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EVIDENCE  
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# EVIDENCE BASED MIDWIFERY

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## Achieving optimal birth using salutogenesis in routine antenatal education

*Key words:* Theory for midwifery practice, salutogenesis, antenatal education, evidence-based midwifery

Midwife researchers face a challenge to reclaim and revolutionise UK antenatal education programmes as a catalyst to achieving optimal birth. We propose that a radical reform of such education using salutogenic theory will provide the necessary shift of focus from the prevailing and negative forces associated with avoiding risk to that of a more positivistic and optimal health promoting experience for women. Salutogenesis offers midwives an opportunity to positively influence public health by empowering women to confidently take control of their birthing and mothering experiences.

The opportunity to build women's confidence and influence their expectations for optimal birth and breastfeeding during the antenatal period remains the privilege and responsibility of the midwife. However, in order for midwives to make antenatal education the driver that it should be, midwives need to systematically apply theory to practice. The theory of salutogenesis offers us a conceptual way of thinking about how we can influence women to make it their goal to move towards health and wellbeing rather than avoiding 'dis-ease'.

Salutogenesis, according to Antonovsky (1996), is related to the extent to which a person has a belief in their ability to move towards greater health, by using the resources and thinking available to them. However, the theory recognises that stressors and unexpected life events such as obstetrical emergencies happen, but it is the person's salutogenic response termed as a sense of coherence (SOC) that empowers them to continue moving towards optimal health. When people experience a SOC, Antonovsky proposed that they would:

- Wish to and be motivated towards coping (meaningfulness)
- Believe that the challenge is understood (comprehensibility)
- Believe that the resources to cope are available to them (manageability) (Antonovsky, 1996).

Of course not all pregnant women enjoy the same 'low-risk' starting point; often a pathogenic focus related to the biomedical model of care is called for. It should however be pointed out that Antonovsky (1996), although emphasising the positive outcomes of a salutogenic approach to personal and optimal health, was not outright in his disregard for the pathogenic paradigm. Instead he stated that pathogenic orientation also had a powerful role to play in obtaining health; however, he proposed that rather than risk management and the avoidance of ill-health taking centre stage, the health professional routinely approach the provision of health care by asking: "How can I facilitate this person in moving towards greater health?"

The 'practicalities' associated with moving all women towards an improved experience of health within a high-quality maternity service is not without its challenges for midwives and their obstetric colleagues (RCOG, 2011). Routinely empowering women through the creation of a strong SOC (whatever their starting point) requires that all health professionals understand and manage the interactive complexity of the cognitive, motivational and behavioural dynamics of women's experience of pregnancy and birth.

Historically the interaction between the goals people set (cognitive), their drive to achieve their goals (motivation) and their experience (behaviour) is multi-factorial in nature (Stockdale et al, 2008; 2011). In theory, a woman might form a personal goal to experience a 'natural' birth without pain relief (cognitive input), however, her lack of confidence in her ability to achieve this goal (motivational input) influences her behaviour and she requests pharmacological pain relief as an additional means of coping with labour (behavioural input). Unfortunately, the woman interprets the meaning of the experience as 'feedback of failure to achieve her original goal of a natural birth'. As a result of this perceived 'moving away' from her natural birth goal, her confidence in her ability to take control of her birthing experience decreases further and she finds coping with birth more challenging and distressing.

This hypothetical cameo of what might occur as a result of the interaction between cognition, motivation and behaviour, is important because it illustrates how women might think about, plan and experience their birth. Furthermore, it also demonstrates how important it is for midwives to learn how to positively influence women's motivational, cognitive and behavioural processing of their experience.

Midwifery researchers have a responsibility to make their research relevant to practice and, in doing so, they must strive towards providing practitioners with theoretically and systematically designed salutogenic interventions that have been tried and tested. Personal research experience has taught us that when researchers engage with this theoretical and systematic process with their midwifery colleagues, they can empower women to develop a salutogenic orientation towards their experiences (Stockdale et al, 2011a; 2011b).

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# Delivering the pre-registration midwifery curriculum: findings from the UK MINT project

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## Abstract

**Background.** Standards for pre-registration midwifery education in the UK require the resourcing of programmes by midwife teachers/lecturers to ensure competent midwives for the delivery of quality care to mothers and their babies.

**Objective.** To describe current pre-registration curricula models and methods and the implications of resource issues for midwife teachers/lecturers and midwifery education provision in the UK.

**Method.** A mixed method design with data collected between April 2009 and February 2010 including: a UK-wide survey of lead midwives for education (LMEs) and midwife teachers (MTs); individual interviews with education managers, focus group interviews and activity analysis from a self-selected purposive sample of MTs at six case study sites representing the four UK countries.

**Results.** A synthesis of findings from survey results (LMEs, n=51; MTs, n=228) and case study analysis revealed that: midwifery curricula adhere to the standards set by the NMC (NMC, 2009) through a variety of placement learning experiences and teaching and learning methods that are supported by university systems. Methods for measuring the teaching resource needed are inconclusive. Resourcing quality curricula continues to be an issue especially for small education teams. Time tensions have impacted in particular on the personal, professional and academic development of MTs.

**Implications.** There is a need to decide how to ensure that midwifery teaching teams have sufficient resource to: deliver a quality pre-registration midwifery programme; develop teaching and learning innovations; maintain clinical and academic credibility; and contribute to advancement of the knowledge base of the profession through research activity.

**Key words:** Pre-registration midwifery, midwife teachers, teaching and learning methods, curriculum resources, staff-student ratios, survey, case study, evidence-based midwifery

## Introduction

In the UK, the NMC formulate the rules for registered midwifery practice (NMC, 2004, amended 2010) and standards for pre-registration midwifery education (NMC, 2009). Midwifery education programmes, offered at degree level since 2008, can only be provided by NMC 'approved education institutions' (AEIs), and currently all these are universities. These AEIs are required to interpret and follow the NMC standards in order to produce students who are fit for professional registration as midwives. The NMC standards require between 50% and 59% of the curriculum to be practice-based learning and hence robust AEI and maternity service partnerships are essential. While AEIs have limited control over the environment of care provided by individual service providers, midwife teachers (MTs) (lecturers) have a key role in influencing student learning in both academic and practice environments.

Freedom of curriculum design for degree level awards, a cherished characteristic of tertiary education institutions, is circumscribed by the need to ensure that integrated programmes

for those undertaking a state registered profession fulfil the standards set by the regulatory authority, the NMC. AEIs are also subject to regular scrutiny through active monitoring activities and curriculum validation and review processes on at least a five yearly basis (NMC, 2010).

In order to ensure midwifery education is resourced satisfactorily, the NMC education standards require a lead midwife for education (LME) in each AEI to lead the development, delivery and management of the midwifery programmes. The NMC also requires MTs to have appropriate knowledge and contemporary experience to teach students and support learning and assessment in both academic and practice learning environments. Although there is no specification for how these expectations are to be met (Standard 11, NMC, 2009), it is recognised that MTs should have the necessary credibility to deliver programmes that will equip students for independent practice.

Resourcing a complex curriculum, for a relatively small cohort of students within potentially resource-deficient universities, can be problematic. In an attempt to establish a

staff resource benchmark that can be demonstrably related to 'quality education provision', the NMC commissioned a research project in 2009. The final report, known as *Midwives IN Teaching* (the MINT project), was submitted to the NMC in November 2010 (Fraser et al, 2010, published by NMC, 2011). This paper focuses on the findings relating to the models and methods of curriculum delivery in the university setting and the resource implications on quality from the perspectives of midwife educators.

### Background: development of midwifery education

Prior to the first Midwives' Act of 1902, there was no requirement in the UK for women who practised as midwives to have undertaken any programme of instruction. In the early years following the Act 'few, if any, came into midwifery via nursing' (Radford and Thompson, 1988: 27) and there was a single route into midwifery, irrespective of previous training. Over the years, the length of training gradually increased from three months for all students to three years for non-nurses and 18 months for those with a registered nurse qualification (Central Midwives Board, 1980, Rule 24). As the number of non-nurses pursuing a career in midwifery declined, by the mid-1980s, there was only one 'direct-entry' training school left in the NHS. This collapse of direct-entry programmes was attributed in part to lack of funds and shortage of midwife tutors, at a time when midwifery was taught, through an apprenticeship model, in the hospitals (Radford and Thompson, 1988).

However, concerns about adequate recruitment and retention of these nurse/midwives and the midwifery profession's drive to produce midwives who would focus better on meeting the needs of childbearing women and their families resulted in a small number of schools of midwifery developing direct-entry programmes. By 1991, 16 sites had approved direct-entry pre-registration programmes in place and the intention of the Department of Health was to evaluate their effectiveness before more were approved (Kent et al, 1993). The further development of these programmes was made possible by the merger of small schools of midwifery into larger third level colleges, mainly amalgamating with nursing schools. MTs had not only to compete for jobs in these new colleges, but they also had little experience of designing and implementing a very different midwifery education programme, as the majority had themselves been educated via the registered nurse shortened programme route. In addition, the regulatory body now required midwifery programmes to be conjointly approved with a higher education institution (HEI) at diploma level and resemble in certain respects the new nurse education programmes (UKCC, 1990). Given this changing context

and the regulator's specification of the kind, standard and content of programmes, there was a high degree of similarity in these new three-year curricula (Fraser et al, 1998). Shared learning with student nurses became a popular model for the first year of these midwifery programmes, but evaluations were not always positive (Marshall, 1993).

By 1995, all pre-registration health education was transferred to HEIs and so employment of most MTs moved from the NHS to universities. Dow (2008) notes that this moved midwifery even further away from the apprenticeship model to an academic one, requiring programmes to be more challenging and innovative as well as reflecting contemporary midwifery practice (Thomas, 2007).

The RCM's *Valuing practice – a springboard for midwifery education* (2003) document was visionary in setting out the RCM five-year strategy for the future of midwifery education within the university sector. They focused on developing, protecting and quality assuring the key role of the midwife educator (RCM, 2003).

The implication of merging with higher education was questioned by Barton (1998), whose study found teachers experienced stress as a result of role conflict. Not all MTs were graduates and very few had higher degrees or were research active and the change of culture from the NHS also proved difficult for some in McIntyre's ethnographic study (1996) with 11 MTs in a UK midwifery department. Being employed in higher education, however, provided more opportunities for MTs to study at masters and doctoral level and hence when the regulator determined that midwifery programmes must be at no less than degree level from 2008, the teacher team was much better equipped to design and implement such programmes. However, the sufficiency and range of expertise of MTs continued to be of concern to the LMEs, especially where the team of MTs covered large geographical areas (NMC, 2008).

### Methods

The overall aim for the MINT project was to evaluate whether MTs bring a unique contribution, particularly in the context of

Table 1. MINT project objectives

Number	Objective	Phase of study
1	Identify the various models for delivery of pre-registration midwifery education in the UK	Phase 1 and 2
2	Gather information about specific contributions made by MTs	Phase 1 and 2
3	Evaluate whether these variables affect the quality of care that qualified midwives can provide to mothers and their babies	Phase 2 and 3
4	Determine the value brought by MTs regardless of the model of education provision	Interpretation of all phases
5	Develop quality indicators to demonstrate the value brought by MTs	Recommendations

outcomes for women and families. This was achieved through a research design that aimed to find the answers to five objectives set by the NMC (see Table 1). The three phases included: a survey of midwifery education providers (Phase 1); a follow-up case study design at six university sites (Phase 2); and a prospective diary study with newly qualified midwives (Phase 3). This paper details Phase 1 and parts of Phase 2 of the project.

A collaborative research team was established comprising five UK universities. Using a 'hub' and 'spoke' model, collaborative site leads (CSLs) and collaborative site researchers (CSRs) from each site participated in regular workshops, organised and coordinated by the hub site. These workshops were used to design research tools, agree and deliver on data collection deadlines, validate data analysed by working pairs from across the research team and agree interpretations and reports for all three phases of the project.

The data sources and collection methods drawn upon in this paper are:

- UK-wide online survey to LMEs and MTs
- Individual face-to-face interviews in the six case study sites with programme leads (PLs) for pre-registration midwifery programmes
- Telephone and face-to-face interviews with the case study LMEs
- Focus group interviews with case study MTs
- Activity analysis tool completed by case study MTs
- Case study curriculum documents.

The phases of the project involving university staff and students were subject to ethical guidelines and approval through the University of Nottingham's ethics committee and their approval was then reciprocated by the participating case study sites' universities. One case study site was located in each of the smaller UK countries with three in England. All data were stored securely and coded for anonymity.

The online questionnaires were designed using Survey Monkey technology to ensure speed and ease in completion while obtaining relevant information to inform the study objectives. The total sample of LMEs (n=55) in the UK were surveyed. LMEs were requested to seek permission from their MTs (444 full-time equivalent number) to disclose their contact details in order to receive the MTs questionnaire. A total of 456 MTs provided contact details. Data were collected from all target groups between mid-May and the end of July 2009. Survey Monkey facilitated reminders being sent at two weekly intervals to those in the survey sample who had not responded up to the closing date for data collection. Those experiencing difficulties with completing the online survey were sent copies of the questionnaire as an attachment file in order to improve response rates.

For the case study phase, all semi-structured interview guidelines were developed by the research team, in response to survey findings and deficits in data, to inform the objectives set for the project. As well as LMEs, pre-registration PLs were interviewed as they were responsible for the day-to-day management of the education programmes. Because of timing and availability issues, convenience sampling was used for focus group interviews of MTs. A previously validated activity

analysis tool (AAT) was customised to suit the requirements of the study and a purposive sample of 45 MTs at the case study sites agreed to complete it for one week per month for any three months between July and November 2009.

All interviews were audio recorded, transcription and initial development of themes was made by the researcher collecting the data. All transcriptions and analysis of themes were validated by a second member of the research team. Findings from the analysis work for each respondent group were then presented for discussion at collaborative team workshops. Further synthesis work was completed by two members of the team cross-checking analysis results and developing reports on the evidence generated (see Annex 5.2 and Annex 5.3 of the NMC's *MINT report* (NMC, 2011)).

### Findings

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Findings presented here focus on delivery of the university-based curriculum as perceived by the LME and MT respondent groups. A total of 51 LMEs (93% response) and 228 MTs (50% response) returned questionnaires. All four UK countries were represented. Six LMEs and six PLs participated in individual interviews. A total of 37 (54%) MTs participated in seven focus group interviews, the number per interview ranging from two to ten. In addition, 29 MTs (64% of the available sample of 45) from each case study site, provided a total of 87 weeks of MT activity to analyse. The range of respondents per university was four to seven MTs.

Findings from a synthesis of data are presented under the following headings: models and methods of delivery; practice placement patterns; resourcing the curriculum; time for research, scholarship and development.

#### *Models and methods*

The midwifery education team in most universities is organised in a school/faculty (or equivalent) with nursing education, with over 60% also encompassing allied health professions or social work within the same school. Only 20% are located with or alongside medicine. All offer a three-year degree midwifery programme with nearly 80% also offering a shortened degree route for registered nurses.

No one common curriculum model was identified. Most respondents mentioned a combination of traditional educational models and the use of more contemporary teaching/learning methods to describe their curriculum:

*"Implicitly there is a spiral curriculum... revisiting in year two following year one and in year three following year two... and there is a general implicit theme of novice to expert as well... but otherwise we use reflective models... we haven't been explicit about a curriculum model as such"* (PL71).

