tion and in the UK, the RCOG (2001) also recommended the planned CS as the treatment for an extended or frank breech presentation in its guidelines. However, since then considerable debate and some criticism around the clini- cal conduct of the TBT, interpretation of the findings and the applicability of the findings to clinical practice have been voiced. The RCOG has recently published a more bal- anced set of guidelines to incorporate these concerns and evidence produced since the TBT (RCOG, 2006).

Controversy surrounding the TBT

Roberts et al (2004) stated 'that decades of controversy over the safe management of breech birth at term were re- solved by the Term Breech Trial'. However, the following seven and a half years since the first TBT publication have given rise to new controversies about both vaginal breech birth and planned CS.

When undertaking research there is usually a consider- able time lapse between the research study being under- taken, interpreting the findings and the report being placed in the public domain. However, this has not been the case with the TBT. The primary paper was fast-tracked for pub- lication in The Lancet and appeared in print six months after recruitment stopped. This fast-tracking approach and perceived success of the TBT (Hannah et al, 2000; Keirse and Shennan, 2007). One of the original reviewers Susan Belewly did recommend in view of the importance of the results that it was not fast-tracked until detailed queries were sent to every participating centre. These included clin- ical findings and implications for resource-rich and poor countries. Peer-reviewing, however, is subject to all the pitfalls of any judgement process and Bewley and Shenn- nan (2007) have suggested that fast-tracking should only be appropriate when there is unanimous support from all peer-reviewers. It is well recognised that all studies inevi- tably have limitations and it would have been helpful for the TBT to have had a confounding factor or two. It is possible that the possibility of variation in study selection criteria, skill of the operator and optimal care, as much of the debate is now around these issues.

The main criticisms of the TBT appear to be on the clinical conduct of the study (in the majority of par- ticipating centres), the interpretation and applicability of the results. Acknowledgement of these limitations of the TBT by the researchers might have reduced the subsequent controversy that has now arisen.

The limitations that have been highlighted by some critics include:
- Violation of inclusion criteria
- Incompatible variation of standard of care between par- ticipating centres
- Most neonatal mortality were not related to mode of delivery
- Conclusions that were based on various categories of neonatal morbidity
- Problems associated with labour, not mode of delivery

Keirse (2002) claimed that study guidelines ‘doomed’ vagi- nal delivery from the start, an assertion forcefully refuted by actual findings reported (Hannah et al, 2000).

The seventh annual report of the Confidential Enquiry into Stillbirths and Deaths in Infancy (CESDI) highlighted the most avoidable factor in causing breech stillbirths and death among breech babies was suboptimal care in labour, in particular, with respect to the assessment of fetal well- being (Confidential Enquiry into Stillbirths and Deaths in Infancy, 2000).

Many of the 121 centres involved in the TBT were in North America, where 13% of breech presentation at term was delivered vaginally (Lee et al, 1998). However, individ- ual centres rates of vaginal delivery at baseline were not reported, but the TBT achieved an overall successful vaginal birth delivery rate of 57% by asking those centres with vaginal birth rates under 40% in the labour group to increase their rates to above 40% (Hannah et al, 1996).
blias (Kotaska, 2004). Glezerman (2006) has recently suggested the need for another trial as the results obtained in the TBT were not meaningful, because the inadequate clinical set up and the two-year follow-up study results are in contrast to the earlier findings.RCTs do improve the quality of evidence to guide clinical practice, but when applied to complex phenomena they have limitations (Deering et al, 2007). Therefore, it has challenged the randomised trial methodology as an inappropriate method to use when evaluating complex phenomena and case studies of vaginal breech birth.

Implications for clinical practice

CS is not without risks, but has the pendulum swung too far towards routine CS for breech presentation? It is what many obstetricians, policy-makers, midwives and women have accepted this intervention and it has become routine practice. The long-term outcomes are unknown and the world is adapting this practice as routine need to be considered. How many countries can sustain a planned CS policy for breech presentation and for how long? The risks and benefits debate is ongoing and much of the challenges and criticisms have come from other parts of the world.

While Reilberg et al (2005) report a policy of routine planned CS, which has been followed by improved neonatal outcomes, Schulte et al (2007) assert that planned CS for breech presentation does not guarantee the improved outcome of the child and may increase risks to the mother. The Dutch Maternal Mortality Committee registered and evaluated four maternal deaths following planned CS for breech presentation from 2000 to 2002 – 7% of the total direct maternal mortality in that period (Schulte et al, 2007).