A closed-ended question within all the questionnaires identified common teaching and learning methods for curriculum delivery though these were not always universal in the strength of their application (see Figure 1). All complied with their university guidelines in delivering a modular course. Variation came in the number of modules per semester, year or part of a programme. Curricula document analysis (CDAs) for the six case study sites reflected a similar variability, but also highlighted that there could be some confusion around

what was considered interprofessional learning (IPL) and shared learning. Timetabled shared learning modules (with nursing and/or with other health professions) were part of the programme in year one for three case study sites.

Problem/enquiry-based learning (PBL/EBL) was acknowledged as part of the curriculum by almost 75% of the LME survey sample. The CDA revealed three (50%) used PBL/EBL, one university employing it as a major strand and one included it as a teaching method within the curriculum as a whole. Survey results also revealed that gaining academic credits for practice learning was predominant, though it was not clear what percentage of the overall credits needed for a degree classification was obtained by this route.

Almost 70% of LMEs surveyed acknowledged that 'case-holding' (often referred to as 'case-loading') was part of their curriculum. However, from further probing in interviews it became clear that the interpretation of 'case-holding' did not always mean taking a mother through the whole experience of pregnancy, birth and postnatal care and instead had been understood to mean taking responsibility for the care of a small number of women when senior students.

#### Practice placement patterns

Since the introduction of flexibility in relation to the percentage of time that must be spent by students in practice learning (50% to 59%; NMC, 2009), more than half of the universities now allocate in excess of the minimum to practice placement learning.

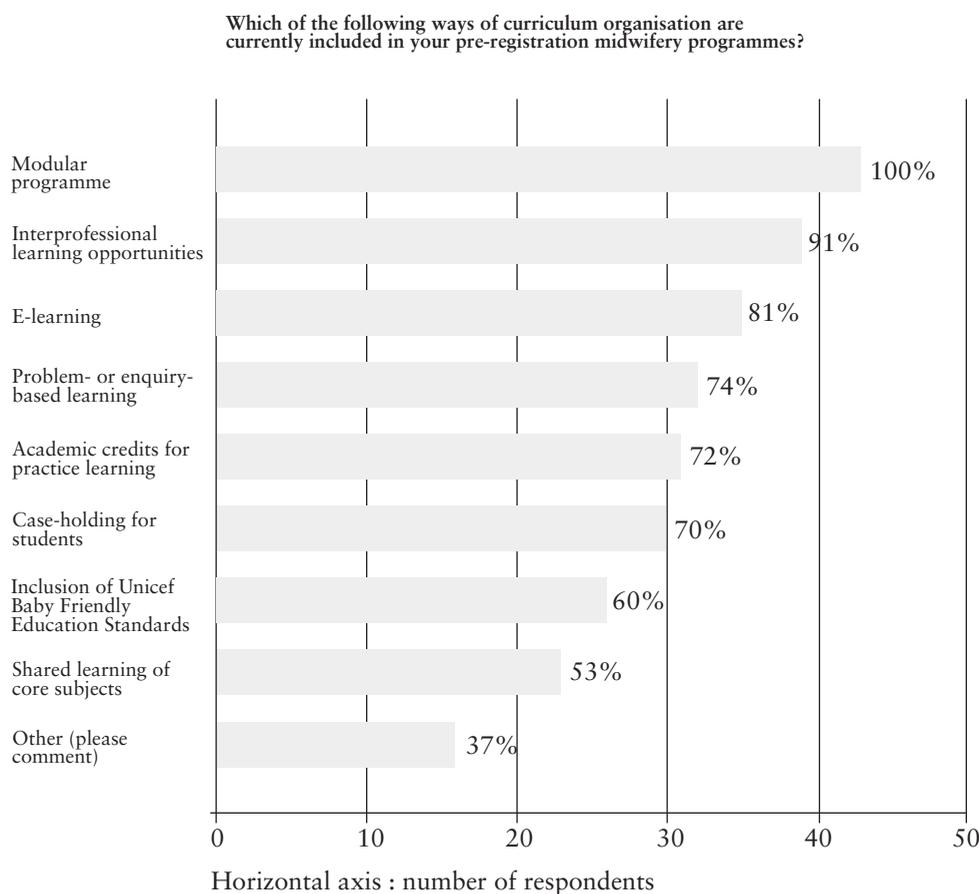
In providing the practice curriculum, while all students experienced learning time in antenatal, intrapartum and postnatal environments, there was variability in the ratios of time in each, more specifically in gaining experience in the community, in case-holding, and in working within a 'standalone' or 'stand alongside' midwife-led unit.

In response to an open-ended question, LMEs in the survey provided an indication of time in a variety of placements, for example: community placements ranged from 13% to 50% of practice learning time; for non-midwifery placements (for example medicine, surgery, gynaecology, mental health), the mean curriculum time allocated was 8% (SD 5%). MTs indicated that the length of allocations averaged between four and eight weeks. The limited number and size of midwife-led units provided by AEs' maternity service partners affected whether students gained experience in these settings. Not all LMEs appeared to understand the difference between 'standalone' and 'stand alongside' midwife-led units, but for those who answered both questions, the mean percentage of the student intake able to be placed in one was 47% (SD 28%, range 10% to 100%).

In summary, a constantly changing curriculum, with the five yearly reviews in keeping with university quality standards, was viewed positively:

*"It allows us to take stock every four or five years and to introduce change, update programmes as needed, whether it's clinical or theory, to represent what is going on in the profession"* (PL51).

Figure 1. Curriculum methods for pre-registration midwifery programmes (LMEq n=43)



#### Resourcing the curriculum

Resourcing is a complex issue when seeking to focus on pre-registration midwifery education alone as the majority of MTs contribute to post-registration programmes and provide some input to other professional courses within their school/faculty. Equally there is also input from other academics and healthcare professional staff into the curriculum.

Findings indicate that the majority of the theoretical input across all curriculum subject areas is provided by MTs. The subjects most likely to be taught by other subject specialists were biological sciences, psychology, social and ethical issues; even in these cases however, usually more than half of the theoretical input was by MTs. Examples were given of the contributions of other

university staff:

*“Small input and mostly through online materials”; “allied health professionals contribute to the IPL component”; “occasional specialist lectures, for example, diabetes and complications”; “numeracy teachers”; “practical skills from our nursing colleagues”; “very valuable input from our anatomy colleagues in the medical school”* (LME questionnaire).

In the case of biological science teaching, it was evident from the qualitative data that shared learning was the norm in many universities.

MTs (85%, n=189) reported that they provide input across the majority of courses offered by their department. As well as pre-registration programmes, these include post-registration and continuous professional development (CPD) provision for midwives. A majority provided some input on sexual health, women’s health and maternity care to the pre-registration nursing programmes, medicine, paramedics, operating department practitioners and others. The quote below illustrates the workload of one respondent reflecting their range of work:

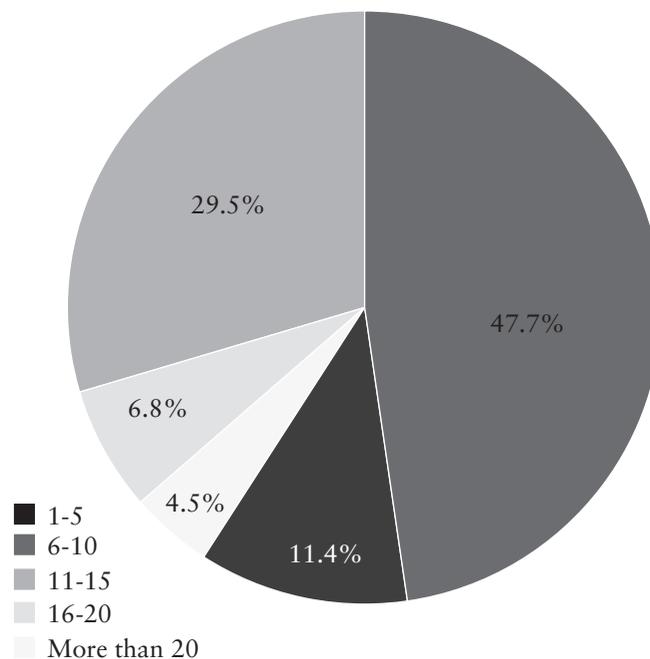
*“I have a heavy involvement with three x 20 credit interprofessional modules, which does involve student midwives. Much of the material is generic, though I ensure links are made to midwifery practice (approximate time 150 hours). In addition, I am a guidance facilitator for a group of student nurses (22) – this is a three-year commitment and involves undertaking a series of seminars with the students following key lectures (delivered by nursing lecturers), supporting the students in practice (two visits per eight-week placement) and marking of at least one of their assignments per semester (approximate time 200 to 300 hours per year). I am also a module tutor for a module running in the BSc (hons) environmental health studies programme (time spent approx 50 hours)”* (MT questionnaire).

In order to obtain a descriptive overview only of the size of midwifery provision within each university, the survey of LMEs requested a head count of MTs who contribute to pre-registration midwifery programmes. As can be seen from Figure 2, nearly 60% of universities have ten MTs or less, with 11.4% having one to five. However, over 60% draw upon midwives who are seconded to them on part-time contracts (one to three days per week) – NHS midwives and MTs ‘bought-in’ to facilitate specific sessions.

A question to calculate a possible staff to student ratio (SSR), within the LME questionnaire, revealed the number of full-time equivalent (FTE) MTs who contribute to the pre-registration programme ranges from 2.8 to 22 (mean 8.7 SD 4.0). The number of students enrolled on the pre-registration midwifery programmes as of 1 May 2009 ranged from 16 to 249 (median 95 mean 107 SD 55). At this point in time SSRs therefore varied between 3.1 to 21.6 (median 11.4 mean 12.5 SD 4.1). When exploring this area of resourcing in more depth with the six case study LMEs, many of the factors that might potentially have an impact on the SSR calculation were considered by respondents to be resource neutral or balanced out, with output from MTs equal to input from outside sources. The LMEs were still using the SSR as a tool for ensuring sufficient MT resource:

Figure 2. Number of MTs contributing to PRM programmes (LME questionnaire)

How many midwife teachers contribute to pre-registration midwifery programmes (n=44)?



*“We always had a 1:12 ratio even when we were not in the HEI... No, I don’t have to keep battling for it because not only has it been a traditional SSR, the commissioning department has said 1:12 for midwifery and 1:15 for nursing”* (LMEF).

The most common model in use to calculate the SSR was focused on teaching hours per programme with MTs expected to do between 550 to 750 hours in teaching activity a year. In some universities, the time teachers spend in practice placements was included in the teaching hours allocation. Respondents emphasised the need to be flexible around models in use especially in relation to administration loads that would fluctuate depending on whether an MT was also a programme leader for an intake of students. Most mentioned the need for equity and fairness across other workload streams such as number of personal students and modules per MT to include timing and allocation of assessment load:

*“We notionally try to ensure the workload is equal and the role that most people find quite onerous is being the intake leader because that requires a lot of admin... They would ideally like to have only one intake to be responsible for at a time”* (LMEA).

It was felt that curriculum innovations such as implementing ‘case-holding’ were also resource neutral. However, one LME specifically mentioned that PBL was resource heavy. PL respondents also indicated that both PBL/EBL and clinical skills teaching demanded more time.

MTs agreed that small group teaching, such as that required for IPL (the interactive learning between two or more professions), PBL, objective structured clinical examinations (OSCEs) and other skills teaching sessions were all found to

be resource intensive:

*"When it is IPL, the teachers and facilitators, it isn't always an equal spread for all those professions... we tend to do a lot of turning up and an awful lot of resourcing"* (MT/FGI/22).

*"There's normal skills teaching and there's obstetric emergencies skills teaching... to pre- and post-reg students"* (MT/FGI/42).

Even when students were taught in large groups with students of other professions (shared multi-professional education), MTs were involved in leading some of these sessions, as well as applying subject content to midwifery practice in subsequent small group discussions. Although teachers felt this multi-professional teaching was *"...usually an attempt to save money..."* (MT/FGI/42), they said it rarely reduced MTs' workload.

The increase in e-learning and innovative learning technologies was a challenge for small teams of teachers to develop their teaching and facilitation skills in new areas:

*"...I think we're proactive as a bunch of teachers... and that brings pressures... we're always changing, always reflecting, we're always thinking about what we're doing and can we do something different and better... that takes energy and that's about trying to deliver a better service for our students who will then hopefully deliver a better service for women and will get a better calibre of midwife..."* (MT/FGI/22).

The number and geographical spread of multiple practice learning sites was considered an issue by both LMEs and PLs and was acknowledged as a time resource factor, resolved by one LME through adding the equivalent of one full-time MT to the SSR to compensate (LMEA):

*"... We operate on different geographical sites... quite a distance from each other, there's an awful lot of travelling for some teachers... on top of their workload and teaching"* (PL61).

When measuring workload at an individual MT level (for example through appraisal systems), it was acknowledged that certain roles such as being a supervisor of midwives (SoM) could have an impact. From LME questionnaire results, it was found that 87% of respondents have MTs who undertake the role of SoMs in addition to their university teaching responsibilities. Given that there are on average one to five of these SoMs per institution, the impact of that role on resources as well as on the quality of programmes offered needs to be explored further.

A final issue cited in resourcing the curriculum was the large amount of time spent on administration. The amount of support received from centralised services was variable, especially as some of the programme requirements were peculiar to health service programmes and did not fit into overarching university systems. Small teams of teachers still had to meet the requirements of a range of quality assurance drivers:

*"We have quality assurance mechanisms, we evaluate modules, we evaluate clinical placements, we evaluate the end of year, we have teacher observations, we organise meetings where clinicians come and share information for example..."* (MT/FGI/42).

In addition, detailed records of student progress and achievement and involvement in fitness-to-practise procedures were time-consuming.

#### *Time for research, scholarship and development*

Of concern to LMEs and MTs was finding time for developing subject and pedagogical scholarship. This was a particular problem in universities where the size of the team was small:

*"...we have smaller teams. When there's sickness, pregnancy, whatever, people go away and therefore everyone is covering everybody else's caseloads. In a larger team that would be absorbed more. In a smaller team, the impact is great... so the stuff like scholarly activity, going out and doing practice... gets robbed..."* (MT/FGI/52).

In universities where the team felt there were sufficient teachers, they were able to develop specialist expertise, but in others, comments were made that they had no time, or were supporting others, which could affect their own development opportunities:

*"...we have had a number of people who have gone through and got their PhDs or are getting them... as a team, we do probably most things reasonably OK in terms of developing people doing things like that..."* (MT/FGI/32).

*"...part of what the university expects... is to actually research into our areas... so the team supports others within that team to gain expertise in areas to make the team stronger, but that means that the individual's profile might not be broad enough to actually go for promotion..."* (MT/FGI/52).

Evidence from the activity tool completed at case study sites by a small purposive sample of MTs demonstrated how MTs vary in the amount of time they spend on development related to education with a range of 0% to 14%. In relation to research, 12 out of 29 participants spent no time on research activity, the overall range of time spent being 0% to 25%, with one outlier of 42% (see Figure 3). However, from the focus group data there was evidence that teachers were developing their subject knowledge, but not all saw the need to become research active. Opinions were also varied as to whether it was necessary or possible to spend time in the practice areas:

*"The amount and availability of knowledge is expanding to a huge degree... so it's about balance, obviously we know our subject, but we are always learning and the students need to know that they've got the confidence in what we're teaching but that we don't hold all the answers..."* (MT/FGI/12).

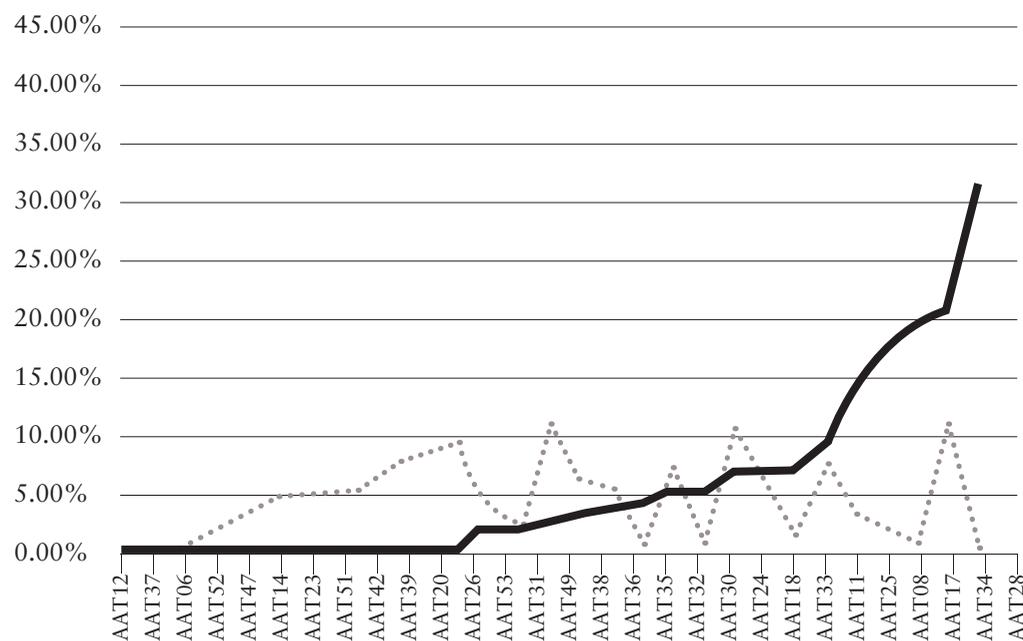
*"If you've done 12 to 13 years before you even get into education... why should you be expected to prove all the time you are competent and confident (in practice) when you've been doing it 12 years..."* (MT/FGI/52).

Finally MT focus group participants commented that university staff in some other subjects did not appear to have such complex roles and functions. Being required to share responsibility with NHS staff for the practice-based curriculum and take responsibility for the university-based curriculum over 45 programmed weeks a year was believed to be unique to midwife and nurse education. Given that MTs teams were generally small, yet they still had to cover the same education functions as teachers of other subjects, led to individual teacher workloads that were described as complex.

#### **Discussion**

The three-phase design of the MINT project, with the triangulation of participant sources, the relatively good

Figure 3. Percentage of time spent on research and education development per individual (activity analysis tool (AAT) participant (n=29))



Legend: Hard line = research. Broken line = educational development. Horizontal axis = participant code

response rates and the representation of all countries in the UK, is the strength of the study (Fraser et al, 2010). In the extraction of data sources to inform this paper, it could be argued that, despite targeted reminders being sent, the 50% response rate (n=228) of MTs who volunteered to participate in the survey (n= 456) should have been better. The breakdown per country revealed above 50% representation from three of the four countries of the UK; however the LME response rate of 93% (n=51) gives further strength to the findings. Findings from the activity analysis tool (AAT) should also be treated with caution, as this tool was completed by a small convenience sample of MTs from six case study sites within a particular time span in the academic year.

The descriptive results presented indicate that there is a coherence and structure to the organisation and content of the UK-wide pre-registration midwifery curricula that does reflect adherence to the standards required by the NMC (NMC, 2009). Variability in teaching and learning methods also include those that are considered important in university programmes for those students seeking a concurrent healthcare professional registration, for example, interprofessional learning (Department of Health, 2007), PBL/EBL (Rowan et al, 2007; 2008), skills and simulation teaching (Birch et al, 2007; Lathrop et al, 2007; Dow, 2008) and academic credits for practice learning (Smith, 2007; NMC, 2009; Chenery-Morris, 2010). Debates on the relative value and on the resources needed for these methods of delivery are ongoing in the educational literature. Of significance to midwifery education is the resource issue for relatively small teams of lecturers in

delivering any teaching innovations. Even where shared learning for generic curriculum subjects was prominent during the first year of programmes, there was still a need for MTs to apply their content to midwifery practice. Where the team is small, then most of the MTs have to apply all relevant subjects to midwifery practice without a resource of MTs who have developed specialist interest in that subject and/or method of delivery. It could be argued that a critical mass of MTs is needed to deliver sessions that are based on best evidence and contemporary practice in the maternity services.

As well as teaching and learning developments, findings indicate that

MTs believe they have relatively little time available to develop their research, scholarly and publication portfolio. Even where there are larger numbers of MTs, some found insufficient time for professional development and highlighted a lack of team members who are research active. Being research active is essential, not only for the quality of the education provided, the development of the profession, but at a personal and organisational level, the outputs of a university demands scholarly activity (Higher Education Funding Council for England, 2011). Given the position that research has between midwifery education, policy, management and practice (Steen and Roberts, 2011), it is vital that the preparation of midwives to practise evidence-based care is developed and provided by MTs that are research, as well as clinically, credible. LMEs did indicate that they had to be selective in supporting a small number within their team in ongoing doctoral studies.

Survey results gave an indication of the variability in the use of SSRs to resource the curriculum. SSRs would, at first sight, appear to be a simple and robust means to provide evidence for the specialist staff resources available to support a midwifery programme. However, constructing SSR data is not straightforward. An early study of the value of SSRs carried out soon after the introduction of the ENB criterion (Murray et al, 1995) indicated that the methods for calculating SSR were not standardised and lacked reliability. Murray et al (1995) also argue that SSRs could militate against flexibility, creativity and innovation in curricula by restricting education to a particular funding model, while not supporting quality education. LMEs did feel pressure to justify staffing levels needed to deliver smaller professional

education programmes; this seems to be more pressing in the context of IPL growth and consequent risks to retaining specialist expertise.

The review of the use of SSRs by Maben et al (2007) notes that there is no direct evidence that links a particular SSR with the quality of midwifery programme and it is unusual for professional bodies to set a guideline SSR for AEs. Education quality is more likely to be assessed through the use of a matrix of indicators, with key performance indicators focusing on processes such as admission standards, student retention, responding to equality and diversity, and outcomes such as levels of attainment, employment statistics and student satisfaction. These measures are further elaborated in professional education by assurances regarding a graduate's safety in practice, competence and good character. In this context of this matrix of process and outcome indicators, a simple measure of staffing resource expressed as an SSR lacks both justification and relevance.

## Conclusions

The evidence from the MINT study suggests that in considering the resources required for the design and delivery of midwifery programmes, there needs to be recognition of the wide range of contributions that MTs make to high-quality midwifery education. What became evident in this study was the huge amount of time devoted by university MTs to teaching and direct student support. However, time for teachers to spend in personal and professional development was limited, especially where the team of teachers was small, and very few MTs could be released to be research active.

The full MINT project recommendations are contained in the final report (Fraser et al, 2010). From the results here, it is suggested that there should be sufficient resource for a midwife education team to deliver a quality pre-registration programme; have sufficient time to develop and deliver teaching and learning innovations; ensure that team members are clinically and academically credible; and contribute to the advancement of the profession's knowledge base through research activity.

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# Complementary medicine for nausea and vomiting in pregnancy: a review of the evidence

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## Abstract

**Background.** Many pregnant women are affected by nausea and vomiting and some will use complementary medicine to manage their symptoms. Although the evidence of safety and efficacy for many of these therapies is predominantly anecdotal, over the past decade there have been an increasing number of clinical trials investigating their effects. This paper reviews the current evidence, focusing on clinical trials, for the use of complementary therapies to manage nausea and vomiting in pregnancy.

**Method.** A search for relevant literature published from 2000 was undertaken using a range of databases. Articles were also identified by examining bibliographies.

**Results.** There is a small repository of clinical trials that have investigated the effects of complementary medicine on various conditions associated with pregnancy, including nausea and vomiting. There is research evidence to support the appropriate use of ginger, pyridoxine (vitamin B6) and acupressure. There are mixed results with use of acupuncture, and further research is needed.

**Conclusions.** At this time, there is limited evidence from clinical trials to support the use of a small number of the complementary therapies that have been traditionally used to manage nausea and vomiting in pregnancy. Other remedies may be helpful, however, further studies are required to establish their efficacy and safety. Midwives are encouraged to stay abreast of the emerging research and use the best available evidence when supporting pregnant women to make informed decisions regarding their use.

**Key words:** Nausea, vomiting, pregnancy, complementary medicine, evidence-based midwifery

## Introduction

Nausea and vomiting in pregnancy (NVP) is a common condition and many women use complementary medicines to manage their symptoms (Hollyer et al, 2002). The National Institute of Complementary Medicine (NICM) defines complementary medicine (CM) as an inclusive term that ‘...includes a diverse range of medicines and therapies that are not considered to be core conventional medicine practices or core conventional allied health practices’ (NICM, 2009). Women are the highest consumers of CM in the industrialised countries (Adams et al, 2009). Furthermore, surveys have found a considerable number of expectant women use these therapies to manage a variety of conditions associated with pregnancy (Hall et al, 2010). Research has also revealed substantial support by midwives for the use of CM (Adams, 2006; Mitchell et al, 2006; Hastings-Tolsma and Terada, 2009). Midwives, and other health professionals are encouraged to adopt an evidence-based approach when considering the use of any treatment. The purpose of this paper is to review the evidence focusing on findings derived from clinical trials for the efficacy and safety of CM to manage NVP.

## Literature search strategy

A search of literature published from 2000 was undertaken on AMED, Medline, CINAHL, Proquest, Sciencedirect and Cochrane databases using key words. These words included: CAM, complementary medicine, alternative

medicine, acupuncture, herbal medicine, aromatherapy, massage, natural medicine, reflexology and homeopathy, cross-referenced with pregnancy, nausea and vomiting. Further relevant articles were also identified by examining bibliographies. Selection of articles was limited to those published in the English language.

This paper presents the findings from a range of clinical trials (n=24) and existing reviews. It also draws on a Cochrane systematic review (Jewell and Young; 2003), which has recently been updated (Matthews et al, 2010). The trials investigating CM for NVP were of variable quality and included the use of nutritional supplements, herbal medicines and acustimulation.

## Evidence on complementary therapies to manage NVP

### Nutritional therapies

There is limited evidence to support the use of general dietary and nutritional strategies that are commonly recommended to manage NVP. Deficiencies in vitamin B6, zinc, magnesium, copper, beta-carotene and selenium have all been associated with NVP (Tiran, 2006). Clinical research (Czeizel et al, 1992; Emelianova et al, 1999) indicates that consuming a multivitamin prior to conception may not only reduce the risk of congenital anomalies, but also decrease the incidence of NVP (Badell et al, 2006; King and Murphy, 2009). There are also reports that indicate the suspension of the use of iron supplementation in pregnancy may reduce the symptoms in some women

(King and Murphy, 2009). However, recommendations such as having small frequent meals and eating dry crackers before rising, have not yet been clinically tested (King and Murphy, 2009).

Pyridoxine (vitamin B6) is a water soluble vitamin, which has been used for the treatment of NVP since the 1940s (King and Murphy, 2009). Pyridoxine can be consumed alone, or in conjunction with doxylamine for the management of NVP (Badell et al, 2006). The effectiveness of pyridoxine in combination with doxylamine has been studied extensively, however, as a standalone treatment, the evidence is more limited.

A systematic review, conducted by Jewell and Young (2003) examined the evidence for the use of pyridoxine (vitamin B6) in two randomised controlled trials (RCTs). One trial assessed the effectiveness of 25mg every eight hours for three consecutive days compared to placebo and found little differences among women with mild symptoms, but a significant improvement in those with severe symptoms (Sahakian et al, 1991). A larger trial assessed the effect of 30mg daily for five days (Vutyavanich et al, 1995) and found a reduction in nausea and a trend towards less vomiting episodes. Although both demonstrated a reduction in nausea, only the trial using a higher dose of 75mg daily (Sahakian et al, 1991) had a significant effect on vomiting. Jewell and Young (2003) concluded pyridoxine (vitamin B6) may be an effective treatment to reduce the symptoms of NVP. Furthermore, using a higher dose may be more beneficial for women with significant vomiting. However, caution should be exercised as pyridoxine is a water-soluble vitamin that can cross the placenta and large doses (150mg per day) may have adverse affects on nerve development of the fetus (Masino and Kahle, 2002). Therefore, expectant women should be advised that the daily dose should not exceed 75mg (Badell et al, 2006).

#### *Herbal remedies*

Although midwives commonly recommend herbal medicines to manage NVP (Bayles, 2007), only ginger has been subjected to clinical trials (King and Murphy, 2009). Ginger (*Zingiber officinale*) has a long history of use as an antiemetic (King and Murphy, 2009) and continues to be popular with pregnant women. A survey of women who called the Motherisk NVP helpline, based in America, found half (50.7%) had used ginger to manage their symptoms (Hollyer et al, 2002).

The effects of ginger for NVP have been investigated in a considerable number of clinical trials and evidence indicates that it is beneficial (Vutyavanich et al, 2001; Keating and Chez, 2002; Sripramote and Lekhyananda, 2003; Willetts et al, 2003; Smith et al, 2004; Ensiyeh and Sakineh, 2009; Ozgoli et al, 2009).

A recently published study (Ozgoli et al, 2009) randomly assigned 67 pregnant women who complained of nausea and vomiting to two groups. The experimental group received four 250mg capsules of ginger for four days and the control group received a placebo. The women who

received ginger had a decrease in both nausea and vomiting compared to the control group. In another clinical trial comparing ginger to vitamin B6 for the treatment of NVP (Ensiyeh and Sakineh, 2009), 70 women in their first trimester, were given either ginger or pyridoxine (vitamin B6). Both groups reported a reduced number of vomiting episodes, however, ginger was more effective than the vitamin for relieving the severity of nausea.

Although the research suggests consuming ginger is a useful management strategy for NVP, midwives should be cautious when making recommendations. A primary concern is the wide variation in concentration and labelling of ginger supplements (Schwertner et al, 2006). Other issues include the potential anti-coagulant action of the herb when taken in large doses (Tiran and Budd, 2005; Chitty, 2009) and possible effects on the fetal development (Marcus and Snodgrass, 2005). However, a study of 187 women, which compared the ingestion of ginger with non-teratogenic drugs to treat NVP in the first trimester, found no difference in outcomes and concluded that the ingestion of ginger does have a mild effect on reducing nausea during the first trimester and is not associated with fetal malformation (Portnoi et al, 2003). In addition, some herbalists caution women to avoid ginger if they have threatened miscarriage due to its reputation as an emmenagogue (menstrual promoter); however currently there is no evidence to support the suggestion that ginger acts as an abortifacient (Westfall, 2004). In summary, ginger has a long history of safety and is considered an effective treatment for NVP when consumed in appropriate doses by women suffering from NVP who are otherwise well (Bryer, 2005).

Other herbal medicines used to treat morning sickness include chamomile, peppermint and raspberry leaf (Chitty, 2009). Although peppermint has been found to be effective for post-operative nausea (Westfall, 2004), currently there are no clinical trials investigating the use of these herbs for NVP and their safety at this time is unknown (Mills et al, 2006).