By choice or default, vaginal breech births will continue to take place, which means attention is still warranted to skills and techniques that may improve outcomes for the baby. It is now apparent that midwives and obstetricians have become ‘deskilled’. RCGO (2006) guidelines recommend vaginal breech delivery should be undertaken in a consultant-led unit with theatre facilities and experienced personnel. However, if the majority of women have a planned CS, this raises the clinical dilemma as to how this experience is gained. Literature from the Netherlands reports the lack of opportunities for practitioners to gain the skill to undertake vaginal breech deliveries. In the UK, to address this deficit, emergency skill drills and simulation training have been introduced using videos, models and scenario teaching (RCOG, 2006). Simulation training has been shown to improve performance in the management of a simulated vaginal breech delivery (Clinical Negligence Scheme for Trusts criterion 5.2.1, Deering et al, 2006).

The research concerning TBT has certainly made a huge impact on omena management and mode of delivery throughout the world and there is no other area of research that has had such an impact in such a short period of time.

Conclusions

There is evidence to suggest that a breech presentation is associated with higher risks than a cephalic presentation, and that the most important factor in causing breech stillbirths and death among breech babies is sub-optimal care in labour, in particular, with respect to the assessment of fetal wellbeing. A breech presentation, irrespective of mode of delivery is associated with an increased risk of subsequent infant physical or mental disability. Nevertheless, the vast majority of babies identified as breech are now delivered by planned CS. Over the last 50 years, there has been a growing trend toward women having a caesarean section when a breech presentation has been diagnosed as a way of reducing the poor or avoidable associated such presentation. Controversy surrounding the best approach by which to deliver breech babies has coincided with and contributed to the overall rising CS rates over the last 50 years. Evidence from the TBT and a Cochrane review impacted greatly on the shift towards CSs being performed when breech presentation was diagnosed. The findings from the trial and review reported better outcomes for the baby when a planned CS was performed, compared with a vaginal breech birth. However, there is an ongoing debate around the validity of these findings and in general, the risks of CS upon the woman’s health, as it is associated with morbidity, mortality, and risks to subsequent pregnancies.

The main criticisms of the TBT appear to be centred on the clinical conduct of the study in the majority of participants and the interpretation and applicability of the results. Acknowledgement of these limitations by the researchers might have reduced the subsequent concerns.

Li et al (2007) have stated and went on to which the recommendations of the TBT were implemented has to be considered, as there is no other area of research that has had such an impact upon clinical practice in such a short period of time. There appears to be an urgent need to publish and disseminate the findings, even when a peer-reviewer recommended not to ‘fast-track’ publication until detailed queries were addressed, in particular, issues around clinical findings and implications for resource rich and poor countries. It appears research, publication and clinical biases have all played a role in the transformation of obstetric practice and in influencing the routine use of caesarean birth.
Midwife and nurse responses to miscarriage, stillbirth and neonatal death: a critical review of qualitative research

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Abstract
Background. Miscarriage, stillbirth and neonatal death are not uncommon events within the UK. There is substantial evidence that parents experience such loss as intensely painful (Gold, 2007), yet there appears to be little recognition of the potential impact on the caregivers. Indeed, state guidelines encouraging practice to the bereaved family (Kohner, 2007) and that the intensity of loss experienced by the family. Further research using phenomenological methods, and more explicit use of current psychological models to understand staff distress is warranted.

Key words: Midwife, pregnancy loss, staff stress, professional grief/loss, staff reaction/morbidity, psychological distress

Introduction
Miscarriage, stillbirth and neonatal death are not uncommon events in the UK, with 15% of known pregnancies ending in miscarriage. Ten infants are born stillborn each day and 11 die neonatally (Stillbirth and Neonatal Society (SANS), 2006; UK Statistics Authority, 2007). There is substantial evidence that parents experience this loss as intensely painful (Gold, 2007), that their experience and needs vary widely (Kohner, 2007) and that the intensity of loss experienced differs depending on the gestation of the infant (Gold, 2007; Lasker and Toedter, 1994; McCreight, 2005; Mander, 2006). At this very difficult time, grieving parents value the emotional support and focused attention provided by staff for mother and baby (Gold, 2007; Lasker and Toedter, 1994). Department of Health guidelines recognise the need for families to be adequately supported. They encourage staff to engage with families emotionally and respond empathically, as well as undertaking diverse practical tasks encompassing rituals to support parental grief, discussion of funeral or disposal arrangements and completion of paperwork (Kohner, 2007).