#### *Acustimulation*

According to the Chinese medicine approach, acustimulation is used to activate specific points on the body that stimulate the vital life energy (chi) and bring about healing. The points can be stimulated with needle puncture (acupuncture), using a mild electrical pulse (electro-acupuncture) or with pressure (acupressure). Pressure can be applied in a variety of ways including with the fingers or by wearing a commercially available elastic wristband with an embedded stud to provide acupressure, such as the SeaBand (King and Murphy, 2009). The most common point stimulated to relieve nausea is the Pericardium (P6) or Neiguan point, on the inner aspect of the wrist (Ezzo et al, 2006). Sham acupuncture (applying stimulation to non-therapeutic site) is often used as a comparison in these studies, however there is some evidence that this practice may also provide benefit (King and Murphy, 2009). Another

comparison is the use of placebo acupuncture when the process of acupuncture is mimicked but no pressure is applied (King and Murphy, 2009).

There have been a considerable number of clinical trials investigating the effectiveness of acustimulation for managing NVP. A recent study compared 25 pregnant women who applied acupressure bands to P6 point with a control group and found acupressure was beneficial (Can Gürkan and Arslan, 2008). However, although there are some promising findings, particularly for acupressure, to date, the results are limited and inconsistent. Several reviews provide an overview of the current evidence derived from the clinical trials.

Anderson and Johnson (2005) undertook a review of the RCTs that investigated CM for a range of pregnancy conditions, including the use of acustimulation for NVP. They assessed three trials that used acupuncture, seven studies of acupressure and one using both treatments. The reviewers concluded that although trials using acupuncture did not demonstrate significant benefit, the results for acupressure were more promising.

Helmreich et al (2006) undertook a meta-analysis of 14 trials, which assessed the impact of acustimulation on NVP. The researchers found acupressure (using a finger or wristband) and electro-acupuncture did reduce the symptoms. Acupuncture did not show significant effects, however the researchers point out, this may be because the number of acupuncture trials was limited.

A Cochrane review, undertaken by Jewell and Young (2003) and updated by Matthews et al (2010), also reported on the evidence from RCTs to manage the symptoms of NVP. The interventions included both conventional drugs and complementary therapies (acustimulation and herbal remedies). The review published in 2003 concluded that drugs do help women manage NVP, but acupressure (and ginger) may work with no side-effects (Jewell and Young, 2003). The most recent Cochrane review found limited evidence regarding the effectiveness of acustimulation (Matthews et al, 2010). The authors assessed the effectiveness of acupressure in five studies; four compared wrist-band acupressure to placebo (Belluomini et al, 1994; O'Brien et al, 1996; Norheim et al, 2001; Werntoft and Dykes, 2001) and one compared it to a non-stimulating device (Rosen et al, 2003). Another study compared acupressure to vitamin B6 (Jamigorn and Phupong, 2007). In one study the treatment group received auricular acupuncture; women applied pressure to small magnetic balls that were taped to an acupressure point on their ear (Puangsricharern and Mahasukhon, 2008). Finally, two of the included trials compared acupuncture with sham acupuncture (Knight et al, 2001; Smith et al, 2002). The reviewers concluded the trials investigating the effectiveness of P6 acupressure did show limited benefit, however, the studies investigating acupuncture did not demonstrate statistically significant differences. Hence, although some studies favoured the intervention group, there was lack of high-quality evidence needed to make clinical recommendations. It is interesting to note that, according to the strict inclusion criteria of the review, there was also lack of evi-

dence to support the use of antiemetic drugs for women with mild NVP (Matthews et al, 2010).

In summary, the evidence for acupressure and acupuncture remains equivocal. However, P6 wrist bands are an inexpensive and safe option for symptom management, which would be worth women trying (King and Murphy, 2009). It is also worth noting that there is limited evidence from RCTs to suggest that acustimulation may benefit women who are hospitalised with hyperemesis gravidarum (Heazell et al, 2006; Shin et al, 2007).

#### *Other complementary therapies*

Other CM that may be used by pregnant women to manage NVP include mind-body interventions, osteopathy, reflexology and homeopathy (Tiran, 2002). No RCTs investigating the effectiveness of these practices were found.

#### **Discussion**

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NVP is a common disorder, which affects many expectant women. Most will experience nausea (up to 85%), while vomiting and retching affects around half (Whitehead et al, 1992). The symptoms can vary from the occasional episode of queasiness to severe and regular bouts of nausea and vomiting (Badell et al, 2006). Although the condition is usually self-limiting and experienced in the first trimester, the symptoms can persist throughout the pregnancy for a substantial number of women (16%) (Whitehead et al, 1992).

Despite being referred to as 'morning sickness', the symptoms commonly persist throughout the day and can have a significant impact on the quality of life (King and Murphy, 2009). One study of pregnant women (n=147) found 82% reported the symptoms negatively impacted on their ability to perform their usual daily activities (O'Brien, 1992).

The precise cause of NVP is unknown and it is commonly considered a multi-factorial complaint. Hypothesised aetiologies include evolutionary adaptation, hormonal stimuli, infection (specifically *helicobacter pylori*) and psychosocial influences (Badell et al, 2006; King and Murphy, 2009). Despite the debilitating symptoms, NVP is associated with a reduced risk of miscarriage and a positive pregnancy outcome (Badell et al, 2006; King and Murphy, 2009).

Common treatment options for NVP include CM as well as conventional management strategies (King and Murphy, 2009). The use of CM has become popular in the maternity setting and about half of expectant women use these therapies (Hall et al, 2010). A survey of women (n=110) who called the Motherisk NVP helpline found many (61%) used complementary therapies to manage their symptoms (Hollyer et al, 2002). Furthermore, an Australian survey of 46 midwives found most (85%) include information on vitamin or herbal supplements when advising women suffering from NVP (Wills and Forster, 2008).

Health professionals are encouraged to take an evidence-based approach to decisions regarding their practice. Although the evidence-based medicine triad

integrates research evidence, clinical expertise and patient preference, the research component has become dominant and the RCT is considered the gold standard (Hall et al, 2011). Pregnancy is a time of particular vulnerability and the assumption that 'natural' therapies are safe during this time is largely unsubstantiated (Lapi et al, 2008; Chitty, 2009). However, pregnant women are a vulnerable population and as such have been traditionally excluded from many clinical trials (Badell et al, 2006). The result is a lack of research evidence for the use of both conventional and complementary medicines during pregnancy. Furthermore, many of the practices surrounding CM are based on untested knowledge and wisdom rather than scientific verification (Hall et al, 2010). However, the lack of scientific evidence does not necessarily equate to lack of benefit; it simply means there is currently insufficient reliable research data to make clear recommendations regarding the use of CM, using the evidence-based approach. Indeed there are many standard conventional therapies, such as the use of antiemetic drugs for NVP, which also have only limited evidence from trials to support their use (Matthews et al, 2010). Despite the barriers, a small repertoire of studies investigating CM is evolving.

## Conclusion

NVP is a common and often debilitating condition. Some women believe CM is an effective and safe option for managing their symptoms. Many of these therapies have not been tested in clinical trials. There is however limited evidence to support the appropriate use of ginger, pyridoxine (B6) and acupressure. Acupuncture, and other therapies may be useful, but further research is needed.

Midwives work in partnership with women to ensure decisions are based on the best available evidence. However, it is important to note the RCM issued a position statement on the use of CAM (RCM, 2003) stating: '... It should not be assumed because a therapy is 'traditional' or 'natural' that it is safe.' Midwives are encouraged to keep up to date with the developing catalogue of clinical research.

## Limitations

Selection of articles for this review was limited to those reporting on clinical trials that were published in English. It is anticipated that there are many more CM traditionally used to manage NVP that have either not yet been subjected to clinical trials or the reports are not published in English.

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# Balancing research and action in turbulent times: action research as a tool for change

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## Abstract

Action research is now reported globally and is carried out in a variety of contexts to incorporate a range of professions including midwifery. It is impossible to describe a one-dimensional approach because there are such diverse sources that inspire action researchers. Given that the purpose of action research is to engage in a dynamic relationship with constantly changing situations, it is appropriate that a 'one size fits all' is not achievable. This is pertinent to midwifery where action research can usefully respond to the complexities of clinical practice and to do that in a way that is true to the philosophies underlying practice.

It is not the intention of this paper to explore definitions and theory of action research. Rather the aim is to engage with the process of, and methods within, action research that can enable the participation and collaboration of midwives. Some of the tensions and challenges involved in the action research process and how they might be overcome (or not) are illuminated. In particular, the paper focuses on the challenges of facilitating practitioner participation/engagement at various stages of the research process. The insights of the paper are illustrated by means of data extracts and examples from two action research studies that were both undertaken on different sites in northern England by the author; one project explored midwives' support needs and the other facilitated further development of a midwife-led unit.

*Key words:* Action research, methodology, participation, collaboration, evidence-based midwifery

## Introduction

The paper is structured as follows; firstly, a short historical introduction to action research is given. The second section draws on an action research approach derived from Deery and Hughes (2002). This approach pays particular attention to the complexity of the issues that arise in relation to the participation of practitioners and their relationship with the author at various points in the action research cycle. It is important that these interpersonal and emotional aspects of action research are reported in the literature to provide reassurance to novice action researchers. Thirdly, a discussion of important issues that have resulted from the second sections will be presented.

Reason and Bradbury (2001: 2) comment that 'it is not possible to provide one coherent history of action research' because its origins are unclear within the literature. Some authors (Kemmis and McTaggart, 1988; Zuber-Skerritt, 1992; Holter and Schwartz-Barcott, 1993) attribute the concept of action research to Kurt Lewin's pioneering work in the 1940s. However, there is evidence of the use of action research by a number of social reformists prior to Lewin, such as Collier in 1945, Lippitt and Radke in 1946 and Corey in 1953 (Masters, 1995). McTaggart (1992) cites work by Gstettner and Altricher using group participation in 1913 in a community development initiative with prostitutes in Vienna. However, the principles outlined by Lewin of democracy, participation, reflection and change have remained central to most descriptions of action research over the years (McNiff, 2002; Waterman et al, 2002; Parkin, 2009; Koshy et al, 2011).

McNiff and Whitehead (2006) claim that action research aims to be disciplined and systematic by observing, reflecting, acting, evaluating and modifying in order to

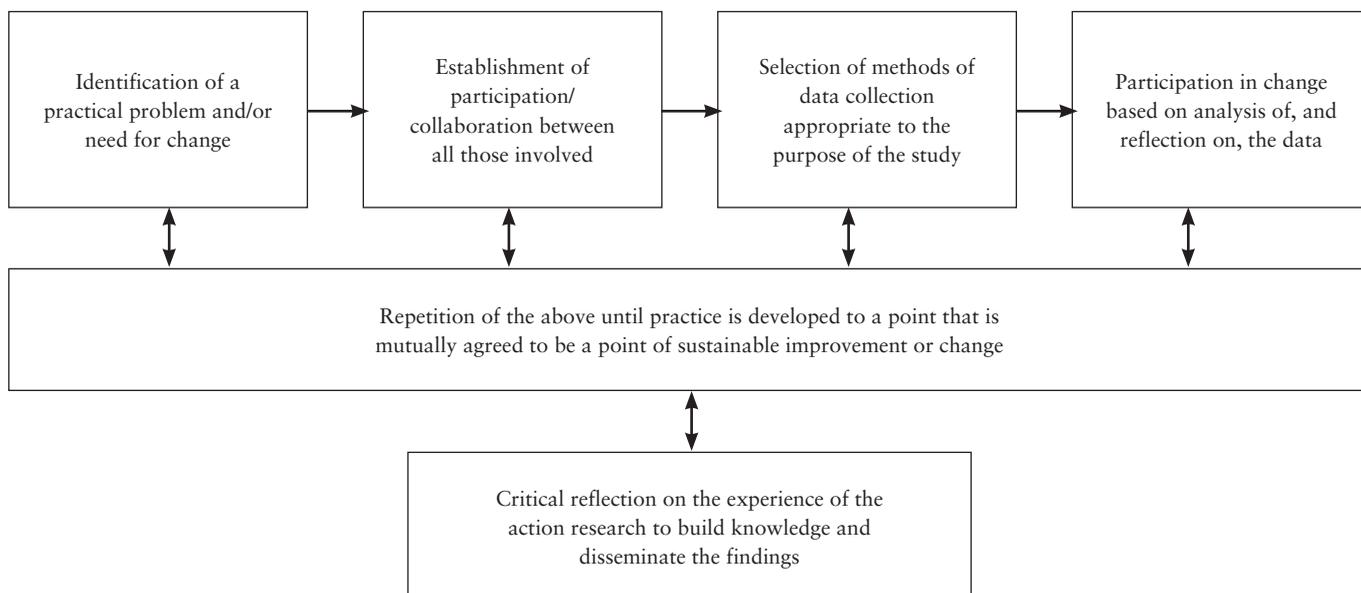
move in new directions. Some authors have also attempted to categorise various approaches or typologies of action research (Hart and Bond, 1995; Holter and Schwartz-Barcott, 1993) in an attempt to clarify and enhance understanding of action research. However, these typologies can also restrict the fluidity of the approach by imposing theoretical categorisations which, in practical action research situations, tend to merge and conflate. The action research approach is, on the one hand, not prescriptive; it merely offers a range of models – for example, McNiff's three-dimensional spiral model, Hart and Bond's four typologies, Holter and Schwartz-Barcott's three approaches and Zuber-Skerritt's CRASP model (McNiff, 2002; Hart and Bond, 1995; Holter and Schwartz-Barcott, 1993; Zuber-Skerritt, 1992). On the other hand, this range of models can have the effect of implying that some form of order needs to be placed on action research. This can be experienced by novice action researchers as restrictive and perhaps alien to their reasons for choosing action research as an approach. In practical terms Reason and Bradbury (2001: xxiv) state that, 'the action research family includes a whole range of approaches and practices, each grounded in different traditions, in different philosophical and psychological assumptions, pursuing different political commitments'.

However, an indication of the stages involved in action research can offer helpful guidance and, in the context of this paper, Figure 1 (Deery and Hughes, 2002) provides a useful framework for an exposition of the approach.

## Introduction to the actions research studies

The framework above will be used to explore the practicalities of action research in the next section. The

Figure 1. Action research framework (Deery and Hughes, 2002)



eight NHS community-based midwives participating in the support needs study (SNS) (Deery, 2003; 2005) formed a team that practised midwifery in local clinics and women's homes and provided care for women before and after the birth of their babies. The action research process sought to explore how community midwives mobilise support for themselves and, using the cyclical approach within action research, fostered the initiation and development of the midwives' own framework for clinical supervision as a support mechanism.

The midwifery-led care (MLC) project was intended to support midwife-led care where concerns had been expressed by midwives about its future. The study (Deery and Hughes, 2004) aimed to assist further development of a midwife-led unit during and after a move to shared facilities with an obstetrician-led service. When a new hospital was planned (opened 2001), the midwife-led unit and the obstetrician-led unit were located in the same area and on the same floor. Midwives had expressed many concerns about the future for midwife-led care in shared geographical surroundings, given the still current hegemony of the medico-technical model of childbirth. These concerns centred on decision-making processes, the use of technology and interventions, the loss of skills to facilitate physiological birthing, and working relationships with medical and medically-focused midwifery colleagues. The fear was that this would lead to the demise of midwife-led care and the ethos and skills that underpinned it, and that intervention rates would increase further.

In the following section, the framework for the stages of action research presented at the end of the previous section is elaborated and related to the experience of the action research projects. Both the strengths and limitations of the projects are drawn upon in the discussion.

#### Identifying a practical problem and/or need for change

At the heart of an action research study is the desire to improve or change workplace situations through collaboration, participation, reflection and increased knowledge. In order to be successful, it is important that this is perceived not only by the researcher, but also by the research participants. The SNS (Deery, 2003; 2005) involved working with community midwives who had expressed a lack of support from their managers and peers to the author during clinical visits. The overall aim of the study was to explore their support needs, develop an intervention and put this change into practice. The MLC project (Deery and Hughes, 2004) used action research to initiate and further develop midwife-led care in response to the reorganisation of services and the midwives' fear that the ethos and skills underpinning MLC might become subsumed into labour ward culture.

#### Establishing participation/collaboration

Action research has been described by Reason (1994: 11) as involving 'relationships of authentic collaboration and dialogue' and avoiding 'unnecessary hierarchy and compulsive control', which are counter to the aims and values of action researchers. The nature and degree of democratic collaboration are crucial to the success of the action research process (Hart and Bond, 1995).

As action research is context-specific – that is, focusing on a local or discreet situation, location or group (Morrison and Lilford, 2001) – there is diversity in the amount and nature of collaborative processes involved. The participants are usually a group of people who know the field from an internal perspective and have a good working knowledge of the workplace. This understanding of the whole setting in which the research is to take place, including the people that

work within it and the structures within which the study setting is located, is fundamental to action research. For example, in the SNS, the author needed to understand the organisational culture of community midwifery, including its location within a broader maternity service, to understand the team as a whole and the individuals within that team. This understanding comes from constant and meaningful interaction with the group in its setting. It is not simply a question of gaining access for a set of interviews or focus groups, because action research is integral to the political context in which it is being undertaken.

Maternity services are changing rapidly therefore action research is highly appropriate because it facilitates the unpredictable and complex nature of dynamic clinical practice situations and challenges stagnant thinking processes. As McNiff and Whitehead (2006: 31) point out: 'As well as being exciting, this way of working is also risky. Action researchers constantly stand on the edge. The next moment is unknown. They commit to the risk of creating a new future. This is a different mental set from traditional assumptions that knowledge is given.' Action research is concerned with groups or communities of people where its purpose is to use different approaches to research to bring about change or increased understanding within that group (Reason and Bradbury, 2001; Parkin, 2009; Koshy et al, 2011). It is a process that involves cyclical processes of assessment, planning, intervention and evaluation, in which critical reflection plays an essential part. Those taking part are the focus of the study and ideally participate and share in these processes. The need to establish trust and respect and to listen to colleagues is paramount. Teamwork is essential in order that processes such as collaboration and participation run smoothly (Koshy et al, 2011) especially as action research has the potential to incorporate direct participation in strategic planning and policy-making in the NHS (Hughes et al, 2002). When midwives' voices are not able, or even willing, to inform NHS strategic planning, this can result in contradictions and conflicting values becoming apparent among the workforce (Hughes et al, 2002; Deery, 2005). Avoidance and conflict are likely to raise their heads among participants (Parkin, 2009) and the workforce and values of managers can appear incongruent to the values of grassroots midwives (Deery et al, 2010).

While collaboration in most action research projects is central to the dynamic of change, the converse can also be true, in that participants can also use their 'power' to constrain and limit the progress and scope of a project. For example, participants can choose to limit their involvement and the scope of the enquiry by establishing constraining ground-rules at the outset. While clear ground rules are important, the participants in the SNS imposed boundaries that ultimately limited the project's scope because the participants did not want to undertake anything that was extra to their daily work. Rather than facilitate the study in their direction, with the researcher following their lead, the midwives chose to make it clear that their increasing

workloads precluded them spending time with the researcher. As one of the participants stated: "*We were doing something that seemed as if it was going to encroach on our time for your ultimate benefit. It was very hard at times to see how we would possibly benefit from this, other than more work, more commitment and more hassle...*" (midwife 3, SNS).

The message was that the benefit was in research and career terms for the author. This was disappointing, especially as action research can help participants with their own personal and professional development. In the SNS, the midwives wanted to 'use' the researcher to act on their behalf rather than learn about, and engage in, meaningful interactions. As Fazey (2000: 171) has stated, action research 'can be a political time-bomb, or used and manipulated for political purposes'.

Action research has always implied some form of participation, although as was seen above, the nature and degree of active involvement will vary according to the focus and duration of the action research project. For example, following feedback from preliminary observation in the MLC project, the participants spontaneously undertook a range of audit and research activities, which both refuelled and redirected the project, with the researchers following their lead. This involved the project engaging in some quantitative analysis that had not been envisaged or planned at the outset; it arose out of the participants' understanding of their work situation. However, in the SNS, participation remained more passive with reluctance to take ownership of the project, in a way that was not envisaged. Consequently, the potential of the project to bring about change did not come to fruition. Participants in the MLC project collaborated and participated on all levels, whereas in the SNS collaboration only occurred during data collection, with the participants avoiding collaboration outside of this, while also resisting true participation. As one of the participants stated: "*...But it's your research... I know you are saying you want it to be our study and we have agreed to be involved in it and I will... I am committed to it... but at the end of the day, it's still yours... it's not mine... and I know all the good things that can come out of it... I am perfectly aware of that... but I don't think that it is joint responsibility... I think it is yours*" (midwife 1, SNS).

#### **Selecting methods of data collection**

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The focus of the study may suggest many different approaches and methods, and lead to a variety of methods being used. The SNS lasted three years and comprised of three phases. Each midwife was interviewed twice; before (phase 1) and after the experience of clinical supervision (phase 3). They also participated in two focus groups before clinical supervision (phase 2). In-depth individual interviews lasted up to two hours, as did the focus groups. The interviews and the focus groups were taped, transcribed and then analysed using a relational voice-centred methodology (Mauthner and Doucet, 1998). As one of the aims of the study was to explore midwives' working relationships, it was important that the author was able to observe them together as a group, albeit out of the work context. The participating

midwives already knew each other through working and socialising together and the author hoped this would enhance the synergism of the focus group and provide a 'natural social network' (Kitzinger, 1994: 106). The author was also hoping that during the focus groups, the midwives would be able to articulate views about their support needs and a way forward during the change process. However, despite the author's hope that the midwives would take ownership of the project, difficulties around issues relating to power within the research relationship and the ways in which participants can become 'politically motivated actors' (Alvesson, 2002: 113) occurred.

In the SNS, focus groups were used as a time-efficient means of gathering information from a number of people (Grbich, 1999). They also mirror the social organisation of midwifery. In the SNS, being 'time efficient' was an important factor because the midwives participating in the study were adamant that their busy work schedules precluded them giving too much of their time, especially as they had also provided the researcher with individual interviews in the first and final phase of the project (Deery, 2008; Bryson and Deery, 2009).

In the MLC project a range of mixed methods of data collection were used at various points in the research. This demanded different approaches to data analysis and many sources of different but linked information. Being able to articulate the links between the data, and not to see the information generated by different methods in isolation, placed demands on the researchers. While each line of inquiry had grown out of the project focus, data integration and synthesis was difficult and not always possible. Each contributed to knowledge of the phenomenon (MLC), but findings were occasionally contradictory or their inter-relationship unclear. While the researchers sometimes worried that this was a failure of approach, it was more likely a reflection of the complexity of the phenomenon being studied (for example, the differing values and beliefs of midwives working in the same unit). The more comprehensive an action research study is, the more likely it is that the analysis will also be complex; yet at the same time, it is the in-depth investigation of an action research study that is more likely to lead to significant and sustained change.

#### **Participating in change based on analysis of, and reflection on, the data**

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Critical reflection by the participants and the research team is crucial to engendering change through action research. Transcripts of interviews and observational data were reflected on and used by participants in both projects. In the MLC project, some observation episodes of midwife-led care were carried out in the first cycle and the notes made by the researchers were given to the participants. Their reflections on what they read gave rise to a range of altered behaviours, not least of which was their behaviour during a second cycle of observational data collection. During this second cycle of data collection, the midwives actively engaged the observers in order to direct their attention to certain aspects

of the midwife-led care environment and gave detailed explanations of their behaviour and decision-making. The problem-solving purpose of action research thereby became integral within the process (Deery and Hughes, 2004) and change constantly evolved alongside data collection and analysis. Active, critical reflection by the midwives and the research team was therefore key to the MLC project and its subsequent success.

Action research tries to understand the nature of social phenomena and actions and to facilitate change in some way as decided by the participants rather than the researcher (Koshy et al, 2011). The participants bring about the change; the change cannot therefore occur without the participants. The researcher may well influence the direction of change, but the group itself determines the nature of those changes. These may run counter to the researcher's own point of view. For example, in the MLC project, little or no mention of continuity of care emerged during interviews undertaken to gather the midwives' personal constructs of midwife-led care (Bell et al, 2001), despite continuity of care being a major interest of the research team.

In the SNS, action research provided the opportunity for midwives to change their approach to clinical practice, although this opportunity was not fully embraced, given the degree of resistance encountered. The data that were produced within each cycle of the action research meant that the midwives had to confront some difficult and sensitive issues within their work team, which they seemed to find too challenging. Action research as an approach therefore proved to be effective in making visible the ways in which the midwives behaved and coped when faced with change. However, when the midwives were offered the opportunity (clinical supervision) to critically reflect on these sensitive issues, they chose to avoid the challenges that such reflection might bring to the surface. Thus desire for change brings with it a degree of responsibility to carry out a particular course of action, but in the case of the SNS, the benefits of action research were not realised.

An equal power base between researcher and participants is crucial in research where participation is central, because where power imbalances exist between one party and another, this has the effect of disempowering at least one of the parties (Kirkham, 1999). Despite the fact that the author wanted an equal power base with the participating midwives in the SNS, at times they were insistent that the researcher was the only person that held any power to enact change. The culture of midwifery in this maternity service was such that frontline midwives were not involved in the organisation of services and decision-making processes and thus had no experience of collaborative and participative working. Unfortunately, their lack of empowerment was reflected in their participation of the study; or rather, the only power their words suggested they had was the power to resist what they perceived as the potential imposition of change (see data extracts above). Initially, they had seized the opportunity to participate in the study, but when their involvement became uncomfortable, they became reluctant to participate further.

### **Repeating the above until practice is developed to a point that is mutually agreed to be a point of sustainable improvement or change**

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Action research in the contexts reported in this paper involved cyclical processes of assessment, planning, intervention and evaluation, as well as critical reflection. The group that is the focus of the study ideally participates and shares in these processes. An action researcher cannot be the manager of a project in the same way it is possible to 'manage' projects using other research approaches. At most, the action researcher can lead or facilitate a project according to the participants' needs – there are parallel processes here to how a midwife cannot manage a woman's birthing experience, only facilitate it.

A strength of action research is its ability to evolve, spread, change and spiral in tune with the complexity of the focus of the project. The lack of researcher control needs to be accepted and welcomed as an accurate reflection of the aspects of life and community activity an action research project seeks to change or improve. Life is complex and researchers risk failing in their quest to understand and have real knowledge of these if they succumb to the temptation to control these in a positivist fashion (McNiff and Whitehead, 2006). Taking a single method approach to a research problem can similarly limit understanding. For example, in the SNS, had a single approach been taken, resistance to change might not have been encountered and an opportunity to obtain a deeper understanding of the complexities of power within organisations might have been missed. Likewise, in the MLC project when reorganisation of health services took place, midwife-led care may well have disappeared had the midwives not grasped the opportunity to further develop and change current services.

### **Reflecting on the experience of the action research**

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Various factors (including the experience of the researcher) influence the way in which an action research project is carried out. The two examples provided illustrate how it is not possible to adhere to a pre-ordained model. In respect to the SNS, when searching the action research literature for a model to fit the project, it became clear that no one model fitted. This gave rise to anxiety about 'doing it wrong'; of having to fit the project into a pre-defined model. Meeting and talking to other action researchers clarified the implausibility and dangers of persisting with this and gave reassurance that adherence to a model was not necessary. It is therefore important that researchers new to action research embrace the lack of prescription or indeterminacy that can present during the process.

Each action research project may individually and uniquely deviate from the wide range of action research models described in the literature. This amorphous quality of action research means that its shape arises out of the project rather than the project having a pre-ordained character. It is therefore both difficult and probably inappropriate at the start of an action research project to give a clear outline of the direction and methods of inquiry to be undertaken. Hart and Bond (1995) have identified how the amorphous

quality of action research makes it difficult when completing research bids, as those commissioning the study and the researchers may have different ideas about data gathering methods. They state that 'it was not... appropriate for the exact combination or sequence of deployment of such tools to be specified in advance by researchers... to do so would have denied them the opportunity to collaborate from the outset in key decision-making about the nature and direction of the research and it would have placed barriers in the way of creating a shared sense of ownership of the initiative' (Hart and Bond, 1995: 76-7).

This can give rise to problems both in obtaining research funds and gaining access (Walsh et al, 2008). The focus of action research on solutions to practical problems implies that a tidy outcome to action research is expected; however, a solution may not be identified. Participants may have more of an understanding of the problem or find ways of living with the fact that there is no solution; the researcher should be sensitive to this, without taking protestations that 'nothing can be done' at face value. The difficulty of finding a solution may add to the feeling of action research being complex and uncertain. Through action research, the nature of problems may change with some being solved and others emerging, but there is unlikely to be an end point where the researchers/participants are able to draw a line in the sand.

### **Conclusion**

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Action research can take many forms, even beyond the descriptions in the literature. This paper has sought to use a simple model of the stages of action research process proposed by Deery and Hughes (2002) and to use that framework to explore some of the practicalities of engaging in action research. Throughout the paper, two midwifery action research projects are used to illustrate and explore various points. Several points are worth highlighting in an effort to pave the way for future action research projects.

First, action research as implemented is often far more complex than the canonical depictions in textbooks might seem to imply. Although the framework presented and used in this paper gives an overview of the progress of an action research project, in practice the researchers found that they could be involved in all of the elements at any one time. What is perhaps different from many other research approaches, though, is that the complexity (messiness) is, in crucial respects, to be welcomed since it will arise from the research participants in the definition, progress and successful termination of a project. Managing and responding to this places considerable demands on the researcher to engage in critical personal reflection.

Notwithstanding its highly varied nature and the challenges of carrying it out – particularly with regard to securing the crucial, active participation of research participants – action research holds out great promise for helping us to understand organisational and professional culture and change in the face of radical NHS reforms, workforce reconfigurations and financial pressures. Crucially, the process of action research is as important as the final outcomes.

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# Teamwork in obstetric emergencies

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## Abstract

**Background.** A maternity unit in Northern Ireland, providing care at that time for approximately 2750 childbearing women, was the setting for this research study.

**Aim.** To explore inter-professional teamwork during obstetric emergencies.

**Methodology.** A qualitative approach using action research methods. Ethical approval for the study was sought and granted from the University of Ulster Research Ethical Committee and the trust research governance committee. Obstetric emergencies were simulated and video recorded to explore interaction, behaviour and practices of healthcare professionals within a framework of peer support. Data from the video clips were examined using a qualitative data analysis framework and emerging themes were identified and agreed through the use of confirmatory focus groups.