The challenging nature of this work, in its complexity and emotional tenor, may have a personal impact on the staff member involved, and while each loss is unique and devastating for the family, it may be a reassuring experience for staff. Staff may be required to set aside their own responses and simultaneously manage the varying tasks demanded by their work context and the grieving family. The balancing of these roles has been recognised as potentially precarious for the staff member, with withdrawal from the family being noted as not uncommon (Deeks et al., 2000), but possibly compromising the needs of the bereaved family.

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Greater understanding of the impact of loss in these contexts can acknowledge the experience as a sad part of life (Papadatou, 2001), but can also ensure that mechanisms are in place to support staff and enhance quality of patient care, hence the current review.

Neonatal ‘has been used to describe both perinatal and neonatal loss. The ‘perinatal’ period is defined in diverse ways and appears to relate to between the 20th and 28th week of gestation ending seven to 28 days after birth. ‘Neonatal’ relates to the period four weeks after birth. A neonatal loss involves the loss of an infant who is deemed to be alive immediately following birth.

Aims
The aim of this review is to explore what is known about the psychological responses of midwifery and nursing staff to miscarriage, stillbirth and neonatal loss in their workplace.

The review critically examines published evidence relating to psychological responses to dealing with neonatal death in the workplace, focusing on midwifery and nursing staff, synthesising the literature to produce a robust review beyond a descriptive account. Quantitative studies were initially considered to form part of the review and were screened accordingly (Deeks et al., 2003); however, none provided sufficient data to merit inclusion. This review therefore focused on the studies using qualitative methods.
Table 1. Summary of data analysis process

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Sample</th>
<th>Method of data collection</th>
<th>Method of data analysis</th>
<th>Coherent epistemological position</th>
<th>Theoretical perspective</th>
<th>Reflexivity</th>
<th>Quality issues</th>
<th>Transferability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gardner (1999)</td>
<td>37 UK 33 Japanese 44 US midwives</td>
<td>Open-ended questionnaires developed through pilot and staff discussion</td>
<td>Content analysis – limited detail</td>
<td>None</td>
<td>Grief</td>
<td>None</td>
<td>T</td>
<td>I</td>
</tr>
<tr>
<td>Farell et al (2006)</td>
<td>46 neonatal nurses</td>
<td>Open-ended questionnaires developed through pilot and staff discussion</td>
<td>Thematic content analysis</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>T S Q C</td>
<td>I</td>
</tr>
<tr>
<td>Raeside (2000)</td>
<td>76 nurses/midwives Scotland</td>
<td>Quantitative questionnaires with some qualitative questions asked</td>
<td>Content analysis – limited detail</td>
<td>None</td>
<td>Grief</td>
<td>Consideration of participant researcher</td>
<td>C D E S T Q X</td>
<td></td>
</tr>
<tr>
<td>Yam et al (2001)</td>
<td>Ten midwives Hong Kong</td>
<td>Semi-structured interviews</td>
<td>Content analysis – unelided expressions exclusive</td>
<td>None given</td>
<td>Work stress</td>
<td>None</td>
<td>T Q C E I</td>
<td></td>
</tr>
<tr>
<td>Walpole (2002) Australia</td>
<td>Eight midwives randomly selected from a pool of 20</td>
<td>Five researchers conducted an hour semi-structured interview</td>
<td>Thematic analysis of interviews, transcripts and themes</td>
<td>Phenomenological framework</td>
<td>Considered situational context and internal world of midwife</td>
<td>Implicit discussion of midwife grief</td>
<td>No consideration of impact of participant researchers</td>
<td>E A</td>
</tr>
<tr>
<td>Begley (2003) Republic of Ireland</td>
<td>50 student midwives</td>
<td>Triangulation of data from group and individual interviews and diaries</td>
<td>Thematic analysis – respondent validation</td>
<td>Phenomenological framework</td>
<td>Hermeneutic collaborative approach</td>
<td>None</td>
<td>Researchers own position considered: no reflections on research process</td>
<td>None</td>
</tr>
<tr>
<td>McCrae (2005)</td>
<td>14 nurses</td>
<td>Semi-structured interviews</td>
<td>Content analysis without evidence of process</td>
<td>Collaborative exploration of contracts</td>
<td>Emotional labour</td>
<td>None</td>
<td>S D E C I</td>
<td></td>
</tr>
<tr>
<td>Nallen (2006/07)</td>
<td>18 midwives</td>
<td>Focus group discussions until data saturation – three took place</td>
<td>Thematic content analysis using the CKS framework</td>
<td>None</td>
<td>None</td>
<td>Researcher’s position. No information on research as process</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Summary of the thematic content analysis