**Findings.** A major outcome from the study was the identification of the importance of support from operational systems and organisational processes in the delivery of effective care. The data revealed that the obstetric healthcare team was a social formation that can be understood in relation to three main emerging themes – communication, collaboration and control. Communication and professional collaboration were central to ‘teamwork’, however, teamwork could be adversely affected by inappropriate behaviour and commands. Control of the team by the team leader (predominantly a doctor and so reflecting the hospital systems and culture) was therefore a dynamic aspect of ‘good team-working’. This required of the team leader the ability to multi-task, direct the team, and effective and timely hand-over care if and when required. Rotation of medical staff between healthcare settings and shift changes impacts on the dynamics of care provision leading to fragmentation and disruption of team dynamics. Individual and team behaviour are therefore important aspects of efficient and effective management of obstetric emergencies.

**Recommendation.** Continuing education and on-site team training at a multi-professional level is an essential aspect of ensuring systems and processes are in place to support best practice.

**Key words:** Action research, obstetric emergencies, teamwork, culture and organisation, evidence-based midwifery

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## Introduction

‘Every day, every minute, a woman dies in childbirth’ (RCOG, 2009; Unicef, 2009).

More than half a million women die each year across the world because of complications related to pregnancy and childbirth; of the estimated 536,000 maternal deaths reported in 2005, developing countries accounted for more than 99% of the fatalities (Unicef, 2010). Out of two million births in the UK, maternal deaths are comparatively rare; 295 women were considered by the CEMACH enquiry assessors to have died from conditions directly or indirectly related to pregnancy (Lewis, 2007). The CEMACH report published in 2007 noted that in many of the cases reported, care was hampered by poor teamwork, poor interpersonal skills, poor resuscitation skills and problems with communication.

Black and Brocklehurst (2003) reported obstetric emergencies can occur at any point in the birthing process, therefore they recommend that all health professionals involved in caring for women should be competent in both accurate diagnose and appropriate and timely management of an obstetric emergency. An obstetric emergency therefore requires an immediate and appropriate response to prevent a catastrophe that may affect not only the childbearing

woman, but also the life of the newborn child (Boyle, 2006). Obstetrics is a high risk speciality in which emergencies are to some extent inevitable and training staff to manage these emergencies is a fundamental principle of risk management (Birch et al, 2007). Reports have demonstrated a need to increase the effectiveness and efficiency of team-working when obstetric emergencies occur (Healthcare Commission, 2004; 2005; 2006; Lewis, 2007). Nevertheless, the infrequency of obstetric emergencies within UK healthcare facilities means that staff are not exposed to regular opportunities to gain experience and expertise. In addition, simulated preparation for obstetric emergencies for student midwives, obstetricians and anaesthetists is often limited to uni-professional educational settings. To overcome these limitations, this study set out to explore team-working in a busy obstetric unit using an action research methodology. The aim of the action research process was to incorporate a series of multi-professional simulation exercises as a means of increasing the effectiveness and efficiency of the obstetrical emergency team.

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## Literature review

To establish the relevant knowledge to date, a structured literature review was carried out. Databases searched with

the help of a senior librarian included CINAHL, MEDLINE, Embase, PsycINFO, PubMed, and the Cochrane Database of Systematic Reviews. Key words selected were 'teamwork', 'emergency', 'inter-professional', 'emergencies', 'obstetric emergencies', 'midwifery', 'maternity', 'obstetrics' and 'research'. Using Entrez, the life sciences search engine and searching across all databases at the start of this study (2003) resulted in three relevant research papers that reported on teamwork, research and emergency training for the management of obstetric emergencies.

The first paper by Cro et al (2001) was an evaluation of an initiative set up to train midwives and doctors to manage maternal emergencies and resuscitation in a classroom setting. The aim of the training was to improve confidence and team-building skills, but there was no data regarding clinical effectiveness available.

The second paper by Schull et al (2001) was a review paper that provided a synthesis of the problems facing clinicians dealing with emergencies (not specific to obstetrics). They concluded the review by highlighting a belief that even intensive training can not entirely remove stress or ensure the smooth functioning of a team. However, they suggested that increased clinical exposure, learned systematic responses and a focus on teamwork could result in diminished stress and improved care.

The third paper was a systematic review paper by Black and Brocklehurst in 2003 and the conclusions identified the lack of robust research in this area and the evidence summary identified the largest contributing factor to the death of babies was a delay in assembling the team. Therefore, they strongly advocated that further research related to effective team training for obstetric emergencies was carried out.

In summary, the literature review at that time provided evidence of a limited publication database on obstetric emergencies. The lack of robust data provided a sound rationale for proceeding with this study.

### Aim and purpose of the research

#### Problem

Obstetric emergencies are not always predictable and the infrequency of some emergency situations can result in staff not experiencing the teamwork necessary for managing the situation. This can lead to team dysfunction and suboptimal care provision.

#### Aim

The aim was to investigate the effect of on-site, multi-professional simulated emergency drills on teamwork.

#### Objectives

The objectives were twofold: to identify what elements enable teams to work more collaboratively and to seek to establish systems and factors that support best practices.

### Methodology

In response to the advice of Kemmis and McTaggart (1982), an action research approach was deemed the most

valid research method for the organisational development and participative nature of the proposed study.

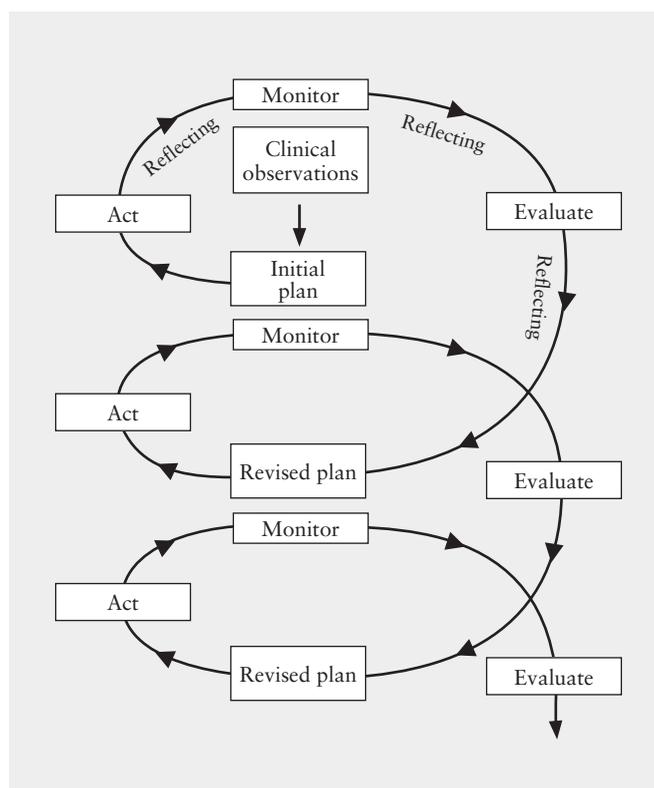
The research was conducted over a five-year period. A total of 200 participants were involved and this included midwives, paediatricians, anaesthetists, obstetricians, resuscitation officers, laboratory staff, as well as hospital staff who happened to be on duty at the time of the simulated obstetric emergency. Three action cycles in relation to four obstetric emergencies were completed. The emergencies were haemorrhage, cardiac arrest, cord prolapse and shoulder dystocia. All participants consented to be video recorded and debriefing for staff was a routine part of the process that took place with the team after the event.

### Rationale

Following the recognised action research cycle, the effective and efficient management of obstetric emergencies required an assessment of the existing team approach to each obstetric emergency, a plan of action to address the observed deficits and a reflection/evaluation of the event as a means of further refinement and intervention development (see Figure 1).

To ensure that the staff involved in direct obstetrical emergency care were instrumental in leading the developmental changes, a collaborative participative approach was used that involved all healthcare professionals likely to be present in clinical obstetric emergencies.

Figure 1. Action research cycle (adapted from Kemmis and McTaggart, 1982)



### **Ethical approval**

One of the most important ethical principles in the conduct of this research was to ensure all participants involved were not harmed in the process. In addition, it was important to ensure that the care provided to women within the unit at the time of the simulation learning was not compromised due to the non-availability of staff. The procedures for ethical approval therefore accounted for these recognised ethical challenges and approval was granted for the proposed research study by the University of Ulster and by the host healthcare trust (Ulster Community and Hospitals Trust now known as South Eastern Trust).

Agreement was also given by the trust involved and by the consultants from each speciality to video the simulated exercises. Consent forms were used to gain permission from 'actors' in the simulation exercises to use the video clips and photographic stills for teaching purposes.

The principles of anonymity and confidentiality were adhered to in all aspects of the research, as recommended by Robson (1993), using initials, numbers or symbols rather than staff names.

Non-participants (namely service users at the time of the simulations) were informed that the research site was a teaching and training hospital and simulated exercises may take place during their stay. They were assured that they would not be personally involved and no data relating to their care would be recorded. This information was given to all women at the antenatal clinic.

### **Storage of data**

All data and video tapes/DVDs were stored securely in a locked cupboard. Electronic data were stored on the researcher's password protected computer. Data were kept in accordance with the Data Protection Act (1998) and files are to be deleted after five years.

### **Study setting and sample**

The setting for this research study was a maternity unit in Northern Ireland, which provided care at the start of the study for approximately 2750 childbearing women. The data was collected between 2003 and 2007 inclusively. By completion of the study, the maternity unit had relocated to a new building, the design having been informed by aspects of the study findings and the numbers of women attending had risen to 3600.

Informed by the nature of the emergency simulation, the sample was defined by the number and constitution of the health professionals on duty at the time of the simulation.

### **Data collection**

Action research allows for several tools to be used (O'Brien, 1998) and the use of video as a suitable method of valid and reliable data capture was deemed as superior to simple observation. The value of audio-visual material has been well documented across various methodological perspectives (Lomax and Casey, 1998; Ratcliff, 1999).

For the purpose of this research, the ability to use video recording for exploring the interaction between the members

of the multi-professional team meant the data could be viewed and reviewed to chart the progress of each member of the team and the part they played in the interaction and team-working within an obstetric emergency situation.

To increase the validity of the findings, two multi-professional focus group workshops were conducted to provide a platform for presentation of key data, analyses and interpretation by the research team. These events were very well attended by all professional groups and enhanced the confirmability of the findings.

It is not possible to report the detail of each obstetrical emergency cycle therefore, the following data analysis reports the overall analysis and emergence of the overarching themes.

### **Data analysis**

Analysis of the simulated exercises by repeated observation and compilation of written notes was started and patterns of activity, behaviours and interactions were observed, discussed and confirmed within the focus groups. A process of data analysis through iterative coding was undertaken as a means of refining the results (Dohan, 2004). Mapping the progress of each team member through a paper-trail of notes brought to the fore the main themes arising. This was then captured electronically by the use of a process of illustrative analysis whereby pictorial symbols were allocated to each individual. This electronic format allowed visualisation and mapping of communication and action lines of activities as illustrated in Figure 2. Through the visualisation mapping process, the complexity, layers of activity and how they accumulated became apparent.

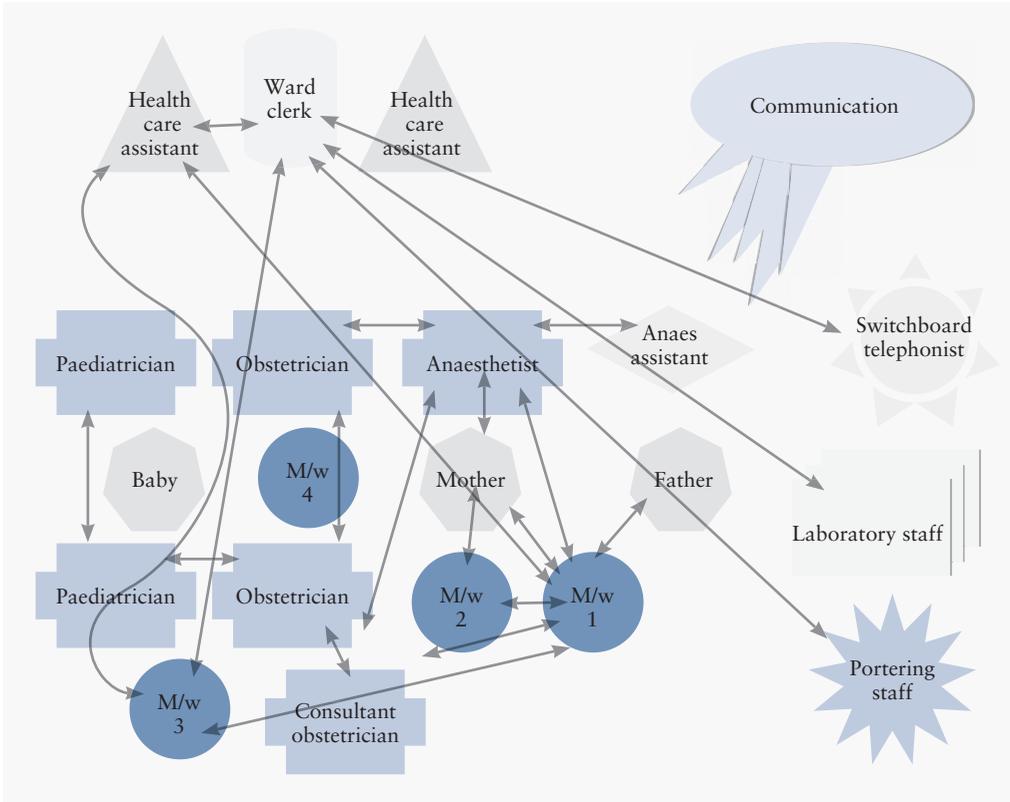
### **Discussion of findings**

The reported research was undertaken over a five-year period and included 50 simulated emergency drills with 200 staff members. The drills undertaken focused on managing major obstetric emergencies including: haemorrhage, cardiac arrest, shoulder dystocia and cord prolapse. While issues for action occurred within each of the simulation subject areas and interventions were put in place to address these before re-evaluation took place; three main themes emerged that were central to all obstetrical emergencies. These included collaboration, communication and control. All participants consented to be video-recorded and debriefing for staff was a routine part of the process that took place with the team after the event. During the five years, there were no reported cases of staff requiring additional support or counselling. At the outset, it is however important to report that in every simulation exercise category post-evaluation analysis demonstrated effective change. It is not possible within the limitations of this paper to describe the resulting interventions in detail and so the discussion focuses on the three central themes described:

### **Communication**

The complex chain of communication was observed in relation to the team management of the

Figure 2. The visualisation and layering of the complexity of the observed obstetrical team demonstrating the observed lines of communication



*Control*

These two themes also emerged throughout the reported simulation:

- A second call went out for senior obstetric attendance – the first to arrive was an obstetric registrar followed one minute later by the obstetric consultant
- The consultant obstetrician asked the registrar: “What’s happening?” The registrar, having just arrived, could not respond
- The midwife attempted to provide the history, which the consultant ignored and spoke to the registrar stating: “You are in control.”

An expectation that medical staff are automatically in the leadership role was often assumed. Despite attempts

obstetric emergencies. Demonstrated in relation to the management of postpartum haemorrhage, the following observed scenario illustrates the importance of effective communication:

**Simulation of a haemorrhage**

A primigravida woman at 36 weeks’ gestation presented to the maternity unit with heavy vaginal blood loss (simulated using red jelly). The first professional attending the situation was a midwife and a brief record of the events is as follows:

- The midwife rapidly assessed the estimated blood loss as 250mls (actual 500mls)
- She quickly instructed a healthcare assistant to contact Dr B
- The healthcare assistant dutifully contacted switchboard staff who fast bleeped Dr B
- Two Dr Bs with the same name arrived, neither of whom were obstetricians
- Meanwhile the midwife, having noted the heavy blood loss, called out “emergency trolley”, but did not direct anyone (in particular) to obtain this equipment and after her fourth call she became a little irritated and snapped: “An emergency trolley would be nice”
- The paediatrician Dr B responded to the midwife’s request and left the emergency scene to look for the trolley.

Analysis demonstrated the loss of time through non-specific and non-directive communication.

to assist the registrar who at this stage was unable to answer the questions, the midwife was effectively removed to a background position by the consultant directing her to: “Go and sort the bloods.” The midwife dutifully proceeded to explore the situation and discovered the midwife she had previously allocated to ‘sort the bloods’ was still handwriting the labels to apply to the laboratory bottles of blood and the forms. The samples had not yet left the setting to go to the laboratory and therefore no group-specific blood was being processed.

Following several scenarios of this type, it was evident change needed to occur in communication at individual, team and systems level. Effective communication needed to be clear, precise and factual. For example, instructing someone to bleep Dr B is not enough; the person giving the command had to give a clear and precise request for action and the switchboard staff needed to know exactly who they were to contact as in this situation three Dr Bs responded.

Action following analysis resulted in two tiers of activity over the five-year period. In the first cycle, a policy change was introduced and each member of the response team needed to be identified individually. Therefore, the member of staff dealing with the obstetric emergency was allocated to contact the switchboard and to name the personnel required individually and included the:

- Obstetric senior house officer and obstetric registrar
- Paediatric senior house officer and registrar
- Anaesthetist on call for labour ward

Table 1. The configuration of the obstetrical emergency teams

Team A	Anaesthetist, obstetric registrar and senior house officer, paediatric registrar and senior house officer, senior midwife and theatre technician
Team B	All of the above, except paediatricians
Team C	Paediatricians only

• Operating department assistant on call for labour ward. However on re-evaluation in cycle two, often at least one professional was forgotten requiring a second phone call. The time taken to make this call also meant a delay in providing optimal care.

In the third cycle, the identification of this as a 'systems' failure led to action being taken to address the problem and a new bleep system was set up that required one telephone call to the switchboard and a request for a specific team, the members of that team had been allocated to a ringed bleep process; whereby switchboard staff activated the allocated team, stating the problem and location (see Table 1). As outlined in Table 1, team membership was allocated in relation to the nature of the obstetric emergency. Training was rolled out to all staff regarding this change in practice and staff participated further by suggesting easy-to-remember descriptors (see Table 2). This similar process of observation, reflection and action (as demonstrated in Table 3) led to clinical issues emerging and an evolutionary change taking place at a local level. In every situation where change was required, specific information sessions were set-up to educate staff.

### Collaboration

Collaboration between healthcare professionals emerged as a major theme from the analysis. Once the emergency call had been initiated, responders arrived within three to five minutes. However, as each medical professional attended, they were most concerned with their own area of expertise; paediatricians setting up neonatal equipment, obstetricians assisting fetal wellbeing as well as the woman's condition, and the anaesthetist establishing airway and circulatory information. Midwifery staff who had initially been managing the situation were often unsure when to hand over care and to whom. Uni-professional collaboration was clearly observed, but multi-professional collaboration was not. At least three different professional bodies were observed and, although each had their own inter-professional communication lines, they also expected the lead midwife to simultaneously respond to them at an individual level. That is, the midwife was expected to be a conduit between individuals (obstetricians, paediatricians and anaesthetists) and the full team at any given time. For

example, having identified midwives as the first responders at emergency scenes and responsible for ensuring appropriate aid was alerted, it was noted, as each member of the emergency team staff arrived, there was a repetition of the report

on condition. Each attending professional asked: "What's happening?" and this resulted in delays in care and treatment. The main observation about interactions in the team was the use of excessive and repetitive communication. All staff were observed to be speaking at once, talking between each other and over each other and there were no clear lines of communicative action.

Decisions were being made by individuals and these were not relayed to the senior team members present. The following example illuminates this point:

- The senior medical consultant requested that the cardiac team be alerted immediately
- The staff member allocated to make the call was stopped outside the room and asked by another medical consultant (different profession) what they had been tasked to undertake
- The emergency call was not initiated, however, the team in the room were still waiting for the cardiac team to arrive
- At the debriefing session, the second consultant stated that he felt the medical staff in attendance should have been able to deal with the situation.

This data illustrated the need for there to be consensus on the action to be taken; analysis revealed that conflict between senior team members of staff led to critical delays and the need for a designated emergency team leader. The findings led to an action where it was agreed that the team leader would have the ability to provide clear, succinct information to colleagues in order to lead the team to achieve optimal outcomes. Appropriate leaders would be given precise instructions about the situation and given the control they needed to ensure the appropriate actions took place. Knowing who and when to lead was a key outcome from this research.

### Control

One of the findings from this study to note was that when one professional group was involved in providing

Table 2. Easy-to-remember descriptors developed by participating staff

Team A = Antenatal event	Required all professionals
Team B = Baby born	Postnatal event – no paediatricians needed
Team C = Child	Baby needed assistance urgently (paediatricians only)

Table 3. Outcomes from using PAR: systems communication during an obstetric emergency (adapted from a model used by Seymour-Rolls and Hughes, 2000)

Cycle	Moment	What's happening	Study setting
One	Reflection	The group and thematic concern are identified	The group inclusive of all maternity staff identify the problem = contacting assistance
	Plan	The group plan to undertake an examination of the thematic concern and the social situation	Review of the simulation exercise makes note of existing issues. Group discuss and plan actions
	Action and observation	The plan is put into action and the group collect their observations to reconvene	Team bleep system suggested and planned, simulation continues
Two	Reflection	The group now reflect on their findings to more accurately define their thematic concern. This reflection would also include self-reflection by the participants.	Reflection on the change suggested notes a positive response from all groups except one further discussion and agreement secured
	Plan	The group can now plan a change in practice to improve the social situation. It should include the methods of critical examination to be utilised	Training sessions start, change to be implemented. Potential problems discussed
	Action	A change in practice is effected and the research is started	Plans are implemented and emergency call now one team bleep
Three	Observation	The group observes the consequences of the change in practice and use the research method outlined in the plan to examine the results	An improvement is noted during a repeated exercise. Benefits in saving staff time. Positive feedback from teams and staff
	Reflection	It would be unusual for the project to only go through 2 PAR cycles. The cycles would continue until the group was satisfied with the outcomes. The possibility of the project not reaching an end is realistic. This does not mean the original problem remains the same or that the group never finds any social justice in their situation	Training sessions and induction sessions inform new staff of local system-positive feedback all professional groups

care and a senior member of that group was involved (either a sister or consultant), then they would usually automatically become the 'leader'. Junior members of staff generally deferred to their senior colleagues. This situation always appeared to work particularly well when it was a uni-professional situation. Paediatric staff collaborated closely on resuscitation of the baby and deferred to most senior paediatrician. Midwifery staff deferred to the most senior midwife in attendance. However when a multi-professional event was in full flow, it was noted that the presence of a consultant obstetrician and a consultant anaesthetist could lead to delays in decision-making.

This scenario illustrates the point. A woman was admitted at 39 weeks to the maternity ward for observation of raised blood pressure and headaches. Shortly after admission her headaches became severe and she was breathless and collapsed shortly after the first midwife

attended. Following assessment at which information was given, she was no longer responsive. The midwife contacted the arrest team and the emergency obstetric team and within minutes, 21 staff were in the room: four members of the arrest team, three obstetricians, three paediatricians, two anaesthetists, an anaesthetic assistant, three healthcare assistants, a ward clerk, two ward midwives and two labour ward midwives.

In the video data, the paediatric team awaited delivery of the baby and were all present in the room asking the midwife for equipment to be brought in. The arrest team started CPR but stopped to look at the consultants present for some guidance, as they wanted to know if they should stop to allow delivery of the baby. In the meantime, the anaesthetist was attempting to secure an airway, but the midwives were trying to maintain a left lateral tilt. The obstetric consultant and consultant anaesthetist began to debate when to attempt delivery and the arrest team

leader looked to both for direction. There was no clear overall 'controller' and delays were noted in decision-making, control, communication and process. This led to a comment by the resuscitation officer observing the event that 'decision-making is being made by committee and debate rather than by a controller'.

Reflection and the analytical process resulted in identification of leadership roles for key team members also within the associated professions. It was agreed that the leader could be a midwife, doctor or anaesthetist, but the most important function of the leader was to be a clear communicator, a director of operations, a follower of agreed protocol and confident in taking and relinquishing control. A directive to reduce the number of persons attending emergencies was also introduced.

### Concluding comments

Individual and team behaviour was, and is, an important aspect of effective and efficient management of obstetric emergencies. While this research highlights the importance of on-site multi-professional simulation, it is important to point out the ongoing educational challenges associated with this approach. As the social dynamics and educational requirements of a staff team continue

to change as a result of constantly evolving clinical challenges, there is a need to continue introducing and exposing staff to the proposed educational experiences. The limitations of a core team of highly trained experts, with a nominated leader does therefore not suffice as a single measure to enhance optimal clinical outcomes in an event of an emergency. Each health professional has the responsibility to work as an effective team member. The evolutionary cycles of change are therefore inevitably part of the normal fabric of clinical life and the challenge of effective optimal health care.

Managing the process to secure optimum outcome for the mother and baby was the primary objective of the team attending any emergency. The most dynamic aspect of team-working was therefore identified as the role of team leader, requiring ability to multi-task, control the team, and hand over responsibility to another professional at the appropriate moment. A major outcome from the study was an identification of the need to accept the cycle of change in clinical practice as being a normal developmental process that engaged an invisible yet equally important operational system and organisational process at the point of delivery of effective care.

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# Constructing methodology: a radical textual analysis

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## Abstract

Constructing a research methodology is one way of meeting the assessment criteria at masters' level study. How to undertake this process is less well documented than how to write a dissertation. This article examines how one methodology, a radical textual analysis, was constructed after examining the discourse analysis literature, which covers approaches to words, conversations, events and documents. Although the student needs confidence to engage with their own methodology, to do so can demonstrate scholarly activity and engagement with the research process. This methodology was used to systematically examine the NMC (2009) standards, looking specifically at the introduction of grading student midwifery practice.

*Key words:* Radical textual analysis, methodology, evidence-based midwifery

## Introduction

Education, midwifery and nursing share a common deficit in relation to research and theory in that they do not traditionally have theories of their own. Instead they have borrowed theories from psychology, sociology, physiology and anthropology. The way forward in midwifery research, according to Page (2009), is to work collaboratively with academics with a longer research history and more resources, whether from other healthcare education backgrounds or from other disciplines. As a novice student researcher and an academic, I intended to 'borrow' and acknowledge theories from whichever discipline best theorised or explained the research phenomenon. For this paper, I constructed a discourse analysis methodology to examine an NMC (2009) policy document. The specific research topic was the statutory introduction of grading midwifery practice. Engaging with discourse analysis was initially problematic, so I read the literature and 'borrowed' aspects of several discourse analysis theories to construct my own methodology: a radical textual analysis.

## Discourse analysis as methodology

Gomm (2008) refers to the term 'discourse analysis' as the analysis of speech, texts or broadcasts. As much of the information we share in midwifery and education is produced in text form such as text-books, policy and dialogue, discourse analysis is a potential research methodology with which to analyse the documents produced. Neale (2009) reiterates this choice, stating that discourse analysis is a suitable methodology to analyse policy documents. Van Dijk (1990) also concurs, pointing out that since education documents and policies are mainly textual, more insight into the processes and structures, or discourses produced, will increase our understanding of the texts.

There were many conflicting discourse analysis theories to consider, with differing opinions as to whether they were a method or methodology, and a lack of clarity and shared understanding of the terms used. Gee (1999) argued that discourse analysis is both a method and a methodology and, as with any method, it always has a theory. Neale (2009), however, believes that it is not a research method, but rather a process of uncovering meaning. Saarinen (2008) suggested discourse analysis is both theoretically and methodologically appropriate to examine higher education policy. However, Tight (2003) cautions researchers, since so

much in education is text or document based, there might be the assumption that research in higher education frequently uses documentary analysis, when in fact practitioners just read the documents and apply the contents to their work. In doing so they have not used a methodology, or the guidance that discourse analysis can offer, and have not analysed the text in a systematic fashion. To be thorough, van Dijk (1990) agrees with Tight (2003) that discourse analysis should be systematic, and that both form and content need to be examined.

The tension of using highly linguistic analysis to the detriment of the social process embedded within the discourse is noted by Scollon (1998). As a neophyte researcher, engaging with discourse analysis, I was less confident about the linguistic or textual analysis of the language used within the documents, and more confident about uncovering a discourse. Although many text-books on discourse analysis were read and compared to illuminate this methodology, how to analyse the document was still not entirely apparent to me despite reading many theories.

Table 1 depicts key texts that were read in the initial stages of this work. Two theories of discourse analysis had elements that immediately made explicit sense to me (Gee, 1999; Maclure, 2003). Gee (1999) was helpful in breaking down the language into understandable components and Maclure (2003) helped the discourse behind the document to emerge. Two other discourse theories helped to develop my confidence in this methodology (Woods, 2006; Rogers, 2004). The more I engaged with the theories, the more I wanted to know, so I started to re-read the texts I had initially discarded to deepen my understanding, and this is when Fairclough (1995) came into the frame.

No one theory seemed exactly applicable to midwifery education, so I decided to construct my own methodology to examine the data in a systematic way. The data was formed by the text within the NMC document and, as with other research data, I immersed myself in it, reading, re-reading and thinking about its form and content, but I still needed a framework to increase the rigour. I used four forms of 'radical enquiry' (Clough and Nutbrown, 2007): radical looking, radical listening, radical reading, and radical questioning, as my methodological framework, which I named 'radical textual analysis', and used the methods advocated by others to guide my work (Gee, 1999; Maclure, 2003; Fairclough, 1995).