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>Title</th>
<th>Stated aims</th>
<th>Themes</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gardner (1999)</td>
<td>To study cultures of care extrapolated from midwives’ experiences of perinatal death.</td>
<td>1. Issues that concern nurses when working with a family 2. Nurses’ grooming strategies 3. Needs of colleagues who work with bereaved 4. Affirmation working with bereaved</td>
<td>1. Caring for bereaved families has tremendous impact on staff 2. Staff experience grief and feel they lack knowledge about the grieving process and bereavement care 3. Staff report communication difficulties with families from cultural minorities 4. Staff need spiritual, psychological and emotional support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farell et al (2000)</td>
<td>Exploration of nurses’ experiences and attitudes towards physical appearance of dying infant and impact on their engagement with those bereaved</td>
<td>1. Nurses’ attitudes reflect societal attitudes and values 2. Nurses’ stress when caring for dying infants 3. Nurses’ stress when supporting parents of dying infants 4. Nurses experience difficulties in meeting their own needs 5. Lack of support from colleagues</td>
<td>1. Nurses experience difficulties in caring for infants of abnormal appearance 2. Where physical appearance abnormal, nurses experience cognitive dissonance and perceive less support from colleagues 3. Nurses feel inadequate in supporting parents and relating to the infant</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Professional to display emotions, it was unclear from quotes how the researcher had determined that ‘emotion work’ offered a valid explanation of the nurses’ responses. The lack of transparency undermined assessment of systema- Systematicity

The majority of papers reviewed provided insufficient detail regarding theme generation. Where theme generation was well articulated (Walpole, 2006), it remained unclear how researchers achieved consensus agreement or how external validation was sought. The two papers identified issues of reliability and validity (Walpole, 2002; Begley, 2003) and seek triangulation of data, potentially at odds with a phenomenological perspective. The remaining papers lacked the information to judge credibility issues. Credibility

Use of data papers reviewed tended to omit information regarding cases that deviated from identified themes. While some papers (Nallen, 2006; Raeside, 2000) were explicit about ensuring that all data were included, some appeared to remove case deviations without rationale (Yam et al, 2001).
The majority of papers failed to address transferability issues explicitly. Most papers cautioned against generalisation given the sample size, yet go on to make recommendations to the wider midwifery or nursing community despite the qualitative paradigm used and circumscribed numbers of participants involved. Given these methodological vulnerabilities, there were some difficulties establishing meaningful weighting criteria for the findings without privileging only a few papers. The reviewers are therefore cautious when appraising the themes and conclusions generated. However, despite the lack of systematicity, themes generated within the papers share significant commonality allowing some confidence in the overall findings.

Impact for staff

Themes relating to the personal and adverse impact for staff were common to all of the papers and appeared to manifest in psychological, emotional and physical symptons (Gardner, 1999; Farrell et al, 2000; Raeside, 2000; Yam et al, 2001; Walpole, 2002; Begley, 2002; Nallen, 2006). Staff consistently alluded to the need to manage their responses actively and the difficulty and ambivalence associated with being a professional person. There appeared to be dissonance surrounding what constituted acceptable or professional displays of emotion, while trying to ensure any response was contained and appropriate. While empathising by sharing personal responses could be rewarding (McCreegnt, 2003), more frequently staff described feeling ‘awful because they cried with the patient’ (Raeside, 2000) and experienced staff had relayed how this ‘sort of behaviour’ was considered inappropriate.

Professional behaviour

Understandingly, midwifery and nursing staff found that the pursuit of physical care offered a zone of competence they could exercise, and drew strength from operating at this level (Walpole, 2002; Nallen, 2006). Nevertheless, most studies emphasised the need for staff to deliver psychological care, be it through basic counselling skills or more active interventions with the bereaved families, yet frequently feeling ill-equipped to do so (Gardner, 1999). Unsurprisingly, when faced with role uncertainty and a perception that they were not competent to deal with potential overwhelming material and emotion, staff retreated and withdrew. Conversely, successful interactions were reported to enhance self-efficacy (Gardner, 1999; Begley et al, 2003), yet advance planning is difficult. Losses can be unpredictable and staff must react to diverse losses being experienced by the bereaved in different ways, perhaps exacerbating what is already a difficult time and contributing to staff uncertainty of what to say and do to provide optimal psychological care.