Table 1. Methodological matrix: to assist in decision-making

Author	Year	Title	Attributes	Accept/uncertain/refute?
Alvesson M Skoldberg K	2000	<i>Reflexive methodology</i>	Chapter on language, power and gender, relevant on many levels	Accept. Used for discussions, pros and cons of methodology and overview of methodology
Coulthard M	1997	<i>An introduction to discourse analysis</i>	Focus on literature and language	Refute. No policy, no textual analysis, no how to guide
Fairclough N	1995	<i>Critical discourse analysis: the critical study of language</i>	Section on textual analysis; outside language studies, therefore applicable to data; two different complementary forms of analysis – linguistic and intertextual	Uncertain. May work but does have negative undertones
Gee J	1999	<i>An introduction to discourse analysis, theory and practice</i>	Situations Meaning reflexivity Six building tasks	Accept. Clear but not directly related. Six steps may be applicable
Maclure M	2003	<i>Discourse in educational and social research</i>	Taking a text apart Words used include 'polemical' Deconstruction and educational research	Accept. Interesting and applied to education as well as methodology
Rogers R	2004	<i>An introduction to critical discourse analysis in education</i>	Authored chapters, such as Gee, what makes research critical, an updated stance on his previous work; Fairclough, social transformation and learning	Uncertain. May be illuminating to update works by seminal authors on subject
Scollon R	2008	<i>Analysis public discourse</i>	Document types chapter may be important. Action in CDA, this dissertation may make important points, how do I take that forward?	Uncertain. May be useful
Wetherell M Taylor S Yates S	2001a	<i>Discourse theory and practice</i>	Overview of many discourse ideas, chapters presented from 24 authors	Uncertain. Not immediately relevant, but may inform discussions
Wetherell M Taylor S Yates S	2001b	<i>Discourse as data: a guide for analysis</i>	Looked promising but again applied to various areas, each chapter written by a different author under terms such as 'masculinity', 'conversation analysis', 'unmarried motherhood' and 'new labour manifestos'	Uncertain. Evaluating and applying discourse analytical research may be of interest
Woods N	2006	<i>Describing discourse: a practical guide to discourse analysis</i>	Applied to several areas – advertising, politics, law medicine and education	Uncertain. Not explicitly relevant. Words used include 'polysemy' and 'etymology' Educational theories may be of interest

### Rationale for choosing name: radical textual analysis

The methodology proposed is reminiscent of the well-known 'critical discourse analysis' (Fairclough, 1995), but different in several ways, especially in its use of language and application. The words for the methodology were defined by a dictionary to make sense and justify their use. 'Radical' means 'at the root, natural, inherent, essential, or fundamental' (Sykes, 1982: 224), whereas the word 'critical' means 'finding fault, or skilful

at criticism' (Sykes, 1982: 225). Just as discourse analysis does not assume any universal truth (Neale, 2009), I could assume no universal truth in a 20-year-old dictionary, so I looked for a more contemporaneous definition. In 2006, Soanes and Stevenson still defined 'radical' as 'fundamental or at the root of', but additional meanings of 'innovative' or 'progressive' and 'political or social reform' are also cited. 'Critical', on the other hand, is defined (Soanes and Stevenson, 2006) as expressing

'adverse or disappointing comments' and 'analysis of merits and faults' of a work. These newer meanings of the words added to my dilemma for the name of this methodology, but I still wanted to uncover the roots, or fundamental elements of grading midwifery practice, not find fault with them, so I chose the word 'radical'. Also, the word 'radical' was explicit in the Clough and Nutbrown (2007) methodological framework, acknowledging this as the source of the word and my epistemological stance that started with the Association of Radical Midwives' *A vision for midwifery education* (Association of Radical Midwives, 1999).

The term 'textual' was preferred to discourse, and used as it refers to texts, whereas discourse is a nebulous term and somewhat overused, referring to ways of 'thinking, talking, acting and reacting' (Neale, 2009: 92). 'Discourse' (Sykes, 1982) had two uses in the dictionary, both literary and linguistic. Literary definitions included 'talk, conversation, dissertation, treatise or sermon' and the linguistic definition meant 'connected series of utterances' (ibid). In 2006, Soanes and Stevenson state that 'discourse' is a noun and a literary term; discourse now defines written or spoken communication and the linguistic definition is a text or conversation. Textual, however, was defined as 'of or in the text' (Sykes, 1982: 1107). The definition of textual has also evolved over the last 20 years to mean relating to a text, but when looking up 'text' in Soanes and Stevenson (2006), this means 'written' in terms of content rather than the form or original words of the document. Although this is an academic paper, it is not a conversation, and I did not want this work to be like a sermon but clearly stating what the methodology was about (such as the text) despite examining both content and form, so the preferred word chosen was 'textual'.

### Radical textual analysis

This first phase of this methodology was radical looking, which refines and defines the topic (Clough and Nutbrown, 2007). It meant looking beyond the known to see beyond the immediately obvious. I read the document (NMC, 2009) and had a 'feeling' that grading midwifery practice was not introduced in a logical or evidence-based way, so I wrote my initial thoughts down without any one structured approach. Johnson (1987) suggests no formula is needed to deconstruct a text, preferring instead to 'surprise yourself', so I started reading with a critical eye, asking myself 'how does that fit in?' But I felt this approach may be viewed as less systematic, less reliable and more subjective than a more formal method. As this work was also for an academic award and audience, it needed to be transparent and rigorous as opposed to free and intuitive.

As a practitioner, not a linguist, I realised that analysing the grammar, sentence structure and text were not my forte, but radical looking was, so I started with radical looking and moved on to more complex concepts once I was familiar with the data and 'feel' of the text. Radical looking, according to Maclure (2003), involves searching for the social actors within the document. Goffman (1959) introduces the idea of social actors, acting out our part, whether it is as a student, educationalist or mentor. We follow scripts, namely the standards, take on roles, teaching, assessing, learning, and we give performances.

Radical looking also involved the identification of binaries as advocated by Maclure (2003). Reading through the document,

it seemed evident that several binaries were used, mentor versus teacher, theory or practice, clinical as opposed to academic, education or training, student or midwife and assessment or grade. Many of these binaries related to the pedagogical aspects of midwifery education – the teacher, assessor and the environment. This document is produced for the educators, mentors and students to read; the term 'midwife' would cover all these roles, as both the educator and mentor will be qualified midwives and the student is aspiring to become a midwife.

The student was mentioned 103 times in relation to the educational purpose, the support they would receive and what skills they needed to demonstrate competence. The student was referred to as the definite article, but never spoken to directly in the document. This shows that, although the document is written about how to educate the students, it is not written for the student. In relation to assessing practice, the document acknowledged that students should be supported in practice and theory. Responsibility for auditing the educational environment of students is explicit, since the document says the approved educational establishment is responsible for this task, to ensure that the environment is suitable to meet the needs of the learner.

The mentor and teacher were referred to a similar number of times, 11 and nine respectively; each time these terms were used, they were prefixed with the word 'midwife,' as in 'midwife teacher' or 'midwife mentor'. Usually the mentor was mentioned subsequently to the teacher, suggesting that the teacher is more important than the mentor in maintaining the standards for pre-registration midwifery education. Yet there seemed to be more emphasis on practice (126 times) than theory (eight times) in the number of times the words were used. If we took 'practice' out of context, it would seem initially apparent that practice is more important than theory, but if we read it in context within the document, it is apparent that practice was used in two ways – the environment and the act of carrying out care, so this would explain some of this difference in the number of times the word is written within the document. The word 'theory' usually preceded the word 'practice' – I was continually asking myself why this might be.

One last but perhaps the most significant binary was noted with respect to the assessment of student midwives; derivatives of the word 'competent,' such as 'competencies' were written 25 times, whereas 'grade' was only used four times. Since grading in practice is one of the fundamental changes to the assessment of student midwives, I had expected to see more guidance on how to grade students' practice within the document.

The second form of enquiry within this methodology was radical listening. Listening refers to the 'voice' that may be heard within and around the topic (Clough and Nutbrown, 2007) – this form of inquiry was looking for the voice of the individuals who wrote the text. The view that all research is positional and political can be explored by listening to the voice of the policy documents (Clough and Nutbrown, 2007). The policy document under examination was written by the NMC's midwifery committee; the primary role of the NMC is to protect the public from harm – how grading contributes to protecting the public was not obvious, this needed to be explored within this document and others related to it (NMC,

2006; 2008a; 2008b).

Mitchell (1993) reminds researchers that they also contribute to the voice or dialogue. The inseparability of research and researcher are an essential feature of research in the social sciences, as the methodology that shapes the research is as much about the researcher's personal values as the rigour. Their epistemological position and ontology may be explicit or implied, but they exist nevertheless. Discourse analysis should be part of the researchers' epistemological stance (Neale, 2009). Methodology is about making research decisions, and justifying those decisions. A researcher's identity cannot help but influence the methodology, but the decisions made within it needed to be justified and visible, as part of the dialogue. Reflexivity involves stating my own position – I am an NMC registrant, a nurse and midwife, with a responsibility for educating pre-registration midwifery students. I am concerned about the challenges mentors face when grading practice, such as inter-rater reliability, the reliability of the assessment process and issues such as grade inflation, which are all problems of this form of assessment (Gray and Donaldson, 2009). There seems to be little written within midwifery journals on grading practice. Smith (2007) appears to be the only person who has published primary research on this topic, and Fisher (2009) writes about the challenges of sign-off mentor status. I can see the purpose of assessing student competency and how a minimum standard protects the public from harm, but I cannot see how grading, which seems to be one of the most subjective of assessments, can raise the professional status of midwifery or protect the public further, thus I am interested in this and want to understand the phenomenon from as many perspectives as possible.

Radical reading, the third tenet of this methodology, is concerned with both understanding written texts and reading their actions or intents (Clough and Nutbrown, 2007). Policy documents are more difficult to appraise than research as there are often no methods, sample size or participants to judge (Rogers, 2004). What there is, however, is text, or language. This form of enquiry was the most difficult for me to engage with, so I left it until last, as I wanted to give myself the best chance to cover this tenet. I read Gee (1999) to remind myself about verbs, clauses, satellites within sentence structures and grammar. I engaged with Fairclough (1995) again, as his theory of critical discourse analysis was starting to make sense to me. However, I was beginning to feel, through this radical reading, that I needed a theoretical as well as a methodological framework to increase the rigour of this work (Briodo and Manning, 2002). Sinclair (2007) acknowledges that midwives are not great at engaging with theoretical models, I knew I needed to at this level, so I started looking for theories that would work with the topic. Bernstein's (1996) pedagogical device was illuminating. The exact words from the NMC document, 'clinical practice must be graded and be counted as part of the academic award' (NMC, 2009: 17) were explored using Gee's theory of 'grammar in communication' (1999). The linguistic analysis has been published elsewhere so cannot be reproduced here (Chenery-Morris, 2010).

The last of the four forms is radical questioning. Clough and Nutbrown (2007) state that all research involves a minimum of three questions: personal, research and field questions. The personal question has been stated, as a lecturer, I would like to

understand the NMC (2009) document better. The research question is to assess the pedagogical perspective of grading midwifery practice. The field questions used were questions posed by Maclure (2003), the rationale being that this published list of questions opens up the text. Some theorists say the texts reveal themselves to the reader (Fairclough, 1995), others believe that a preliminary set of questions forces open cracks in the text and makes them more apparent than at first glance. As a novice discourse analyst, I felt I needed the most explicit form of field questions to make the gaps in the text apparent (see Table 2).

## Discussion

Although I present this radical textual analysis as a linear four-step process, I went back and forth between the methodological theories, the text and the theoretical framework many times, until the issues became clear. Initially, I produced a huge amount of data that was unusable, because although it was interesting, it was not directly related to grading midwifery practice. But the process of building up knowledge from easier concepts, such as the content of the document to more difficult concepts, such as analysing the sentence structure, were all part of the process of learning. Some of my early attempts to begin a discourse on the NMC document were not rigorous enough for this methodology, initially they were a critique of the policy content alone and did not analyse the form of the language used. I knew from reading, particularly van Dijk (1990), that I needed to examine both the form and content. The more I engaged with the text, the more I understood the linguistic structures used within the document.

I intended to write my findings up under the four radical headings, but realised early on in the writing phase that my

Table 2. Questions asked by Maclure (2003: 82)

How do politics and poetics intertwine in this text?
Does this text carry the 'scent' of an institution (for example, law, education, medicine)?
How are knowledge claims established and defended?
How does this text make a bid for believability?
Where does this text get its authority?
How does this text persuade?
Where does the power reside in this text?
What other kinds of texts is this text 'like'?
What might be so taken for granted in this text that it is almost impossible to 'see' it? (Maclure stipulates that this is a trick question but no less worthy of asking)
Whose 'voices' are privileged in this text? Who is silenced?
What kinds of oppositions structure the arguments and the moral framework of this text? how might these oppositions be broken down?
How are the subjects drawn into this text? Who gets agency?
What kind of a reader is this text hailing? Where am I supposed to stand? What am I participating in when I read it?

findings were too descriptive as opposed to analytical, so I had to completely restructure my work to present it in a way that would show how I had written the discourse as well as just describing how the NMC had written their policy document. Thus I used a blend of Fairclough's (1995) critical discourse analysis and Bernstein's (1996) pedagogical device to present my findings, but the radical framework helped move my thoughts from a novice to a researcher. This methodology was time-consuming, but any dissertation process takes time for the thesis and researcher to grow and develop their thoughts and ideas.

One rationale for undertaking this research was to become more familiar with the policy – this methodology certainly enabled me to understand the NMC document in greater detail than just repeatedly reading it. I also learned that my knowledge of the English language was not as good as it should perhaps be. This was quite a learning curve for me – I really had to study Gee (1999) to re-familiarise myself with English grammar, despite it being my only language.

I would use this methodology again to explore other documents and policies. The radical looking, reading and questioning were

the easiest stages of this work; the radical listening was a more difficult stage. I kept applying the concept of power to the clinical environment, by thinking about practice and who has the power when assessing the student, as opposed to understanding power issues within the text. Next time, I would try to engage with radical listening more, and perhaps read more about power to improve this stage. If other midwives were to use this methodology, I would suggest they do not necessarily use the order offered by Clough and Nutbrown (2007) – looking, listening, reading and questioning – but try looking first, then questioning followed by reading and listening lastly. The revised order is using the simplest concepts first, in my opinion, to gain confidence in this methodology to construct an analysis, and then move on to the more abstract concepts.

This radical textual analysis was therefore devised and used to construct and make visible issues in grading midwifery practice through the NMC (2009) documentary policy, examining the values and relations behind the processes of grading midwifery practice. It also helped me to engage with a discourse analysis methodology on a deeper level.

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## 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 of no longer than 5000 words in length, including references, should be sent to: rob@midwives.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 Ratnaik, 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.

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## News and resources

### Final call for themed-issue papers

The editors of *EBM* are inviting contributions for a themed issue on theory. Subjects sought include: demonstrating theory development, theory testing, theory application, concept analysis or philosophical analysis relevant to midwifery knowledge, practice or education. The submission deadline is 30 September. Any authors interested in contributing should contact: rob@midwives.co.uk

### First DMRS/RCM conference in Scotland

The Doctoral Midwifery Research Society (DMRS) and the RCM are holding their first joint conference on 9 September at the University of Stirling. Confirmed speakers include: RCM general secretary Professor Cathy Warwick; Professor Ruth Deery from the University of the West of Scotland; PhD research student Mary Ross-Davie; NHS Grampian consultant midwife Dr Tracy Humphrey and Dr Helen Cheyne of the University of Stirling CSO Scotland Research. All delegates must be DMRS members and there will be a charge of £20 each. For more information, please contact: angela.macmorran@rcm.org.uk

### REF consultation document online

A document setting out the draft assessment criteria and working methods of the main and sub-panels for the Research Excellence Framework (REF) has been published. It is available on the Higher Education Funding Council for England (HEFCE) website. Responses to the consultation should be completed online by 5 October. For more information, please visit: [www.hefca.ac.uk](http://www.hefca.ac.uk)

### RCM strategy to launch soon

The RCM research strategy will be launched in October to reflect the RCM's recognition that research is critical to evidence-based midwifery. As an outward-facing plan, research members, practitioners and the wider research community will be able to engage to ensure the provision of high-quality relevant research. The strategy will be available on the research section of the RCM's website after the launch. For further information, please contact the RCM's research fellow Janine Stockdale at: [janine.stockdale@rcm.org.uk](mailto:janine.stockdale@rcm.org.uk)

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