Coping

Despite respondents in all studies discussing the difficulties implicit in their work, they reported ways of mitigating stressors. Personal coping activities were reported, using both cognitive strategies (rationalising the loss, reflection and acceptance) (Gardner, 1999; Farrell et al, 2000) and behaviour-al self-management (such as time away from work) (Nallen, 2006, 2007). Studies consistently articulated coping strategies contingent on relationships both within and outside the workplace. The former encompassed relating to peers for de-briefing in the period immediately after loss, more general collegial support and disclosure, and the relationship with the bereaved family by sharing losses, and the latter included accepting role uncertainty and meaning; however, this lack may have reinforced the concept of support tended to be somewhat nebulous and lacking in specificity, its consistent request does imply some form of unmet need.

Implications of findings

The review suggests that it is not just families who experience significant distress in response to neonatal death, but staff experience distress also, with immediate impact, and long-termer resonance. While the phenomenon is consistently described there is little attempt to frame experiences within models of staff distress, other than with reference to a grieving process that may not be appropriate. Organisational models of stress seemed little considered, which may be an artefact of methodologies focusing on personal experience and meaning; however, the lack may have forced staff appraisals that their emotional responses were invalid and signified unprofessional behaviour. This is certainly articulated in the studies, as is the absence of support for staff distress, which apparently recognised by the healthcare system. There is growing awareness of the emotional and cognitive repercussions of staff exposure to distressing events and engagements in the workplace, evidenced by a burgeoning literature on occupational stress (Firth-Cozens and Payne, 1999) and increasing understanding of secondary or vicarious traumatisations (McCann and Pearlman, 1990; Sabin-Farrell and Turpin, 2003). Although indirect, this

Table 2. Taxonomy of findings

<table>
<thead>
<tr>
<th>Theoretical descriptors</th>
<th>Grief – for the family, for yourself</th>
<th>Emotional Labour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal impact</td>
<td>Feelings – Distress, anger, helplessness, frustration, overwhelmed, ambivalence</td>
<td>Physical symptoms – Increased arousal, drained</td>
</tr>
<tr>
<td>Professional impact</td>
<td>Care – easier than psychological care, benefit of activity, secondary to counselling role</td>
<td>Interaction with family – Painful, blurred boundaries, avoidance/withdrawal, reciprocity, positive, success interacting increasing confidence, reflected by societal values</td>
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</table>

Table 3. Continued summary of the thematic content analysis

<table>
<thead>
<tr>
<th>Author (year)</th>
<th>Stated aims</th>
<th>Themes</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wallbank S, Robertson N. (2008) Midwife and nurse responses to miscarriage, stillbirth and neonatal death: a critical review of qualitative research. Evidence Based Midwifery 6(3): 100-106</td>
<td>Inference of effects of perinatal loss in second or third trimester on midwives</td>
<td>Staff respond personally</td>
<td>1. Vested support comes from colleagues</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Staff respond professionally</td>
<td>2. Need for education on grief processes and counselling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coping strategies</td>
<td>3. Minimise care for bereaved and non-bereaved parents simultaneously</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mitigating the impact.</td>
<td>1. Emotional labour of nursing care</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Inarticulateness</td>
<td>2. Tears</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Ambivalence about care delivered</td>
<td>3. Crying like a fool</td>
</tr>
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<td>3. Crying like a fool</td>
<td>1. Potential role for reflective practice to support nurses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. Being empathic requires potential for painful emotional engagement with parents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Tears</td>
<td>1. Bereavement during childbirth one of the most challenging aspects of midwifery practice</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Knowing what to say</td>
<td>2. Recognition that midwife can shape long-term neonatal outcomes for parents</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. Regular review of midwives’ needs to ensure they are equipped for challenge</td>
</tr>
</tbody>
</table>

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Table 3. Taxonomy of findings

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review evidence might suggest that painful engagement with bereaved families could be constructed in these terms. Given enhanced models to explain staff distress, it is timely to evaluate whether staff exposed to the repeated psychological pain of bereaved families, are themselves traumatised (Gold, 2007; McCreight, 2005; Mander, 2006) and might also suffer. Organisations have a duty of care to employees and in this capacity can become more aware of the potential for psychological change that could compromise patient care while considering how they can improve investment in staff.

In many of the papers, conclusions drawn from the evidence focus on the demands placed on staff and the inadequate support currently provided. Additional qualitative research embracing anthropological and sociological perspectives, seeking saturation, using sampling methods to challenge emerging themes and seeking out negative cases, could test the robustness of findings reported here as could further external review. Further research can build on these qualitative studies to provide greater detail on the prevalence of distress within current health and organisational psychological models. Such research can provide quantitative detail of the extent and type of difficulties faced by staff delivering this challenging facet of care. It can also suggest evidence- and theoretically-based interventions. These can both acknowledge emotional responses to the bereaved, thus normalising rather than pathologising staff responses, and can help evolve stepped, supportive interventions for staff who will have varying needs at different times throughout a career. In this way staff can truly be enabled to adhere to national guidance, and maintain empathic, engaged and emotionally congruent care, to help families at a most difficult time, without detriment to themselves.

References

Information for authors

Evidence Based Midwifery is published quarterly and aims to promote the dissemination, implementation and evaluation of midwifery evidence at local, national and international levels. Papers on qualitative research, quantitative research, philosophical research, action research, systematic reviews and meta-analyses of qualitative or quantitative data are welcome. Papers should be sent to: emma.godfrey@redactive.co.uk in MS Word, and receipt will be acknowledged. Suitable papers are subject to double-blinded peer review of academic rigour, quality and relevance. Subject area and/or methodology experts provide structured critical reviews that are forwarded to authors with editorial comments. Expert opinion on matters such as statistical accuracy, professional relevance or legal ramifications may also be sought. Major changes are agreed with authors, but editors reserve the right to make modifications in accordance with house style and demands for space and layout. Authors should refer to further guidance (RCM, 2007; Sinclair and Ratnaike, 2007). Authorship must be attributed fully and fairly, along with funding sources, commercial affiliations and due acknowledgements. Papers that are not original or that have been submitted elsewhere cannot be considered. Authors transfer copyright of their paper to the RCM, effective on acceptance for publication and covering exclusive and unlimited rights to reproduce and distribute it in any form. Papers should be preceded by a structured abstract and key words. Figures and tables must be cited in the text, and authors must obtain approval for and credit reproduction or modification of others’ material. Artwork on paper is submitted at the owner’s risk and the publisher accepts no liability for loss or damage while in possession of the material. All work referred to in the manuscript should be fully cited using the Harvard system of referencing. All sources must be published or publicly accessible.

References


News and resources

Antenatal screening study

A study aimed at helping parents make more informed decisions on antenatal screening has been carried out by Dr Heather Skirton from the University of Plymouth and the University of Ulster's Dr Owen Bar.

Focus group meetings were held with prospective parents and healthcare professionals and questionnaires were completed by 111 parents and 78 midwives across the UK.

The researchers made a number of recommendations including the need to use visual as well as written formats to communicate information on antenatal screening to parents. It should also be made clear to prospective parents that the ultrasound scan might detect problems with the pregnancy. More information can be obtained by contacting Dr Skirton at: heather.skirton@plymouth.ac.uk

RSM meeting

The maternity and the newborn forum of the Royal Society of Medicine is to hold a meeting on 'Academic health sciences centres: what are they and what will be their impact on women's health' on 23 September.

To book a place at the meeting, please contact Andrea Török at: maternity@rsm.org.uk

New issue of The Cochrane Library

A new issue of The Cochrane Library will be published on 8 October and will feature ten new reviews, 11 new protocols and five updated reviews from the Pregnancy and Childbirth Group.

The Baby Friendly Initiative

The Initiative has produced an update on the latest breastfeeding research. It describes studies on measuring babies’ urine output and stooling to assess the adequacy of breastfeeding, the impact of kangaroo care on breastfeeding for premature babies and frenulotomy. More information can be found at: www.babyfriendly.org.uk

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Professor Billie Hunter, University of Wales Swansea, Wales
Dr Julia Magill-Cuerden, Thames Valley University, England
Dr Margaret McGuire, Scottish Executive Health Department, Scotland
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